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Abstract

Following the 2001-02 Argentinian crisis, the Province of Córdoba experienced sustained economic growth and widespread improvements in the standard of living of its citizens. However, the provincial economy is currently at a pivotal point due to its high reliance on a few trading partners and products, as well as the economic downturn following the 2008-09 financial crisis and the fall in commodity prices. To some extent, Córdoba is still holding on to a map that served its economy well in the past but no longer shows a promising direction. Its challenges and opportunities are the same as those found in many OECD regions, and a renewed approach to regional development is needed. It has to build on the existing key local assets and focus on enabling policies related to infrastructure, innovation, access to finance and skills to project the province into higher value added segments of production chains. At the same time, the current sectoral approach (agriculture and food industry, metal-mechanic manufacturing, ICTs and tourism) needs to give way to an integrated strategic plan, in which cities and regions become a platform for innovation. This report provides recommendations for the design of such a regional competitiveness strategy, outlines pressing and emerging challenges related to the enabling policies for regional competitiveness, and suggests ways forward in multilevel governance structure to implement the strategy. An Action Plan provides concrete steps and suggests lead institutions to implement the suggested recommendations over the short, medium and long term.

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Acronyms and abbreviations

ADEC	Agency for the Economic Development of the City of Córdoba (*Agencia para el Desarrollo Económico de la Ciudad de Córdoba*)
ANPCyT	National Agency for Science and Technological Promotion (*Agencia Nacional de Promoción Científica y Tecnológica*)
ARS	Argentine peso
BANCOR	Bank of the Province of Córdoba (*Banco de la Provincia de Córdoba*)
BIEM	Brandenburg Institute for Entrepreneurship and SMEs
CABA	Autonomous City of Buenos Aires (*Ciudad Autónoma de Buenos Aires*)
CEPROCOR	Centre of Excellence for Products and Processes of Córdoba (*Centro de Excelencia de Productos y Procesos de Córdoba*)
CGS	Credit Guarantee Scheme
CIPPEC	Argentina's Centre for the Implementation of Public Policies for Equity and Growth (*Centro de Implementación de Políticas Públicas para la Equidad y el Crecimiento*)
CLP	Chilean pesos
CONAE	National Commission of Space Activities (*Comisión Nacional de Actividades Espaciales*)
CONICET	National Council of Scientific and Technical Research (*Consejo Nacional de Investigaciones Científicas y Técnicas*)
COPEC	Council for Strategic Planning in Córdoba (*Consejo para la Planificación Estratégica de Córdoba*)
CPD	Deferred-Payment Cheques (*Cheques de Pago Diferido*)
CSOs	Civil Society Organisations
ECI	Economic Complexity Index
EIF	Employment Insurance Fund
EPEC	Provincial Energy Enterprise of Córdoba (*Empresa Provincial de Energía de Córdoba*)
EPH	Regular household surveys (*Encuesta Permanente de Hogares*)
ERSeP	Regulatory Entity of Public Services of Córdoba (*Ente Regulador de Servicios Públicos de Córdoba*)
EU	European Union
FDI	Foreign direct investment
FOGAPE	Partial Credit Guarantee Fund in Chile (*Fondo de Garantía para Pequeños Empresarios*)

FONARSEC	Argentinian Sectoral Fund (*Fondo Argentino Sectorial*)
FonCyT	Fund for Scientific and Technological Research (*Fondo para la Investigación Científica y Tecnológica*)
FONSOFT	Fund for Promoting the Software Industry (*Fondo Fiduciario de Promoción de la Industria del Software*)
FONTAR	Argentinian Technological Fund (*Fondo Tecnológico Argentino*)
FONTEC	Technological Fund of Córdoba (*Fondo Tecnológico Córdoba*)
FTZ	Free trade zones
GDP	Gross domestic product
GVA	Gross value added
GVC	Global value chain
HEIs	Higher education institutions
ICT	Information and communications technology
IDB	Inter-American Development Bank
IIE	Bolsa de Comercio's Institute for Economic Research (*Instituto de Investigaciones Económicas de la Bolsa de Comercio de Córdoba*)
IMF	International Monetary Fund
INDEC	National Institute for Statistics and Census (*Instituto Nacional de Estadísticas y Censos*)
INED	National Institute of Instructional Education (*Instituto Nacional de Educación Docente*)
INTA	National Institute of Agricultural Technology (*Instituto Nacional de Tecnología Agropecuaria*)
INTI	National Institute of Industrial Technology (*Instituto Nacional de Tecnología Industrial*)
IPLAM	Institute for Metropolitan Planning (*Instituto de Planificación Metropolitana*)
Istat	Italy Statistical Office
IT	Information technology
I + S	Technological Innovation plus Citizens Security (*Innovación en Seguridad Ciudadana*)
I + A	Technological Innovation plus Accessibility (*Innovación en Accesibilidad*)
LAC	Latin America and the Caribbean
MAV	Argentinian stock market (*Mercado Argentino de Valores*)
MECON	Ministry of Economy and Finance (*Ministerio de Hacienda y Finanzas Pública*)
MNEs	Multinational enterprises
NEET	Not in education, employment, or training
NBI	Unsatisfied Basic Need (*Necesidad Básica Insatisfecha*)
NGO	Non-governmental organisation
NSW	New South Wales

OEDE	National Observatory of Employment and Business Dynamics (*Observatorio de Empleo y Dinámica Empresarial*)
ONE	National Education Surveys (*Operativos Nacionales de Educación*)
PAICOR	Integral Assistance Program (*Programa de Asistencia Integral de Córdoba*)
PEDICor	Plan for the Integrated Development of Córdoba (*Plan Estratégico para el Desarrollo Integral de Córdoba*)
PIT	Programme for Inclusion and Completion (*Programa de Inclusión y Terminalidad*)
PPP	First Step Programme (*Programa Primer Paso*)
PRODIS	Córdoba Programme of Design (*Programa de Diseño para la Innovación*)
PROFOCO	Skill-based Training Programme (*Programa de Formación por Competencias*)
R&D	Research and development
SHTP	Saigon Hi-Tech Park
SMEs	Small and medium enterprises
STEM	Science, technology, engineering, and mathematics
STI	Science, technology and innovation
TL2	Territorial Level 2
TL3	Territorial Level 3
UIC	Industrial Union of Córdoba (*Unión Industrial de Córdoba*)
USD	United States dollar
VADP	Vocational Ability Development Programme
VET	Vocational Education and Training

Note on the statistical emergency in Argentina

On 7 January 2016, the government of Argentina declared a state of emergency in the national statistical system. The Decree 55/2016[1] states that the National Institute for Statistics and Census (INDEC) suffers an anomalous situation in its internal organisation that hinders the production of sufficient and reliable statistical information related to consumer prices, gross domestic product, and trade, amongst others. As a result, INDEC temporarily suspended the publication of certain official statistics under its responsibility, pending re-organisation, which is still undergoing at the time of writing this report. INDEC started to publish inflation rates again in June 2016, labour market indicators in August 2016 as well as poverty data in September 2016. In light of this statistical context, caution is needed in the use of macroeconomic indicators. Several organisations and researchers have therefore been using both "official" and "private" sources of statistics. The provincial statistical infrastructure and data in the province of Córdoba reflect the problems encountered at the national level. Although it is beyond the scope of a regional territorial review to delve into the causes of these problems, the implications for territorial analysis and policy assessment are substantial and should be taken into consideration. The lack of trust in national and provincial statistics and the uncertainty about the quality of the available indicators is a serious bottleneck to the depth and scope of any territorial or macroeconomic analysis. This is a serious limitation for governments, at different levels, to take actions that are based on tangible facts and data. Addressing these statistical challenges is an essential step forward to design and implement territorial policies, particularly for what regards macroeconomic statistics. Doing so would certainly be a medium- to long-term undertaking, though the first chapter of this report suggests some policy recommendations to that effect.

1. The complete decree is available at: https://www.boletinoficial.gob.ar/pdf/linkQR/QlFlS1dmVmpOWXMrdTVReEh2ZkU0dz09.

Executive summary

The report assesses the regional development policy of the province of Córdoba, Argentina and suggests recommendations to boost productivity, to strengthen competitiveness and to upgrade in global value chains (GVCs). It is the result of a year-long policy dialogue with 100+ provincial stakeholders from public, private and non-profit sectors; a process which also provided a bridge between two provincial administrations after the 2015 elections. The resulting Action Plan seeks to support the design and implementation of robust territorial policies, building on recent positive macroeconomic and political developments such as the return of Argentina to international financial markets and the removal of some barriers to exports.

After a decade of sustained economic growth, following the 2001-2002 Argentinian crisis, the province of Córdoba has entered a difficult junction and pivotal point in its development path, which requires a renewed approach to regional development policy. Córdoba is the 2nd largest province of the country (3.5 million inhabitants) and the 3rd contributor to national GDP (7%). It has a diversified productive matrix (essentially based on agriculture and food industry, metal-mechanic manufacturing, ICTs, and Tourism) and is located in a strategic corridor of the MERCOSUR and GVCs. Between 2003 and 2008, Córdoba experienced a GDP growth averaging 6% per year, and total registered employment in absolute terms grew by 67%. The value of provincial exports triplicated over the same period, driven by the rise of agricultural commodities' prices and cars' demands from Brazil. This economic boost translated into substantial regional well-being with greater access of citizens to basic services, health, education, broadband and lower poverty and infant mortality rates. However, starting in 2009, Cordoba's commodity- and export-driven economy has been adversely affected by downturns in regional and international markets and decline of commodity prices (e.g. Brazil, China) with a drop in provincial GDP growth of 3.7%. This was followed by years of large inter-annual fluctuations in GDP growth, which resulted in a decline in compound inter-annual employment growth from 10.9% in 2003-08 to 1.8% in 2009-13, and in business counts, especially in agriculture. In sum, the matrix that has well-served Córdoba in the past does not hold promises for the future.

Several pressing and emerging challenges hinder the economic, social and environmental outcomes of Córdoba's policies, which can be clustered around strategic planning, data and information, enabling policies for competitiveness, and governance. First, the province has no outcomes-based regional development strategy whereby policies would support clearly stated growth and well-being objectives. As a result, complementarities between the four siloed productive sectors have been largely untapped (e.g. benefits of biotechnology in agriculture; role of ICTs in upgrading in manufacturing GVCs, etc.). Second, despite provincial efforts to bridge data gaps in a context where national statistics have been unreliable, opaque and misleading, much remains to be done for credible territorial statistics to effectively guide decisions and enhance accountability. Third, challenges in infrastructure, education, innovation and access to finance undermine

regional competitiveness. Investment backlogs in transports and energy drive production costs up; and gaps in sanitation and housing hinder inclusiveness. The performance of the manufacturing sector is affected by shortages of technical skills. Low access to credit for SMEs has contributed to the decline in business counts, and insufficient attention has been put on innovation. Fourth, important governance deficits prevail. There is little or ad hoc government activity in performance indicators, monitoring, and evaluation; and no programme review to determine cost effectiveness. The high level of personalism relying on informal networks can be challenged from an accountability perspective. The fragmentation of Greater Córdoba and absence of incentives for inter-municipal co-operation raise issues of scale.

Acknowledging the ongoing national statistical emergency (see preamble) and the implications of unreliable official statistics on decision-making, the following recommendations will allow the provincial government to address identified challenges in shared responsibility across levels of government, public, private and non-profit sectors:

- Develop a full-fledge regional development strategy based on a medium- to long-term vision with clear objectives and targets to diversify the provincial economy, upgrade in GVCs and sustain regional well-being.
- Modernise and strengthen the provincial statistical infrastructure while improving some traditional statistical methods and programmes, investing in non-traditional data collection and processing methods, and setting a Smart Córdoba open data agenda.
- Design and implement an integrated infrastructure development strategy that sets short-, medium- and long-term goals and seeks policy complementarities, in a co-ordinated fashion with upper and lower levels of government.
- Facilitate SMEs access to financing, through a "roadmap" for potential investors, strengthening the connection of MNEs to local value chains, supporting the Credit Guarantee Scheme, tackling financial illiteracy, and promoting the use of venture capital instruments.
- Strengthen the quality of secondary and vocational education, through developing a medium to long term strategy based on skills forecasting models, attracting students in STEM diplomas, and updating curricula for fast changing sectors (software, computing).
- Design and implement a regional innovation strategy to modernise productive activities towards value-added niches, building on existing clusters, using a mix of instruments, addressing bottlenecks to intellectual property, and boosting entrepreneurship.
- Build a strong Centre of Government to ensure coherence and coordination in achieving Córdoba's strategic objectives across ministries and public agencies, and between levels of government.
- Adopt a functional approach to define the boundaries of the metropolitan area of Greater Córdoba based on where people work and live rather than administrate perimeters, in order to identify and address urban challenges at the right scale.

- Improve monitoring and performance management practices through identifying results-based indicators, building capacity for objective setting, introducing programme and/or spending reviews, pursuing ongoing results-based management techniques in the public administration.
- Strengthen multi-level governance through revamping the province-municipalities roundtable, creating an association of municipalities, promoting existing urban agreements and rewarding vertical co-operation.
- Fostering two-way citizen engagement for better transparency, accountability and service provision, building on existing public purchasing and contracting portal, the budget and digital citizen initiatives, ISO standards; and considering the replicability of the City of Cordoba's Plan de Metas and indicators, to engage citizens in policy making, dialogue and evaluation.

Assessment and recommendations

The Province of Córdoba is at a difficult junction and pivotal point in its development path. Following the 2001-2002 Argentinian crisis, the province has experienced sustained economic growth and widespread improvements in the standard of living but it has not fully reaped the economic, social and environmental benefits of regional competitiveness and productivity. Córdoba has a productive matrix (agriculture and food industry, car manufacturing, ICTs and tourism) that served its economy well in the past but that does not show promise for the future if nothing changes. It relies on commodities and traditional manufacturing exports that are faced with ever-shrinking markets. This report argues that a regional development strategy is needed to set a medium- to long-term vision for Córdoba to diversify the provincial economy, upgrade in Global Value Chains (GVCs) and sustain regional well-being. Investments in skills, research and innovation are essential to allow the province to participate in higher value-added segments of value chains by embedding advanced services into traditional production or by increasing technological intensity. At the same time, its sectoral approach needs to shift towards an integrated, activity-focused strategic plan, in which the entire territory (cities and regions) becomes a platform for innovation. The following sections detail the assessment and recommendations from the report for strengthening the enabling policies and governance frameworks that can boost Córdoba's productivity and competitiveness over the short, medium and long term.

Following the 2001-02 Argentinian crisis, the province of Córdoba enjoyed a strong economic recovery, with significant improvement in the quality of life for its citizens

Favourable terms of trade in commodity and traditional manufacturing exports largely contributed to boosting the economic growth and competitiveness of Córdoba in the aftermath of the 2001 crisis. Between 2003 and 2008, the province of Córdoba experienced a sustained GDP growth averaging over 6% per year, and total registered provincial employment in absolute terms grew by 67%. The value of provincial exports tripled over the same period, driven by the rise of agricultural commodity prices (particularly soy, with an increase of over 293%) and the demand for cars from Brazil which drove up the contribution of the manufacturing sector from 14.5% to 16.3% of GDP. Moreover, total employment in absolute terms grew by 10.9% in the same period.

This economic boost translated into substantial improvements in regional well-being, from both material and non-material standpoints. Between 2001 and 2010, the share of households with at least one unmet basic necessity decreased from 12% to 6%; the population with a health plan increased by 15%; and in 2012 the infant mortality rate fell below 10‰ for the first time. Over the same period, access to primary education in the province was close to 100% and the illiteracy rate fell below 2% in 2010. Households' access to basic services also notably improved: access to water supply increased from 86% to 92% between 2001 and 2010, and access to natural gas rose from 41% to 50% in the same period. Access to sewage increased from 29% to 38% (2001-10), although it is still low compared to other peer provinces (50% in Santa Fe and 53% in Buenos Aires).

Regional competitiveness has mainly been driven by four key productive sectors, which now need to be upgraded and better connected.

Córdoba's industrial matrix has long been anchored in four strategic sectors: agriculture and the food industry, car metal-mechanic manufacturing, ICTs, and tourism. The agricultural sector represents 9% of provincial output, and in 2013 agricultural products and agrifood-related manufacturing represented 28.3% and 48.1% of total provincial exports, respectively. Cars and automotive-related equipment represented 18% of total provincial exports in the 2012-14. The ICTs sector accounted for 5 000 jobs and 3.75% of the GDP of the City of Córdoba in 2014. Tourism in the province of Córdoba has registered a 5% compound annual growth since 1993, and accounts for approximately 5% of provincial GDP and 150 000 jobs.

This matrix has served the provincial economy well in the past but has now reached its limits in terms of delivering economic, social and environmental outcomes. Cordoba's commodity- and export-driven economy, has essentially become reliant on a reduced number of trading partners, such as Brazil and China, and has been adversely affected by downturns in regional and international markets. The year 2009 saw a 3.7% drop in provincial GDP growth, driven by the global financial crisis and the decline of commodities prices. Since then the province has experienced years of relatively large inter-annual fluctuations of GDP growth (e.g. 7.50% in 2010-11, 0.19% in 2011-12, 8.73% in 2012-13, 2.72% in 2013-14), associated with the fluctuating performance of the goods producing sector, resulting in a decline in compound inter-annual employment growth from 10.9% in 2003-08 to 1.8% in 2009-13. The year-over-year growth in the number of businesses was higher in the province of Córdoba than the national average in most of the years between 1996 and 2009; however, since 2009, that share has been below the national average (e.g. 0.16% at provincial level vs. 0.74% for Argentina, on average for the period 2009-13). A relatively sharp decline in business counts occurred in the two most recent years with data available, especially in agriculture with a contraction of the number of business of 2.1% and 4.6% for 2012 and 2013 respectively; this also points to economic slowdown in the near future.

The province is now at a critical juncture and needs to "connect the dots" among the key productive sectors to pave the way for a full-fledged regional development strategy. Córdoba needs to go beyond a sectoral and siloed approach in each of the four strategic sectors, to seek economic activities that arise from synergies and complementarities among them. For instance, metal-mechanics is relevant to other important sectors where Córdoba has developed strong expertise and capacities such as agro-machinery, cars, and petroleum machinery. The introduction of innovative processes could help upgrade activities towards, for example, product development or marketing services. Agriculture and related industry have traditionally been highly productive and efficient, and would benefit from greater innovation, such as in biotechnology. ICTs and software development have emerged more recently as high-tech businesses, and therefore still have solid growth potential since current exporting activities are rather low. Finally, tourism presents massive development potential for both the domestic and international markets in diverse areas (religious, language-related tourism, nature, etc.).

A formalised regional development strategy is needed to set a medium- to long-term vision for Córdoba to diversify the provincial economy, upgrade in GVCs and sustain regional well-being

After a history of successful development, many regions find themselves under threat when their development model begins to fail or slow. This is somewhat the case of Córdoba, where regional development is following a pattern common in the 1970s with strong focus on industry cluster development. Implementing policies that solely support well-performing sectors can limit the capacity of regions to drive innovation, and potentially lead the province to an obsolete development model if these sectors become uncompetitive, as in the case of commodities exports with a fall of international markets. Thus, a renewed approach to regional development policies could help the province overcome the recent slowdown in growth. This requires integrating different industry clusters, i.e. searching for complementarities among economic sectors for the development of new activities, and embedding "smart innovation" concepts in the development model of the province.

Lessons can be learned from OECD regions where activities and functions have been integrated across industries, and in which territories are the platforms for innovation. Indeed, several OECD industrial regions succeeded in overcoming similar challenges to those faced in Córdoba through smart specialisation strategies and by building on policy complementarities to reconfigure the provincial economy.

- The Basque Country, Spain, a traditional industrial manufacturing region, was repackaged as an attractive and dynamic destination. The "Guggenheim" effect, building on the construction of the new art museum, redefined the image of Bilbao, boosting regional commerce and services. Industrial activity remains a major source of employment in generating wealth as the region also identified the need to strengthen its research base to modernise its manufacturing industry. Regional industrial production is being retooled to keep pace with changing paradigms, to take advantage of the opportunities offered by the global knowledge economy, and improve the region's standard of living
- Another example is Bergamo, Italy, a historically high-performing region that continues to be competitive due to a strong SME-based manufacturing sector that has shifted to higher value activities. Employment has moved from traditional sectors such as textiles and clothing, repair and installation of machinery, towards production of machinery and equipment, rubber and plastics and chemicals. This change increased technological intensity within the manufacturing sector, which has shifted from medium- and low-tech activities towards medium-high tech
- Finally, in Tampere, Finland, after the global financial crisis in 2008, the ICT sector had to face lower demand and competitive pressures. The decline of Nokia and its related industries highlighted the need to develop a new innovation policy, encouraging a move away from the previous cluster-based emphasis on sectoral specialisation towards a focus on cross-cutting platforms that support more open innovation processes. Tampere's new Open/Smart/Connected strategy has led to the development of open innovation platforms, and fostered a culture of entrepreneurship, enabling university researchers and students with different areas of expertise to form cross-sectoral innovation platforms.

Key observations relevant to Córdoba can be made from such experiences, acknowledging their place-based and context-dependent features. For instance: i) structural change is driven by economic diversification, the Basque Country boosted tourism as an alternative to its traditional industrial sector, Bergamo shifted towards new industrial sectors such as plastics or chemicals, and Tampere changed from the ICTs sectoral-based economy to open innovation platforms where other economic sectors could develop; ii) moving up the value chain helps middle-income economies remain competitive, Bergamo managed to stay competitive by upgrading activities in its SME-based manufacturing sector, and the Basque Country increased research and development in the industrial sector to make the most of the opportunities offered by the global knowledge economy; iii) innovation is a driver for growth, e.g. the construction of a contemporary art museum in Bilbao boosted regional economic growth in a traditionally industrial city, and Tampere's cross-sectoral innovation strategy helped it attract and retain high-skilled human resources.

The report argues that the Province of Córdoba has no outcomes-based development strategy that could clarify the province's growth and well-being objectives (for example, measured by GDP, the GINI coefficient, education and health outcomes, labour-force participation, etc.) and guide activity-based policies instead of current sector-based policies. Córdoba's emphasis on enhancing productivity and competitiveness based on four priority sectors serves as its implicit regional economic development strategy. However, the administration has not articulated desired policy outcomes for its development ambitions; there is little or only ad hoc government activity in performance indicators, monitoring, and evaluation; and no programme review to determine cost effectiveness. Thus, it is difficult for the provincial government to understand whether it is achieving its goals or not, and why. This affects all levels of government, leaving ministries and agencies without a roadmap for action and running the risk of incoherence and overlap in activity. Moreover, objectives in Córdoba may exist implicitly, or in an informal agreement among leadership, but unless they are explicit, government accountability – internally and externally, including with citizens – is weakened.

A more formalised regional development strategy will strengthen Córdoba's ability to identify whether it is achieving its aims of boosting competitiveness and productivity, and improving socioeconomic performance throughout the territory. Such a strategy should articulate the region's assets, which include the strong medium-low and medium-high technology industrial base (metal mechanics and ICTs), relatively high knowledge absorptive capacities (including a significant share of the labour force with tertiary education) and the highest share of employment in manufacturing, and a rich agricultural base and solid food industry. Córdoba's contribution to GVCs is an opportunity for the province to diversify its economy and add more value to local products and services. A prominent feature of Argentina's participation in the manufacturing GVC, reflected in Córdoba's economy, is the relatively low share of service components that are incorporated in manufacturing exports. Thus, there is a huge potential for upgrading to higher value-adding segments of these value chains. Furthermore, new technologies could also extend into the processing of raw commodities, with the aim of improving processing capacity, particularly for grains and cereals. Tourism has also room to keep expanding its activities in the international value chain.

While high levels of formality may not be necessary in Córdoba, some additional formality could help build accountability over time and ensure that policies and programmes transcend election cycles. More formal structures can be beneficial, particularly those that serve a co-ordinating function and can complement the informality.

A provincial-level entity focused on territorial and urban development could provide the cross-sector critical analysis necessary to support evidence-based policy making, integrated strategic development planning, and transparency and accountability in the regional development process. Such an entity could be a locus for identifying common points of interest, bringing together divergent priorities, and ensuring that ministerial initiatives are coherent and consistent with one another, that they do not overlap and that they effectively meet territorial objectives.

Formalising responsibility for regional development can be done either via an interministerial co-ordinating body, a special unit or a dedicated minister. There are initiatives among certain ministries to build greater co-ordination, for example through the "Productivity Cabinet" (*Gabinete de Producción*) which acts as a horizontal co-ordination body for relevant initiatives among the Ministries of Agriculture, Industry, and Science and Technology. However, the scope could be broader by including other ministries. Another option would be to re-evaluate COPEC's role, which is currently under review by the new provincial administration and therefore this might be a good time to potentially broaden its mandate. There is room for greater partnership between the government and COPEC, not only for stronger development planning, but also for the co-ordination and implementation of a provincial development strategy. COPEC could remain embedded in a ministry or it could return to its previous status as an autarkic entity, potentially expanding its role to become an institute for territorial development.

Box 1. **Recommendations to formalise a regional development strategy for Córdoba**

1. Identify the provincial-level entity responsible for formalising a strategic approach to territorial development and ensuring policy coordination and coherence. The entity could also be responsible for ensuring an integrated, coherent approach to policies and programmes for regional development. Several options could be considered, such as:

- Establishing special units or agencies that provide planning and advisory support also help ensure policy coherence across sectors. A regional development agency or council could be established in Córdoba in the medium or long run. In the meantime, special units or coordinators of regional policy could set incentive for co-operation across sector ministries. Examples include the *Commissariat Général à l'égalité des territoires* (CGET, formerly DATAR) that is directly linked to the Office of the Prime Minister in France. Special units under sector ministries include, for example, the Spatial Economic Policy Directorate within the Ministry of Economic Affairs in the Netherlands.
- Establishing or restructuring ministries and departments with broad responsibilities and powers including regional development that encompass traditionally separate sectors. This also holds benefits in terms of integrated policies and concentration of skills. Specific ministries for regional development were created in the Czech Republic, Poland, the Slovak Republic and Slovenia. Over one-third of OECD countries channel their regional development approaches through a ministry that focuses on economics, commerce or development. If re-activated, COPEC, under the responsibility of the Ministry of Finance, could be the platform in the Ministry to meet this need and take the lead in regional policy.
- Co-ordinating structures such as interministerial committees and commissions help foster horizontal governance based on the existing government structure and do not require the introduction of a new institution. OECD experience indicates that a horizontal commission chaired by one sector ministry might be limited in pursuing multi-sector

Box 2. **Recommendations to formalise a regional development strategy for Córdoba** (*cont.*)

aims and could hinder the full involvement of other ministries. One way to address this is by alternating the committee chair among participating ministries. For Córdoba, an option could be expanding the mandate and ministries involved in the "Productivity Cabinet".

2. Establish a long-term vision for the province with clear objectives and targets, and through broad stakeholder engagement. This requires:

- Establishing a strategic vision – "where are we going?" The strategic vision is long term (ten years or more), based on foresight, and reflects the path to a desired or intended future for a country, province or city. It should outline where the province wants to be in a generation, and transcend political parties and election cycles. Ideally, the strategic vision should be developed with the input and consensus of citizens, political parties, the public administration, business and civil society. One example is the long-term vision setting through the Australia 2020 Summit. The objective of the Summit was to foster a national conversation on Australia's long-term future and aimed to harness the best ideas for building a modern Australia, ready for the challenges of the 21st century.
- Defining strategic policy – "how are we getting there?" This helps establish priorities and identifies how strategic objectives will be realised (usually a high-level strategy and roadmap for the medium term, 3-10 years). Strategic policy is often more political and often follows the political priorities of a ministry. In the case of Córdoba's territorial development, this could take the form of a territorial or regional development strategy that supports the long-term vision for the province.
- Designing sector policies and programmes – "What takes us there?" Sector-driven activities, usually shorter term (1-2 years), serve as proactive measures to implement Strategic Policy priorities. They focus on the what – for example an urban policy that promotes developing medium-sized cities in the interior; industrial policy that supports the "greening" of industry and manufacturing; labour force and family policies that support women in the workforce, etc.

3. Ensure effective revenue-generating and investment capacity to support the implementation of the regional development strategy and related policies and programmes. This requires:

- The province will need financial resources to implement the programmes required to achieve the objectives of the to-be-developed regional development strategy. A way forward is to attract foreign investment; build foreign and domestic credit opportunities; and re-evaluate budget allocations for public investment.

Quality and trustworthy data is much needed to guide decision-making in Córdoba, and to support the design and implementation of any regional development strategy

One challenge Córdoba faces in building its evidence base is the availability of and access to quality and trustworthy data, in particular in the current context of national statistical emergency. National statistics generated in the past are considered unreliable, opaque and misleading. The most prominent examples include national data on poverty and inflation, which are considered unreliable from 2008 to 2015 (INDEC has started publishing new revised data on poverty and inflation for 2016) and are fragmented at subnational level; data gaps on labour productivity at the provincial and national levels; the absence of housing indicators at provincial level; outdated urban services data; the

lack of data on commuting flows which prevent computing functional urban areas to go beyond the administrative logics and consider where people live and work; and poor indicators at municipal level, mostly restricted to education and demography.

Important efforts have been undertaken by the provincial administration to make up for data gaps. These efforts need to be pursued, scaled up and co-ordinated. Several ministries started building their own datasets and indicators, which has resulted in a proliferation of parallel initiatives. For example, the Ministry of Social Development is challenged to produce poverty data and building its own indices, which could build on social indicators produced elsewhere, such as within the Social Development Observatory of the National Catholic University. The different ministries and agencies would therefore benefit from some overarching guidance enabling methodological coherence, compatibility among data sets for comparative purposes, policy-relevant focus, and public disclosure. A promising step was started by the former Ministry of Public Administration (*Ministerio de Gestión Pública*) to start harmonising norms and datasets across the public administration, ministries and agencies, currently pursued through the Secretariat for Innovation and Modernisation within the Ministry of Economy and Finance. However, even though such an initiative is undoubtedly valuable for gathering, coordinating and sharing knowledge within the public administration, it does not provide all the ingredients needed to guide decision-making and strategies for competitiveness, nor does it appear sufficient to enhance transparency and accountability of decision-makers vis-à-vis citizens.

The realm of actions needed to address the statistical emergency goes much beyond what falls within the competence of a provincial government, but there is room for concrete action at sub-national level. Córdoba could become an early implementer in Argentina of innovative approaches and best practices that are currently becoming part of the "data revolution" taking place in national and regional statistical offices across OECD countries. The use of alternative data sources would help bridge some of the above-mentioned gaps and align the provincial statistical infrastructure with those of OECD countries. For instance, new methods such as tracking mobile phone could be used to produce "commuting flows" data to delineate functional areas within the province of Córdoba, in order to better understand interactions between people and places and shape place-based policies accordingly. A parallel step forward could build on the current Local Economic Areas (LEAs) produced by the national administration as a first approximation to functional definitions of urban areas. Another room for manoeuver at provincial level is to consider the relevance of well-being indicators that go beyond GDP and other economic measurements. The OECD well-being framework could serve as a reference. However, Córdoba lacks comparable data in some of the OECD framework's dimensions since data produced for housing, education, access to services, environment and income, do not use the same indicators as the OECD. A final area of improvement relates to the need to produce disaggregated data by municipalities, and to the extent possible within municipalities to tailor policy responses to territorial specificities. This is all the more important as a key challenge of Córdoba at present is how to address inequalities within urban and peri-urban areas.

Box 3. **Recommendations to modernise the statistical infrastructure of Córdoba**

1. Maintain and improve some of the traditional statistical methods and programmes of the province

- Expand the production of municipal data beyond demography and education data. Economic, social and environmental data are only available for the largest urban centres in the province (City of Córdoba, Rio Cuarto) and often inexistent for smaller municipalities. Disaggregated data at municipal level will be key to guide decision-making and policies tackling disparities within the province.
- Update data on access to and quality of public services. Currently, there is very limited information at municipal and provincial level on the performance of public services such as waste management, public transportation or water services (including both water supply and sanitation). These are critical dimensions to appraise the effectiveness, efficiency and inclusiveness of regional policies.
- Enhance the use of economic disaggregated data to evaluate the performance of selected industries as well as their role in value chains. For instance, disaggregated data by sector (automotive industry, food industry, ICTs, etc.) on trade flows (international and intra-national), employment, output, and business dynamics would allow for competitiveness and value chain analysis of selected sectors.
- Develop a framework and set the missing indicators for measuring multi-dimensional wellbeing at a regional level that aligns with the OECD Regional Well-Being framework.

2. Invest in developing expertise in non-traditional data collection and processing method.

- Argentina's national register systems offer good opportunities for statistical uses at provincial level: wages and salaries, business demography, sectoral employment, etc. The province should liaise with the national government to have access to such indicators, as well as the black box used to produce them, to conduct more detailed statistical analysis in Córdoba such as studies on labour markets, business dynamics and urban inequalities at a more disaggregated level (department, municipality, or even neighbourhoods).
- Develop capacity and invest in satellite imagery and remote sensing data systems, which offer a wide array of possibilities to produce new datasets.
- Mobile phone data could be used to produce "commuting flows" for which there is currently no data in the province. Mobile phone tracking data are being used in some countries to produce mobility statistics leading to an origin/destination matrix for work and study.

3. Redefine the boundaries of "metropolitan" following a functional approach to define and address problems of Greater Córdoba at the right scale, in comparison with OECD metropolitan areas.

- Policy responses should not be targeting only administrative boundaries, but take into account where people work and leave. The OECD redefined the boundaries of functional metropolitan areas through journey to work and travel time data, which could benefit the Greater Córdoba in terms of diagnosis, benchmarking and policy response.
- The ten Local Economic Areas, produced by the national administration could also serve as a first approximation to establish functional definitions of urban areas. Currently, LEAs only aggregate data of employment and salaries/wages, but building on this delimitation, the Provincial Statistics Office in Córdoba could broaden the datasets produced nationally for LEAs.
- Develop indicators at metropolitan level for the environment (e.g. exposure to air pollution by PM2.5, green area per 500 000 inhabitants), economic performance (e.g. labour productivity, GDP of the metropolitan area), and innovation (e.g. patent activity), to allow for international comparability and benchmark the performance of the Greater Córdoba to other peer metropolitan areas.

Box 4. **Recommendations to modernise the statistical infrastructure of Córdoba** (*cont.*)

4. Become an early adopter of innovative approaches and best practices part of the "data revolution" taking place in national and provincial statistical offices across OECD countries.

- The province should endorse an "open data" agenda for its information products with an "open by default" policy. A concrete way forward in this direction would be to design and implement a "Córdoba Genial" (Smart Córdoba) agenda for open government data, transparency, and innovation in service development and delivery. This would also support concrete actions in lines with the Open Government Partnership, which Argentina joined in 2012.
- To set an open data agenda the province should first assess where it stands in terms of soft and hard capacity, i.e. human capital, software systems and other infrastructure. This will entail taking stock of and assessing existing provincial data produced within and outside the provincial statistics office as well as mapping potential users/beneficiaries of open data and assessing their capacity to use it.
- Open data policies imply a number of protocols to increase accessibility of non-confidential data holdings of the public sector. To ensure the maximum benefits from open data, the latter should be: i) accessible to the public; ii) readable by computation software; iii) at the least cost (if not free); and, iv) not subject to any right held by the government that limits data reuse and redistribution.

5. Strengthen the role of the provincial statistical office by endowing it with sufficient hard and soft capacity, and enhancing co-ordination with other provincial and national ministries.

- The statistical office should be the horizontal co-ordination mechanism across provincial ministries producing data to ensure methodological coherence, policy relevance, use for decision-making and comparability. The statistical office is the administrative body that has the technical knowledge to execute this role.
- Support and co-operate with upper levels of government in the ongoing reform of INDEC to foster methodological consistency across levels of government. INDEC is currently revising statistics that date back to 2007, which should engage provincial statistical offices, such as Córdoba.
- Invest in human capital and skills to develop expertise in non-traditional data collection and processing methods that can help widen the scope of provincial statistics. While doing this, it is key to ensure that technicians can use the new data sources such as mobile phones, satellite imagery and remote sensing systems, updated data on access to and quality of public services, or municipal data, to produce timely, relevant, consistent, comparable and policy-relevant information that can effectively guide decision-making.
- In parallel to the open data policy, increase access to data by improving 'front-office' delivery of services, particularly for vulnerable or disadvantaged groups for which ICT might represent a social or economic barrier. Access to internet is still not as developed as it could be in Córdoba and the digital gap tends to affect more strongly disadvantaged groups.

Regional competitiveness and productivity are currently hindered by important gaps or unexploited potential in infrastructure, access to finance for the private sector, education and innovation

Increasing regional competitiveness requires focusing investments and efforts on setting the required framework conditions for growth. In Córdoba, bottlenecks holding back the performance of the province are clearly identified by public and private actors, these are: need to upgrade or expand infrastructure, low access to credit for SMEs, lack of skills among its labour force, or low value-added of productive activities. The report argues that implementing both "hard", i.e. investments, and "soft", i.e. strategic planning

and human capacity, measures to overcome these challenges will contribute to reap the full benefits of provincial assets and bring the province back to a successful development path. Integrating all these measures in a provincial strategy to make the most out of complementarities among sectors and public investments is critical to ensure the success of this new approach.

A first bottleneck relates to current infrastructure gaps, which are commonly considered by public and private actors as being among the top bottlenecks to Córdoba's competitiveness. They are particularly worrisome in four areas - transport, energy, sanitation and housing – with important economic, but also social and environmental costs for the province. Indeed, inadequate transport and energy infrastructure drive up production costs and hinder the capacity of firms to integrate in value chain activities nationally and internationally (OECD estimates show that in the Latin America and Caribbean region transportation costs represent between 18% and 35% of a product's value, compared to around 8% in OECD countries); while housing and sanitation deficits affect regional well-being and the attractiveness of the province over the medium to long term. In particular, the following areas need to be tackled rather urgently:

- The low quality of primary roads, 57% of which are in bad status; the need to increase the capacity (i.e. volume of cars that can circulate in a defined time) of a number of backbone roads for the province; and a yet-to-be-developed secondary network with only 21% roads paved. Córdoba's strategic location for GVCs in the MERCOSUR countries and Latin America has the potential to drive economic and social development by fostering big urban agglomerations, regional trade, and the physical integration of different international regions. But quality transport infrastructure in this high-trade-density corridor is key to boost competitiveness.
- The province suffers from energy shortages, which have resulted in disruption and cuts in supply to large industrial consumers as a result of insufficient production of natural gas in the basins that feed the pipelines, as well as to insufficient capacity of the transport pipelines. Moreover, household access to natural gas in Córdoba (50.7%) is below national average (56.1%) with disparities among provincial departments. The lack of gas infrastructure is a limiting factor in the socio-economic development of Tulumba, Rio Primero, San Justo, and Sobremonte. Households in Tercero Arriba and Marcos Juarez have high access to natural gas, but industrial parks located in these departments are not fully operational due to insufficient gas distribution infrastructure. Moreover, the regulatory environment for energy, and particularly for biofuels where the national government controls prices and quotas, is discouraging investments that could partly solve the energy issues. For example, small-scale projects to produce electricity from biofuels for individual consumption and to sell the excess to the grid did not flourish, due at least in part to a fixed price to incorporate electricity into the network.
- Córdoba lags much behind other provinces in terms of connection to sewage systems. Only 38.3% of households in the province of Córdoba are connected to a wastewater treatment plant, whereas the national average is 53% and in Santa Fe it is 50%. The city of Córdoba, which is the second major agglomeration of the country, has a coverage of 52% only, which is among the lowest in Latin America and somewhat overestimated given the importance of illegal connections. The wastewater treatment plant of Bajo Grande has largely exceeded its capacity and

Córdoba's streets are regularly flooded, which generates serious health and hygiene risks for the population.

- Housing infrastructure is not meeting the increasing urban population demands, which in the medium and long-term could have an impact on the attractiveness of the province. To start with, housing indicators for a precise quantification of the problem are lacking. The average number of rooms per dwelling derived from the census of population 2010 indicates a relatively limited variation across provinces (3.2 at national level, 3.4 in Córdoba and Santa Fe). The problem is especially noticeable in rural and remote areas. Projects, such as My House, My Life (*Mi Casa, Mi Vida*), in co-operation with the Inter-American Development Bank (IDB) and the World Bank (Promueva programme) to address housing issues have either stopped or stalled for various reasons, including inaccessibility of credit.

The reasons for the accumulation of these infrastructure deficits are manifold. First, public investment for some of these sectors is a shared responsibility across levels of government (e.g. transport) and therefore depends on effective federal-provincial co-operation, which has not always materialised in the past. For instance, the provincial government had to invest funds in maintaining and operating roads of national competence, i.e. from the primary network, due to the lack of investment from the federal government. Second, many of these infrastructure areas are capital intensive and require large sunk investments, which could not be undertaken at times of tight fiscal consolidation and deadlocks on intergovernmental fiscal transfers. Third, and most importantly, the province lacks a comprehensive infrastructure master plan that sets objectives in line with policy goals, assesses costs and benefits, and defines priorities based on sound criteria. Infrastructure is developed without a provincial-wide vision to account for trade-offs, and this is exacerbated by the absence of a regional development strategy that can boost productivity, competitiveness and inclusiveness. Such a strategy would require alignment with national infrastructure policies and co-ordination with local authorities during both the design and implementation phases. Co-ordinating the transfer of funds, geographical reach, prioritisation criteria, or even the design of specific projects are some of the actions that would be required across federal, provincial and municipal scales to bridge the infrastructure gap in Córdoba.

A second bottleneck relates to access to credit, in particular for SMEs, which has contributed to the slowdown of private sector activity as shown by economic indicators. There has been a decline in business counts in 2012 and 2013 (the two most recent years with available data), especially in agriculture with a contraction of the number of business of 2.1% and 4.6%, respectively. Argentina's macroeconomic context has translated into values of access to credit below the OECD average, namely lower than 20% of GDP in Argentina in 2012 and more than three times smaller than in Chile (73%). This trend particularly affected SMEs, which could not always find the needed resources to finance their activities. SMEs are 97% of Córdoba's business sector and therefore the essential backbone of economic development of the province. SMEs play a substantial role in spreading the benefits of GVCs by distributing output of MNEs to the provincial economy and by transferring technology to local firms. However, the growth in number of these type of enterprises has stopped drastically since 2008, when a 5% increase was registered, and reached negative values (-2%) in 2013.

Access to credit is largely contingent on macroeconomic policies designed at federal level, and the latest initiatives in this area by the new administration are promising. Historical impediments relate to macroeconomic instability and poor protection of property rights, with frequent changes in the rules of the game after the 2001-02 crisis. The new national administration has set as a primary objective the creation of a favourable environment for investors. In February 2016, the federal government signed a deal with the hold-out funds to end Argentina's debt default, which allowed Argentina's return to international financial markets and issue bonds for a value of USD 16 500 at lower interest rate than expected due to high expectations of buyers. It was the firsts bonds issued by the country after 15 years of debt default. This holds particular promising as Argentinian provinces are entitled to issue bonds, which could be a way forward in Córdoba given the province's low debt and strong borrowing capacity after years of prudent fiscal policy.

In addition to federal policies, important levers of actions should be pursued at provincial level to set place-based incentives and attract investors. A first way forward to support a business friendly environment would be to develop an investor roadmap outlining the concrete steps MNEs should follow to settle in the province. Such a roadmap should also help to promote the province's comparative advantages in a more compelling fashion, e.g. emphasising the favourable fiscal conditions, subsidies, hard and soft assets. Another type of action is reducing financial illiteracy and asymmetry of information among individuals, firms, and financial institutions, in order to build trust and encourage private lending. Supporting business incubators could also stimulate exchange and innovation, and attract potential investors. In addition, Credit Guarantee Schemes are one of the most widespread financial tools for SMEs to access banking loans and capital markets. Thus, actively supporting the implementation of the ongoing initiative to create a provincial CGS will help Córdoba's enterprises access financial markets. Another option could be to encourage the use of alternative financial instruments, such as venture capital or business angels, by providing fiscal incentives.

A third bottleneck to regional competitiveness and productivity is technical and secondary education. Among private and public actors, tertiary education is considered a comparative advantage to attract business, investment and human capital and to boost productivity. The province is home to nine universities and attracts over 275 000 students. Nine percent of Córdoba's population are university students, which is higher than in Santa Fe, Entre Rios or the province of Buenos Aires. However, technical and secondary education are more challenging since firms struggle to find workers with the technical skills for their activities, in particular for the manufacturing sector. In 2012 a survey conducted among firms in the car industry value chain revealed that 67% of Tier 1 and 60% of Tier 2 firms encountered difficulties to hire personnel with the necessary technical skills. Thus, the recent re-establishment of Vocational Education and Training (VET) in the province should be seen as an excellent opportunity to improve skill supply in those areas. If well-designed and managed, VET could become a comparative advantage for the province in the medium and long term. Other assets of Córdoba's education system on which future action should build on include the existence of a Provincial Council for Education Policy and a Provincial Technical Education and Employment Council. These councils gather public and private actors including student and parent associations, chambers of commerce and industry, and provide coordinating platforms to ensure policy outcomes meet the province's needs in terms of quality of secondary education and skills.

A way forward for the province of Cordoba would be to design a medium- to long-term skills strategy to fit for the future. The latter must come inside the broader regional development strategy to align economic and industrial policies with educational ones. Such a strategy is crucial to improve individual outcomes, drive better economic performance and promote social inclusion: skills underpin innovation, adoption of leading technologies and ultimately productivity to drive strong economic growth. They also boost earnings and enhance individuals' opportunities and well-being and support thriving communities and societies. The Provincial University of Córdoba could be an interesting vehicle for the implementation of such a skills strategy by bridging skills gaps in areas not sufficiently covered by public national universities and private institutions. This is the case for example in fast-changing sectors which have a predominant role in the provincial productive matrix, such as computing/software, which tend to suffer from skills shortage. Attracting students to these fields requires curricula that adapt along with the development of new technologies. Professional training centres in other countries have provided greater flexibility to students with outstanding results. For instance, in Brazil, the São Paulo Technology Faculty (FATEC) and the Centre Paula Souza have a high variety of degrees that span from training for construction workers to automation specialists and courses are also offered at night to accommodate those that work during the day. They have boosted the number of facilities throughout the state of Sao Paulo from 16 in 2004 to 63 in 2015 and must now conduct entry-level tests due to high student demand.

A fourth insufficiently explored area is the potential of the province is innovation. Córdoba's technical and non-technical innovative capacity is diverse and rich, both from the academic research community and within the private sector. Universities in the province of Córdoba are an important part of the innovation system. They have fostered advances from the academic sector and research communities as well as the provincial productive matrix. For instance, the development of the biotechnology sector started with the Laboratory for Hemoderivates of the National University of Córdoba. In 1964, this research centre was created as a spin-off by students and researchers to respond to a social demand for plasmas. It is now a well-established and competitive social firm and since then, five other firms dedicated to biotechnology have emerged in what has become one of the most knowledge-intensive sectors of the province. One of the most remarkable landmarks in Córdoba's process innovation was driven by the private agricultural sector. It consisted on the development of a planting technique (*siembra directa*). This has changed profoundly practices in the agricultural sector around the world, as it enabled the expansion of production and increased efficiency in the traditional agricultural sector. However, the decrease in patenting activity at the national level (from 861 in 1998 to 509 in 2014) and levels of R&D personnel at the provincial level indicate that there is room to improve innovation performance as well as to uncover the hidden potential of innovation. The share of innovation personnel to total workforce in Córdoba (0.57%, 2011 data) is below that of other OECD industrial regions such as the Basque Country (3.08%), Lombardy (2.18%) or Catalonia (1.73%).

Further investment both in terms of human and financial resources could potentially be the path forward for the province's future competitiveness. These investments should follow a strategy that draws on a mix of R&D and non-R&D instruments for which the province of Córdoba has competence in terms of design and implementation. Examples of key initiatives at provincial level could seek to support the science-industry linkages (e.g. personnel exchange and placement schemes, technology advisory services, technology diffusion); the densification and internationalisation of regional production clusters

through the Agency ProCórdoba; regional public procurement oriented towards innovation, building on the online *Portal de Compras* set up to modernise the public procurement process and encourage firms to adapt to new technologies; and regional agencies for innovation promotion, combining technology transfer with other services. It may also be opportune to evaluate whether the newly established Secretary of Innovation is functioning well.

A clear review of the provincial strengths and weaknesses in regional innovation is necessary before designing any strategy for the future. Currently, science-industry linkages are only promoted through technology diffusion, and other options could be explored. For example, the densification of cluster could go beyond the focus on SMEs to integrate MNEs in regional clusters and favour technology, research and knowledge transfers across SMEs. These efforts should be combined with the adoption and support to other instruments promoting innovation start-ups. The four existing incubators in the province – within the National University of Córdoba, the University of Blaise Pascal, the Foundation of Business Incubator (*Fundación Incubadora de Empresas*, Fide), and Incutex Company Builders & coworking - can indeed encourage the creation of business angel networks, offer free mentoring schemes for entrepreneurs, provide fiscal incentives to regional seed and venture capital funds, or create a public seed capital fund. The province should also support the recruitment of young graduates, in particular with high level degrees such as PhDs, with skills and knowledge that can spur new ways of doing business in firms.

Box 5. **Recommendations for strengthened enabling policies to regional competitiveness and productivity**

1. **Design and implement an integrated infrastructure development strategy that sets short-, medium- and long-term goals and seeks policy complementarities**.
   - Align this strategy with national infrastructure policies and co-ordinate with local authorities in the planning, design and implementation phase. The latter includes co-ordinating transfer of funds (national-provincial as well as provincial-local), geographical reach, prioritisation criteria for projects, or even the design of specific projects will require conjunct action across level of governments.
   - Include infrastructure needs of relevant sectors that can drive regional economic growth and well-being.
   - Seek the highest value for money through appropriate sequencing and consider low-cost, alternative options including the relevance of multipurpose and green infrastructure.
   - Align infrastructure responses with other policies such as education, social inclusion or innovation policies to make the most out of public investment.
2. **Set the framework conditions to facilitate access to financing for private sector initiatives with a view to foster competitiveness of SMEs in domestic and international markets.**
   - Develop a provincial "roadmap" with steps to follow for potential investors and newcomers in order to attract FDIs. It should outline the administrative steps for MNEs to follow and provide a presentation card for potential investors, emphasising favourable fiscal conditions, subsidies, hard and soft assets.
   - Strengthen the connection of MNEs to local value chains in the province through the provision of services and intermediate goods.

Box 6. **Recommendations for strengthened enabling policies to regional competitiveness and productivity** (*cont.*)

- Support the implementation of the provincial Credit Guarantee Scheme in addition to tackling financial illiteracy, reducing asymmetry of information and data, and providing individuals with the necessary skills to promote an "entrepreneur culture" among the population.
- Promote and incentivise the use of alternative and innovative financial instruments for SMEs, including venture capital instruments through fiscal incentives to investors. Control mechanisms will be key to ensure the correct use of fiscal exemptions when implementing these types of financial instruments.

3. Strengthen the quality of secondary and vocational education to promote inclusion and meet private sector skills-demand.

- Develop a medium- to long-term strategy for skills supply and social inclusion, in co-operation with the Council of Technical Education and Employment, based on skills forecasting models and in co-ordination with economic and industrial policies. Córdoba needs to address both short term demands for skills and long term ones to be ready for the future.
- Encourage students to enrol in STEM diplomas (science, technology, engineering, mathematics) through the modernisation of curricula, updated teaching methods and promote these study paths among women. Fast-changing sectors, such as computing/software, are dynamic and evolve fast. This is why attracting students to these fields requires curricula that adapt along with the development of new technologies.
- Consider developing targeted programmes in the Provincial University of Córdoba to satisfy needs of provincial companies that are not met by national and private universities. For instance, the Provincial University of Córdoba could evolve into a leading technical centre, given that this is the area with the largest skill-gap.

4. Design and implement a dedicated regional innovation strategy to modernise productive activities towards value-added niches and keep up the pace of growth.

- Recognise the relevance of transformation towards a smart strategy linking the provincial productive sectors, and identify transformation vectors for the province to modernise and diversify the provincial economy in a joint action between public, private and academic sectors.
- Create a mix of innovation instruments that fits Córdoba's territorial specificities and the capacity of the government to implement it. Also, ensure these innovation instruments do not become a tool targeting few firms or individuals, but that the benefits spread and reach other actors. A policy mix should combine more than two instruments and serve the purpose to several productive sectors.
- Support the use of instruments for protection of intellectual property by addressing the administrative and financing bottlenecks. More credit or micro-credit initiatives and offsetting up-front costs payable through a percentage of royalties over a period of time could help. Entrepreneurship education programmes can help bridge human capacity gaps.

The strong level of personalism and weak culture of monitoring and evaluation can raise transparency and accountability issues on Córdoba, despite significant progress in recent years

The institutions and frameworks that support public decision-making in Córdoba are well established, but some fundamental practices are either missing or weak. Some adjustments in governance practices would help Córdoba build on its successes and strengthen its ability to reach greater levels of competitiveness and productivity, while also enhancing the quality of life for citizens throughout the territory. The key features of the province's governance system are very much similar to those often attributed to small sovereign states, namely the pursuit of agreed upon priorities for growth; informality of structures and procedures; few formal mechanisms for steering and control; and "personalism" of roles and functions. These characteristics are not "good" or "bad" in and of themselves, but their interaction influences the governance contexts.

Despite the agreement among actors with respect to the four priorities for economic development in the province of Córdoba (agriculture and food industry, metal-mechanic manufacturing, ICTs and Tourism), there is little in place to ensure policy or programming coherence at the implementation level. Policy implementation is supported by the relationships between Córdoba's institutions and actors, which appear to build on strong social capital and network ties – i.e. most high-level actors know each other and often graduated from the same universities. Ministry secretaries tend to rely on personal connections with peers and their personal ability to mobilise actors to move forward the agenda, which is particularly emblematic in the case of clusters, and other public-private co-operation platforms. This way of implementing policies raises the question of accountability and transparency in terms of how decisions are taken, priorities are established and trade-offs are managed, and can also result in a lack of focus or, conversely, too much focus. For example, there has been valuable work undertaken to improve and develop the socioeconomic conditions in the rural north-western region of the province (e.g. building houses, building skills, improving roads and water services, etc.). The question arises, however, of how the focus and investment in this region is balanced with a focus and investment for similar populations in other parts of the province, especially in greater Córdoba where urban pockets of poverty are noteworthy. Who decides, and how, whether investment in remote areas of the province (e.g. paving 500 km of roads) is a priority with respect to social housing in urban areas? How are the trade-offs of these decisions managed? This is where having a clearly defined territorial development policy with clear lines of decision-making and accountability could help.

Lack of formality can also bring policy fragmentation among sector portfolios. This is most clearly seen between the Ministry of Social Development and the new Secretariat for Equality and Promotion of Employment. Both of these institutions are responsible for social policy and certain responsibilities that were attributed to the Ministry, e.g. family policy or gender policy, have lately been transferred to the Secretariat. Thus, there are two institutions working on social policy and one of these is ceding responsibility to the other without sufficient internal clarity on the assignments and processes for transfer, and external clarity on programming responsibility. This can generate overlaps, accentuate fragmentation and result in incoherent action as well as poor accountability.

A key concern is that the province's ability to measure policy performance is challenged on three fronts. First, by the lack of quality data at national and provincial levels as previously mentioned. Second, by the lack of performance indicators even though there is a strongly voiced desire to understand performance within Córdoba's

ministries and agencies. For example, the Ministry of Education is developing a self-assessment tool to measure the province's performance against specific criteria or standards (e.g. enrolment, completion, dropout rates, grade repetition, etc.). This is being done in response to national and international evaluations that are released two years after data is collected, which is too long of a time frame to identify what needs to change and to make the necessary adjustments. Third, by the weak monitoring and evaluation culture: despite the previous example, there does not appear to be a pervasive culture of performance measurement or of monitoring and evaluation. Some reasons behind this include data concerns as well as the lack of clearly articulated and concrete objectives from a strategic sectoral policy makes action in this area more difficult.

Box 7. **Recommendations to enhance transparency, monitoring and performance management**

These recommendations seek to complement informal networks with formal structures and clear accountability mechanisms through actions that can be taken from two different standpoints: administrative (centre of government) and operational (monitoring and evaluation).

1. **Build a strong Centre of Government (CoG) to ensure coherence and co-ordination in achieving Córdoba's strategic objectives across ministries and public agencies, and between levels of government**
   - In Córdoba, there is no clearly defined CoG body that could provide policy oversight, although the Ministry of Government appears naturally placed to serve such a role.
   - There is a range of options for CoG structures within the OECD countries, including at the sub-national level in federal states. A common feature is that they tend to include the body or bodies that serve the Head of Government and/or Head of State, and are often supported by the Ministry of Finance. In Ontario, Canada for instance, the CoG lies within the Cabinet Office, which provides the Premier with advice and analysis to support the government in achieving its priorities.
   - It is important to ensure that the diverse secretariats within a ministry are working toward the same overall objective(s) in a coherent and co-ordinated fashion.
   - This has to be supported by clear sector policy, planning and co-ordination at the ministerial level as well as at the provincial level. This is increasingly the task of the CoG, which is often best placed to ensure that priorities are pursued in a coherent and co-ordinated manner.
2. **Improve monitoring and performance management practices to determine whether or not a strategy or policy is achieving results or if it needs adjustment or replacement**.

Concrete actions include:

- Identify results based indicators and ensure monitoring and evaluation mechanisms are in place to track outcomes.
- Build capacity for objective setting and establishing outcome-based indicator systems. This should come together with improving data and information at the provincial level.
- Create space (e.g. through a dedicated website) to communicate and share progress on objectives and indicator results with stakeholders and citizens, thereby supporting greater government transparency and accountability.
- Introduce programme and/or spending reviews for ministerial or agency initiatives. These can provide insight into what is best supporting the achievement of Córdoba's territorial ambitions, and how funds are being spent with respect to these ambitions.
- Continue with the plan to introduce results-based management techniques. Potentially pilot the initiative in one or two key ministries before rolling it government-wide.

Regional development is challenged by autonomous municipalities with few incentives to co-operate among each other and with provincial authorities

Territorial development practices in Córdoba are particularly challenged by a large number of autonomous municipalities (427), by the provincial Constitution, which have little incentive to co-operate in policy implementation or service programming among them (horizontal co-ordination) and with the provincial administration (vertical co-ordination), and by the economic and demographic weight represented by the city of Córdoba and its surrounding municipalities (Greater Córdoba). This autonomy is granted in the provincial constitution. As a result, the provincial government and relevant local government officials seem to recognise that there is the need for a more strongly co-ordinated, and more "metropolitan", approach to governance in the Greater Córdoba area.

Inter-municipal co-operation in Córdoba appears to be a big challenge for service delivery, and the lack of a functional approach to urban development, based on where people work and leave rather than pure administrative boundaries, can hinder the effectiveness, efficiency and inclusiveness of regional development policies. Two different scales must be considered to this challenge:

- The Greater Córdoba is formed by the city of Córdoba and 12 surrounding municipalities, according to INDEC's official definition. However, several stakeholders have a broader approach to such boundaries. For IPLAM, the Greater Córdoba is a radius of approximately 50 kilometres encompassing 46 individual cities and towns in addition to the city of Córdoba. Under that scope, Greater Córdoba is home to about 1.8 million people (around 68% of the province's population) and 64 000 businesses. Currently, it seems more challenging when it involves co-operation between the city of Córdoba and municipalities forming the greater Córdoba than among small municipalities. It is as if the smaller municipalities prefer to co-operate with each other as a means to build a counterweight to the big neighbour. The co-ordination mechanisms that are taking root in the Greater Córdoba area, such as IPLAM's transport plan and the urban-planning agreements (convenios urbanísticos) may be a platform for building inter-municipal authorities either for a single purpose (e.g. for transport) or for multiple purposes. These agreements, based on "corridors" of municipalities, particularly in the greater Córdoba area, can serve as a good step towards a more integrated approach to managing the metropolitan area
- Municipalities in less populated areas of the province. In Córdoba, the impact of scale on public service delivery (mainly electricity, gas, and water) at local or community-based level has been managed mostly through the existing service co-operatives (cooperativas). Service co-operatives reach about 30% of the population, and cover approximately 70% of the territory. The existence of service co-operatives reduces the need for inter-municipal co-operation for service delivery, and it is one possible explanation why horizontal co-ordination mechanisms have not evolved strongly in Córdoba. However, other services, such as public transportation, or bridging gaps to meet administrative, operational and infrastructure needs, could still benefit from inter-municipal cooperation. This is illustrated by the experience of six municipalities towards a common solid waste treatment plant. The municipalities agreed to co-operate, signed an agreement (convenio), selected the site within the administrative territory of one of the participants, La Carlota, and constructed the plant.

Vertical co-ordination between the province and the municipalities is also a problem, despite the existence of the Province and Municipalities Roundtable (*Mesa de la Provincia y los Municipios*), which was conceived as a coordinating body in response to the absence of incentive structures for local authorities to engage in provincial policy or service programming. For example, in Greater Córdoba, urban sprawl is a reality. It arises for several reasons including fragmented land-use planning policy and regulations (land-use planning is entirely a municipal competence). This can lead to approval for construction of housing developments where there is no appropriate infrastructure in place (e.g. water, sewage, electricity, etc.), just as it can result in construction in high-risk areas, i.e. flooding. The main instrument to coordinate these actions seems to be Province and Municipalities Roundtable (*Mesa de la Provincia y los Municipios),* which was established as a forum for discussion between provincial and local authorities. However, there is no consensus as to its effectiveness so far.

In the medium to long term, for Córdoba to meet its territorial aims – i.e. improving productivity and competitiveness while also generating greater well-being for its residents – the government will need to identify ways to improve provincial/municipal dialogue and co-ordination as well as inter-municipal co-operation particularly in Greater Córdoba; otherwise it may become increasingly difficult to ensure equitable service delivery given the fragmented environment. A step forward should strive to agree on a functional definition of the Greater Córdoba. Functional definitions of urban areas imply looking beyond the administrative borders that conforms each municipality to a more comprehensive view of the metropolitan area. A criteria used to define the functional area of an urban centre is the mobility of people. The latter could help policy makers understand the level of fragmentation of the Greater Córdoba area, which and where are services needed, and how could these services be better delivered through inter-municipal cooperation. Developing indicators using a functional definition of the Greater Córdoba could also help depict a clearer picture of where the metropolitan area stands in terms of economic, social, and environmental performance against its peers in other countries, which feature in the OECD metropolitan database. For instance, incorporating the measurement of GDP at the scale of functional urban areas, or aggregating municipal level data on services, employment counts, and educational attainment is an important way forward to allow such international benchmarking.

Box 8. **Recommendations to strengthen multi-level governance in Córdoba**

- Adopt a functional approach to Greater Cordoba, which goes beyond the administrative borders that conform each municipality to have a more accurate view of the metropolitan area based on where people work and live.
- Address institutional fragmentation by promoting and rewarding an integrated approach to policy development and implementation. This can help align action and economic resources among ministries and municipalities.
- Make better use of existing co-ordination mechanisms to improve provincial and municipal dialogue and co-operation, not only for service delivery but also to identify common needs and interests that could then spur co-operation.
- Broaden the menu of co-ordination mechanisms used to include strategic planning requirements, performance measurement, and performance management for example.
- Consider establishing an association of municipalities that can coalesce interests and priorities, and act as a voice for the province's 427 municipalities.

Box 9. **Recommendations to strengthen multi-level governance in Córdoba** (*cont.*)

- Reinvent the Roundtable for Provincial and Municipal Governments with an eye to ensuring its relevance for all municipalities regardless of size or political leaning.
- Identify relevant incentive mechanisms for inter-municipal co-operation, including with the city of Córdoba. Such mechanisms could include fiscal incentives and/or performance indicators.
- Continue promoting "urban agreements" (*convenios urbanísticos*) to support inter-municipal activity in service delivery along municipal "corridors".
- Establishing the appropriate governance structure is a medium term endeavour, but consideration should be given to establishing one or several "inter-municipal authorities". The work undertaken by IPLAM and the "urban agreements" could provide a basis for such an undertaking.

There is potential to engage with citizens in policy design beyond the current one-way information or consultation channels, for better transparency, accountability and quality service provision

Córdoba has taken many positive steps towards building and applying transparency mechanisms, as well as engaging with citizens, especially using ICT. The province is a leader among Argentina's provinces with respect to transparency practices in budgeting, and has actively promoted integrity with the introduction of relevant ISO standards. For instance, there are initiatives to make public procurement more transparent with the online public purchasing and contracting portal (*Portal de Compras y Contrataciones*) and with the decree 1062 of ISO Standard 37.001 targeting bribery and kickbacks in the public sector. Córdoba also publishes a "citizen budget" (*Presupuesto Ciudadano*) highlighting government income and spending in a way that is easily understood by non-expert citizens – which is a unique initiative among Argentina's provinces. Through its government modernisation programme, it has also successfully increased one-way information exchange with citizens: the government provides information to the citizens, or the citizens consult with the government on its activity through the Digital Citizen (*Ciudadano Digital*) platform.

With few exceptions, however, the government's engagement with citizens, either individually or through CSOs does not appear to be as strong as with private sector and academic stakeholders. At the provincial and municipal level in Córdoba there are a few examples of pro-active citizen engagement upstream in the decision-making process or policy design stage. One of the most relevant examples is the government's approach to housing construction as part of the North-west Development Plan, which aimed at reducing poverty in the north-west part of the province. To this end, the government provided the financial, technical, and material (e.g. tools) capacity for the residents of each locality to build their own house. Every time a critical stage of the building process was complete (e.g. laying foundations, building a roof, etc.) the government would "pay" the house-owner for their work. The result was communities of proud homeowners who took care of their residences, as well as individuals who felt empowered to pursue new opportunities based on skills gained. While certainly successful, the need to build a two-way dialogue with citizens remains.

The challenge for the government will be to move beyond its more traditional interlocutors, such as industry chambers, academia, and selected CSOs that have been active for many years. Any successful initiative towards a more open and accountable government policy in Córdoba should more actively and regularly engage with, and listen to, a broad spectrum of CSOs. Under the previous provincial administration, there was a move in this direction with the proposed introduction of a provincial Bill on Open Government and Governance designed to promote the principles of the Open Government Partnership, of which Argentina is a member. As part of these principles, achieving greater accountability to citizens will require the government to engage more actively, strongly, and directly with citizens in a "two-way" manner; different from today's one-way approach. A good example is the city of Córdoba planning process. At the beginning of each mayoral term, the sitting mayor must, before completing 120 days in office, present a Plan with concrete objectives, defined goals, and identified the strategic actions that will be undertaken by each branch of the municipal administration in order to meet the goals, and indicators to facilitate monitoring and evaluation. To feed into this planning process, the *Our Córdoba Citizen Network* presents the mayor of the city of Córdoba with a proposed "Plan of Objectives" (*Plan de Metas*) so that it serves as a planning and information instrument for the mayor. The 2015-19 proposal was developed with the participation of over 200 citizens, and covers three themes, each of which is associated to sub-dimensions and quantifiable objectives: sustainable urban development (20 objectives); institutional development (19 objectives); inclusive development (10 objectives).

Box 10. **Recommendations to engage with citizens for better transparency, accountability and service provision**

- Pursue the government modernisation good practices towards greater transparency and accountability. These include the public purchasing and contracting portal, the citizen budget, "Digital Citizen" portal, ISO standards, and budget transparency practices.
- Strengthen "two-way" citizen engagement practices by increasing citizen participation in the policy making, policy dialogue and policy evaluation processes.
  - Consider a process similar to the City of Córdoba's *Plan de Metas* introduced by civil society, and adapted for the provincial level.
  - Consider working with the Our Córdoba Citizen Network or a similar organisation to build and publish a set of baseline indicators for the Province that is akin to what was developed for the City of Córdoba.
- Identify opportunities to engage citizens in service production and delivery, building on the example of the Northwest Development Plan.
- More actively, regularly and formally consult with civil society organisations to identify programming needs and developing relevant sector policies.

Chapter 1

Economic, social and environmental trends in Córdoba

This chapter describes recent economic, social and environmental trends in the Province of Córdoba. After the 2001-02 Argentinian crisis, Córdoba experienced sustained economic growth and widespread improvements in the standard of living but it has not fully reaped the benefits of regional competitiveness and productivity. Its challenges and opportunities are the same as those found in many OECD regions: ageing population, relatively high wages, educated workforce, solid entrepreneurial and academic traditions, but high inequalities among people and across places. Moreover, despite provincial efforts to bridge data gaps in a context where national statistics have been unreliable, opaque and misleading, much remains to be done for credible territorial statistics to effectively guide decisions. The chapter proposes recommendations to support the modernisation and strengthening of the provincial statistical infrastructure while improving some traditional statistical methods and programmes, investing in non-traditional data collection and processing methods, and setting a Smart Córdoba open data agenda.

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Territorial, demographic, political and administrative structure

This section summarises the main economic, social and environmental trends and challenges faced by Córdoba. The analysis highlights the characteristics of the province within national and international contexts, focusing on peer regions within Argentina and OECD countries, as well as spatial patterns and trends within the province itself. Data quality limitations must be considered when using the trends' analysis included in this chapter (Box 1.1).

Box 1.1. **Statistical systems and information quality management in Córdoba and OECD**

Territorial policies may contribute in many ways to quality national statistical infrastructure. For instance, this could be done by establishing and maintaining regional and local administrative registries that can eventually contribute to official statistics on various topics, or by adopting geographic units of policy delivery that account both for statistical needs and for the functional regional economy. Thus, various actions aimed at consolidating the statistical system in the province could have impacts at the national level.

The statistics used for the purpose of this territorial review are almost entirely from official sources (either a statistical office or a governmental agency). Some of the main data gaps with respect to territorial indicators that are comparable to the OECD framework have been identified in this chapter along with potential concerns in terms of data quality.

The concept of data quality is multidimensional. Major statistical agencies define data quality in terms of "fitness for use", which means that users must be provided with the information necessary to judge fitness for their intended use. To operationalise this definition, the OECD views quality in terms of seven dimensions: relevance, accuracy, credibility, timeliness, accessibility, interpretability, and coherence.

Of these, **relevance** is a variable and permanently subjective factor, which is inherent to the policy process and needs of national actors. Hence, the assessment of this dimension should be deferred to the dialogue among national actors and/or data producing agencies. **Accuracy** is permanently technical and can be characterised in terms of error in statistical estimates. The accuracy of some provincial and national indicators in Argentina (such as price indeces or poverty rates) has been challenged on various occasions, which culminated with the adoption of the 55/2016 decree in 2016 declaring a statistical emergency. For this reason, some indicators are completely omitted in this analysis.

The other four dimensions are more relevant for the purpose of this territorial review. **Timelines** has several facets and an influence on relevance. It primarily refers to the delay between the reference point to which the information pertains, and the date on which the information becomes available. **Accessibility** refers to the ease with which the information can be obtained, namely how it can be identified, the suitability of the form or medium through which it can be accessed, and its possible cost. Open access to statistics (open data) has become a major driving force in reshaping statistical systems across OECD countries as well as many Latin American countries (e.g. Colombia, Costa Rica and Peru, see OECD, 2014a). **Interpretability** reflects the need for, and availability of, supplementary information and metadata in order to interpret and utilise the primary information adequately. This supplementary information generally covers concepts, variables, classifications and methodologies. Finally, the dimension of **coherence** expresses the degree to which the information supplied by the system can be successfully brought together with other information within a broad analytic framework, and over time. The use of standard concepts, classifications, target populations and methodologies promotes coherence.

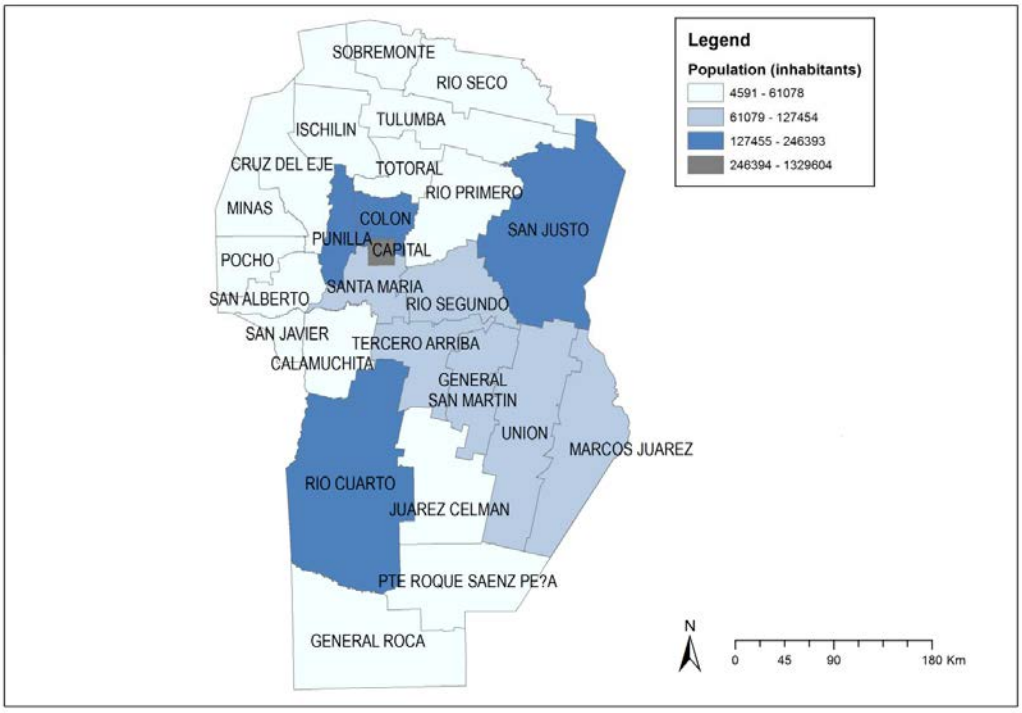
Source: Statistics Canada (2002), *Statistics Canada's Quality Assurance Framework*, Catalogue No. 2-586-XIE; OECD (2014a), *Open Government in Latin America*, OECD Public Governance Reviews, http://dx.doi.org/10.1787/9789264223639-en ; OECD (2016a), "Quality Framework for OECD Statistical Activities", www.oecd.org/statistics/qualityframework (accessed November 2016).

Territorial administrative levels

Argentina has four administrative levels, reflected in the statistical reporting. Below the national level, the country is divided into 24 major administrative units, which include 23 provinces and the autonomous city of Buenos Aires (*Ciudad Autónoma de Buenos Aires* - CABA). Provinces have different administrative arrangements, and sub-provincial administrative units are legislated at the provincial level. However, most provinces are divided into departments (*partidos* for the province of Buenos Aires) and departments are further divided into municipalities (*comuna* for the city of Buenos Aires). The governance structure of each of these territorial levels in the province of Córdoba is discussed in detail in Chapter 3.

The administrative geography of the province of Córdoba presents a relatively high degree of fragmentation compared to other provinces. Córdoba is Argentina's fifth largest province in terms of area (165 321 square kilometres), encompasses 26 departments and a total of 427 municipalities (249 *municipios* and 178 *comunas*), while the average number of municipalities per province in Argentina is 91 (see Chapter 3). Figure 1.1 displays the population density in each department in the province of Córdoba.

Figure 1.1. **Population by department, 2010, province of Córdoba**



Source: *Dirección de Estadísticas socio-demográficas de la Dirección de Estadísticas y Censos de la Provincia de Córdoba* based on INDEC (2010) [Department of Socio-demographic Statistics of the Department of Statistics and Censuses of the Province of Córdoba], *Censo Nacional de Población, Hogares y Viviendas* [National Census of Population and Housing].

Territorial indicators at the departmental level are limited to census of population data and a few other statistics generated from non-survey sources such as satellite imagery and administrative records. For instance, employment and labour market indicators generated from household surveys do not have complete provincial coverage, as these are only

collected, produced and disseminated for major urban agglomerations. Córdoba, like most of the other provinces of Argentina, is highly urbanised, thus urban statistics closely reflect provincial trends. Nevertheless, the lack of territorial coverage presents a major limitation to effective territorial policies, particularly for smaller and marginal areas, which often present unique social and economic attributes.

The OECD argues that territorial policies should be designed and implemented following a "functional" rather than only "administrative" approach. In practice, this means going beyond administrative units to look at places where people live and work. The OECD Regional Development Policy Committee has established a database for international benchmarking and comparison of "functional" metropolitan areas (see Box 1.2). The province of Córdoba does not make explicit use of functional regions in territorial analysis or policy. However, a similar approach was adopted through the analysis of Local Economic Areas – LEA (*Áreas Económicas Locales*) conducted for the country as a whole by the Ministry of Labour, Employment and Social Security (*Ministerio de Trabajo, Empleo y Seguridad Social de la Nación*) uses administrative records on the location of registered businesses and their registered workers.[1] LEAs are structured around major urban agglomerations, and this concept was used for the analysis of local labour markets and industry clusters.[2] LEAs have also been used in some statistical reports, particularly by the federal Ministry of Labour, Employment and Social Security.[3]

Box 1.2. **Functional regions: relevance and options for the province of Córdoba**

Territorial policies are delivered within given geographic spaces and, in most cases, the geographic dimension is one of the criteria, if not the main criterion, used to identify the beneficiaries of the policy. Typically, territorial units used for delivering policies correspond to administrative units such as municipalities, districts, departments, etc.

A characteristic commonly evaluated in OECD countries is the nature and degree of connectivity between administrative units, particularly between municipalities in large metropolitan areas. Connectivity across space generates what the literature has defined as "functional regions": geographic spaces in which population, workforce, businesses and local governments operate in a close network of interdependencies, often transcending administrative boundaries. Because of these socio-economic linkages between administrative units, functional regions have become prominent in regional policy design and implementation of many OECD countries, particularly with respect to metropolitan functional regions. The existence of these interactions are forcing local/regional administrations to re-think local policies and governance structures to deliver policies and services that foster development in a functional space.

There are a multitude of examples of functional regions used in policy frameworks in OECD member countries. Recently, the OECD Regional Development Policy Committee and its Working Parties were called to provide a common framework for the analysis and comparability of functional metropolitan areas across member countries, which resulted in the OECD Metropolitan Database (OECD, 2013a). Normally, the methodological approach used by OECD countries to delineate functional regions is based on the analysis of connectivity through labour commuting flows. Thus, the operational definition of functional areas coincides with that of a spatial labour market. This approach is also followed by the OECD in its delineation of internationally comparable metropolitan functional areas.

For the province of Córdoba, there is evidence of labour commuting linkages and interdependencies among municipalities. Although there is no database that could support the application of the methodology commonly used by the OECD, information on place of work and place of residence of the workforce has been derived from administrative records of registered businesses and their registered labour force (Mazorra, Filippo and Schleser, 2005). The result of that analysis was the delineation of 85 Local Economic Areas (LEAs) for Argentina, 10 of which are in Córdoba (OEDE, n.d.). Each LEA has a corresponding urban node at its core that is assumed to be the main destination of labour flows. LEAs cover approximately 85% of the national population while the remaining 15% lives in areas that are not connected to any LEA. Argentina's LEAs have been used in some statistical reporting (OEDE, n.d.).

Box 1.2. **Functional regions: relevance and options for the province of Córdoba** (*cont.*)

LEAs represent a delineation of functional areas for Córdoba and in its current form, or some variation of it, could become a relevant focus of policy analysis and development. Updates or refinement of that methodology could also be considered. There are alternative methods that could be used to delineate functional regions. A first and more pragmatic approach could be based on a geospatial analysis of road network connectivity and observed travel distance and travel time. The technology to produce travel distance and time data between urban centres in Córdoba is in place, as most of the province is now covered by Google Street View. An analysis based on travel distance/time could be enhanced and validated by using local expert knowledge and secondary data sources on public transportation.

A second and possibly more sophisticated option would be considering alternative data sources, the so-called Big Data, for the analysis of mobility flows. This approach could be particularly appealing in enhancing and/or validating an analysis based on administrative data of registered business and employees. The most promising source of data for this purpose is mobile phone data. Like in the rest of Argentina, the use of mobile phones is widespread in Córdoba. The methodology to produce statistics from mobile phones is not consolidated yet. However, there are several examples of experimental applications by national statistical offices and methodological research on this theme is growing rapidly. Some notable application examples are found in the Netherlands and Mexico (Tennekes, 2014), and other national statistical offices are currently working toward the acquisition and incorporation of mobile phone data in their statistical programmes. The use of this, and other alternative data sources, appears particularly promising in countries like Argentina, in which the data collection system is in need of a big modernisation and redevelopment effort.

Source: OECD (2013a), "Definition of Functional Urban Areas (FUA) for the OECD metropolitan database", www.oecd.org/gov/regional-policy/Definition-of-Functional-Urban-Areas-for-the-OECD-metropolitan-database.pdf; Mazorra, X., A. Filippo, D. Schleser (2005), "Areas económicas locales y mercado de trabajo en Argentina: estudio de tres casos", *Serie Desarrollo Productivo,* No.157, CEPAL, División de Desarrollo Productivo y Empresarial, www.cepal.org/es/publicaciones/4553-areas-economicas-locales-y-mercado-de-trabajo-en-argentina-estudio-de-tres-casos; OEDE (n.d.), Estadísticas e indicadores regionales, (database), Observatorio de Empleo y Dinámica Empresarial, Ministerio de Trabajo, Empleo y Seguridad Social de la Nación [federal Ministry of Labour, Employment and Social Security], www.trabajo.gov.ar/left/estadisticas/oede/estadisticas_provinciales.asp (accessed March 2016); Tennekes, M. (2014), *Visualization and Big Data in Official Statistics,* in co-operation with P. Daas, M. Puts, M. Offermans, A. Priem and E. de Jonge, Statistics Netherlands, www.inegi.org.mx/eventos/2014/big-data/doc/P-MartijnTennekes.pdf.

The use of functional regions in policy development can help stakeholders address issues that involve complex governance arrangements such as local transportation and mobility, health services delivery, water, sanitation and waste management, etc. Similarly, a statistical system that makes use of functional regions as geographic units of dissemination would enable a more robust analysis that could determine which municipalities have strong economic and social interdependencies. For the province of Córdoba, the methodology used by the OECD to delineate functional metropolitan areas is not feasible due to the absence of information related to commuting flows or equivalent proxies that can help define where people work and live. However, the concept of LEA or alternative methods could be considered for the identification of functional regions (see Box 1.2).

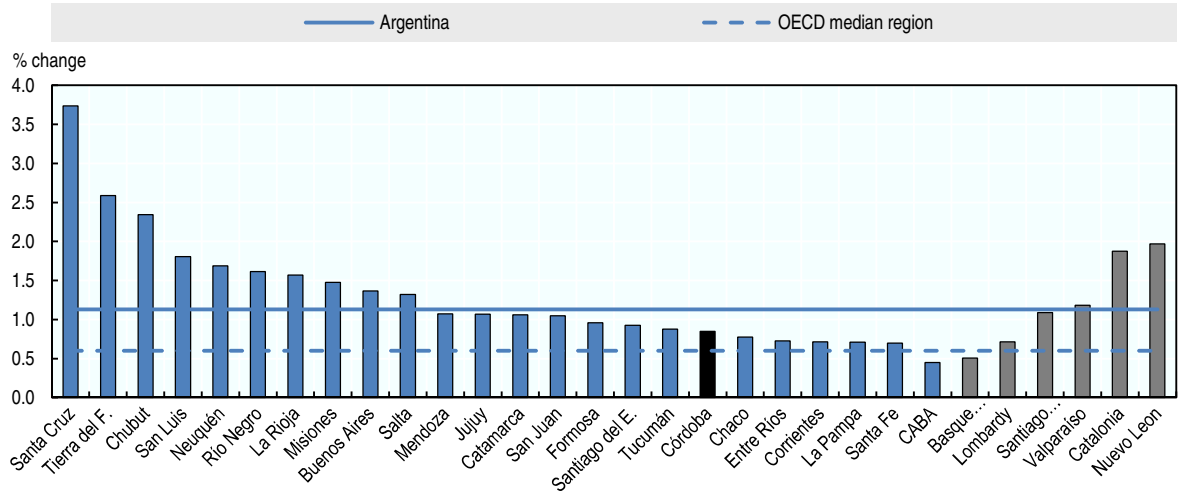
Demographic trends across the province

Córdoba is Argentina's second largest province in terms of population with 3.53 million inhabitants in 2014, the province is home to approximately 8.2% of the Argentinian population (estimated at approximately 42.7 million in 2014). Demographic projections indicate that the population share of the province in the national aggregate is expected to remain almost unchanged over the next 25 years. By 2030, Córdoba is

expected to reach a total population of approximately 4.1 million with Argentina approaching 50 million inhabitants.

Data from the census of population 2001 and 2010 show that, between 2001 and 2010 the province of Córdoba reported a population growth rate of 7.9%, which is lower than the national average of 10.6% (Figure 1.2). This corresponds to an average compound annual growth rate of 0.85% for Córdoba, compared to 1.13% for Argentina. Argentina is still enjoying a relatively strong demographic growth. Over the same period of time, OECD countries reported an annual population growth ranging from 0.62% to 0.73%.[4] Within the context of OECD regions (TL2) (see Box 1.4 for OECD regional typology), Córdoba is also enjoying a relatively strong population dynamic, as the typical population growth of an OECD region was approximately 0.6% over the same time frame. However, within the national context Córdoba does not emerge as an engine of demographic growth.

Figure 1.2. **Population average annual growth rate by province, 2001-10**



Notes: The average annual growth rate is computed as compounded growth rate of the population in 2001 and population in 2010. The columns in grey represent non-Argentinian regions.

Source: Elaboration based on INDEC (2010 and 2001), *Censo Nacional de Población, Hogares y Viviendas* [National Census of Population and Housing].

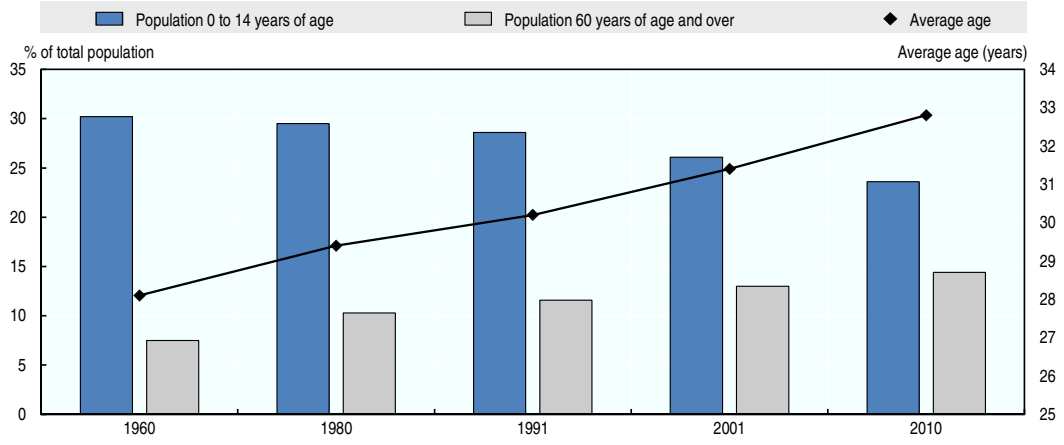
Various demographic trends are expected to have an effect on the population profile of the province. These trends have been at work over the past fifty years and are expected to continue in the future. Figure 1.3 summarises some of the characteristics of the demographic transition for the province of Córdoba over the past fifty years. The figure shows the significant increase in the share of senior population, from about 8% in 1960 to over 15% in 2010, paralleled by a significant decline of the junior cohort, from about 31% in 1960 to 24% in 2010, and a rapid increase in the average age of the provincial population, from 28 to 33 years of age over the same period considered.

These trends are projected to continue in the future. The fertility rate of the province of Córdoba is below that of Argentina and is expected to decline further. In 2015, the fertility rate was estimated at 2.3 nationally and 2.2 for the province of Córdoba (2.1 in Santa Fe); by 2025, it is projected to be 2.1 nationally and 2.0 for the province of Córdoba (2.0 for Santa Fe).[5] The projected increase in life expectancy in the province of

Córdoba and in Argentina as a whole is also noteworthy. The projections suggest that Argentina will see an increase of life expectancy from almost 77 years in 2015, to about 79 years in 2025. Córdoba and Santa Fe will experience comparable increases over the same time frame.[6] These demographic trends will be, and are already, key factors in the analysis of the present and future of the provincial labour market, as well as the pension schemes' sustainability and other social policies.

The demographic transition experienced by Córdoba is shared by most regions across the OECD. Indeed, the vast majority of OECD countries experience the effects of similar trends in the demographic structure: population ageing, increasing dependency ratios and decreasing population growth rate. The fertility rate, expressed as the number of children born to women aged 15 to 49, in OECD countries as a whole, for instance, has remained at about 1.7 from 2000 to 2010. In Mexico, over the same period of time, the fertility rate has declined from 2.8 to 2.1, and in the U.S. from 2.1 to 1.9.[7] For OECD as a whole, the elderly population, as a percentage of the total population, increased from 13.2 to 15.9 between 2000 and 2014; while in Mexico the rate increased from 4.8 to 6.7 and in Chile from 7.2 to 10, over the same period of time.[8]

Figure 1.3. **Demographic transition, 1960 to 2010, province of Córdoba**



Source: Elaboration based on INDEC (various years), *Censo Nacional de Población, Hogares y Viviendas* [National Census of Population and Housing].

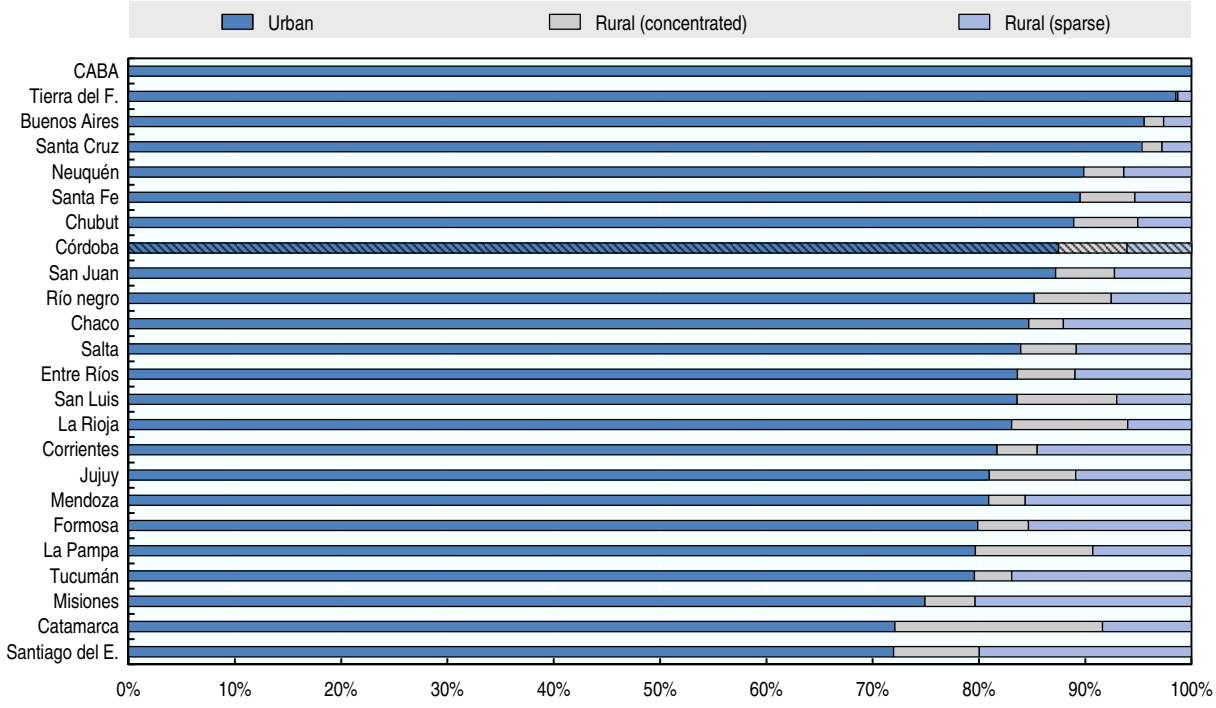
A second type of demographic change experienced by the province over the past decades is urbanisation, paralleled by a decline in the share of population living in rural areas.[9] These trends have been pervasive across the country, and are generally comparable to those observed in several OECD countries. It should be noted that definitions of urban and rural vary across countries, although they are usually based on measure of population size and density of localities. In order to conduct international comparative analysis of OECD regions, the Working Party on Territorial Indicators of the OECD established a territorial typology that applies a comparable methodology across OECD regions (OECD, 2011).

Today, Argentina is a highly urbanised country, with an estimated 91.8% of the population reported living in urban areas in 2015, up from an estimated 89.1% in 2000 (United Nations, 2014). Moreover, the rural population of the country was estimated to decline both in relative terms as well as in absolute terms, from approximately 4 million

people in 2000 to less than 3.5 million in 2015 (United Nations, 2014). Hence, when aggregated statistics are considered, urban trends overshadow the rural component, which in many regions present different socio-economic characteristics compared to urban economies. Similarly, many of the inter-provincial and intra-provincial socio-economic differences are associated with the rural-urban demographic composition of the province.

Figure 1.4 shows the distribution of population (households) across urban areas and types of rural areas in each province of the country, at the time of the last population census (2010). In the province of Córdoba, the population distribution between urban and rural areas closely resembles the national average, with approximately 87% of the population living in urban areas. The largest population growth has been experienced in intermediate and large cities, i.e. urban centres with more than 100 000 inhabitants. Urbanisation levels and population ageing pose challenges in the delivery of social, education, and health services, which will require additional resources and a well-designed public services strategy to be addressed.

Figure 1.4. **Percentage of urban and rural population by province, Argentina, 2010**



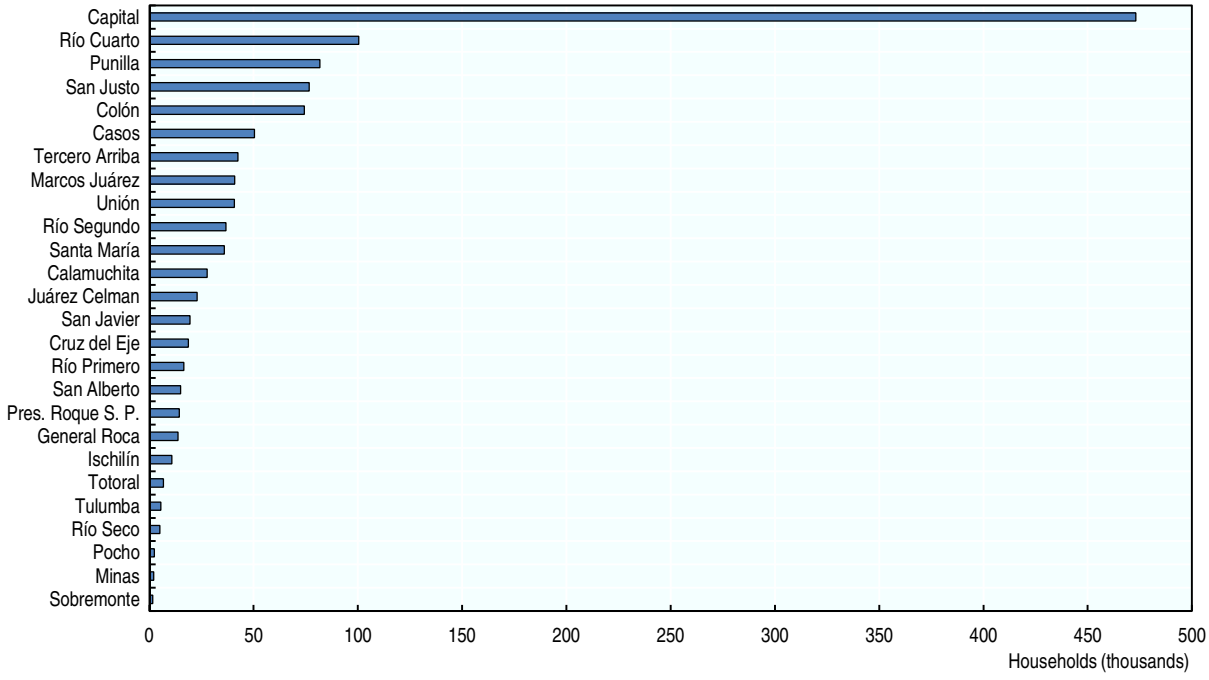
Source: Elaboration based on INDEC (2010), *Censo Nacional de Población, Hogares y Viviendas* [National Census of Population and Housing].

Similarly, within the province of Córdoba, urbanisation is high and most of the provincial population is concentrated in a reduced number of departments. The settlement pattern of the province is dominated by the urban area of Córdoba called the Greater Córdoba, located in the Capital department, which is home to close to 40% of the provincial population. In 2010, six departments accounted for almost 70% of the provincial population: Capital, Río Cuarto, Punilla, San Justo, Colón, and General San Martín (Figure 1.5). The remaining 20 departments of the province accounted for 30% of the provincial population, while the four smallest departments by population

(Sobremonte, Minas, Pocho, and Río Seco) reported less than 1% of the provincial population.

In the province of Córdoba, the most highly populated departments also have the larger share of urban population. Today, ten departments out of the 26 account for more than 80% of the urban population of the province (Capital, Río Cuarto, Punilla, Colón, San Justo, General San Martín, Tercero Arriba, Marcos Juárez, Union, and Rio Segundo). Although most departments are predominately urban, six of them have a majority of their populations living in rural areas: Minas and Pocho, which are completely rural, as well as Tulumba, Totoral, Sobremonte, and Río Seco (over 50% of the population lives in rural areas) (Figure 1.6).

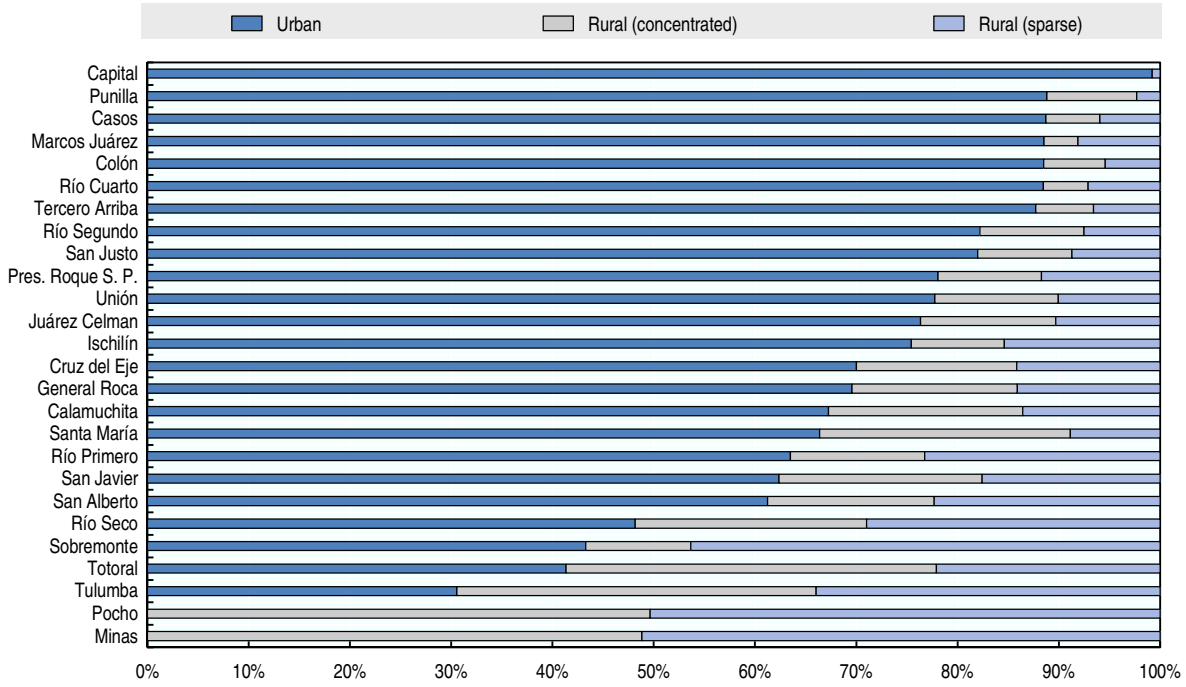
Figure 1.5. **Distribution of households by department, 2010, province of Córdoba**



Note: In 2010, the total number of households (viviendas) in the province of Córdoba was 1 236 177.

Source: Elaboration based on INDEC (2010), *Censo Nacional de Población, Hogares y Viviendas* [National Census of Population and Housing].

Figure 1.6. **Rural and urban households by department, 2010, province of Córdoba**



Note: In 2010, the total number of households (viviendas) in the province of Córdoba was 1 236 177.

Source: Elaboration based on INDEC (2010), *Censo Nacional de Población, Hogares y Viviendas* [National Census of Population and Housing].

Box 1.3. **OECD regional typology**

The OECD regional classification is based on two main territorial levels. Territorial Level 2 (TL2) consists of macro regions within each OECD country. Territorial level 3 (TL3) consists of micro regions. Each member country has identified the statistical or administrative geography that provides the best fit for this territorial classification.

The OECD taxonomy defines TL3 regions as predominantly urban (hereafter referred to as urban), intermediate and predominantly rural (hereafter referred to as rural). This taxonomy, established in 1991, is designed for facilitating international comparability of data. With this aim, it applies the same criterion and selects comparable units among OECD member countries. The OECD scheme distinguishes between two levels of geography within countries: a local community level and a regional level. Local communities are defined as basic administrative units or small statistical areas. They are classified as either rural or urban using a population density threshold. In a second step, TL3 regions, which correspond to larger administrative units or functional areas, are defined as predominantly urban, intermediate or rural with a criterion measuring the share of population living in rural communities.

The first step in the OECD territorial typology is that of classifying "local units" (administrative entities at a geographical level lower than TL3) as rural if their population density is below 150 inhabitants per square kilometre. In a second step, the local units are aggregated into TL3 regions and classified as "predominantly urban", "intermediate" and "predominantly rural" using the percentage of population living in rural local units. A third step, takes into account possible reclassification of predominantly rural and intermediate units based on the population size of their main agglomeration.

Source: OECD (2011), "OECD Regional Typology", www.oecd.org/gov/regional-policy/OECD_regional_typology_Nov2012.pdf (accessed April 2016).

Economic performance

Historically, the province of Córdoba has been a key contributor to national GDP and economic growth. The province places second or third among the country's provinces on most socio-economic indicators (population, share of national GDP, exports). There is general consensus that Córdoba enjoyed a strong recovery following the crisis of 2001-02, driven largely by favourable terms of trade in commodity and traditional manufacturing exports. The economic recovery was reflected in substantial improvements in the material condition and quality of life of the provincial population. Today, the province remains a leader on many indicators of material conditions of the population as well as quality of life; however, most provincial economic indicators (i.e. exports, employment, and number of new firms) are signalling a slowing down of the regional economy over the last five years.

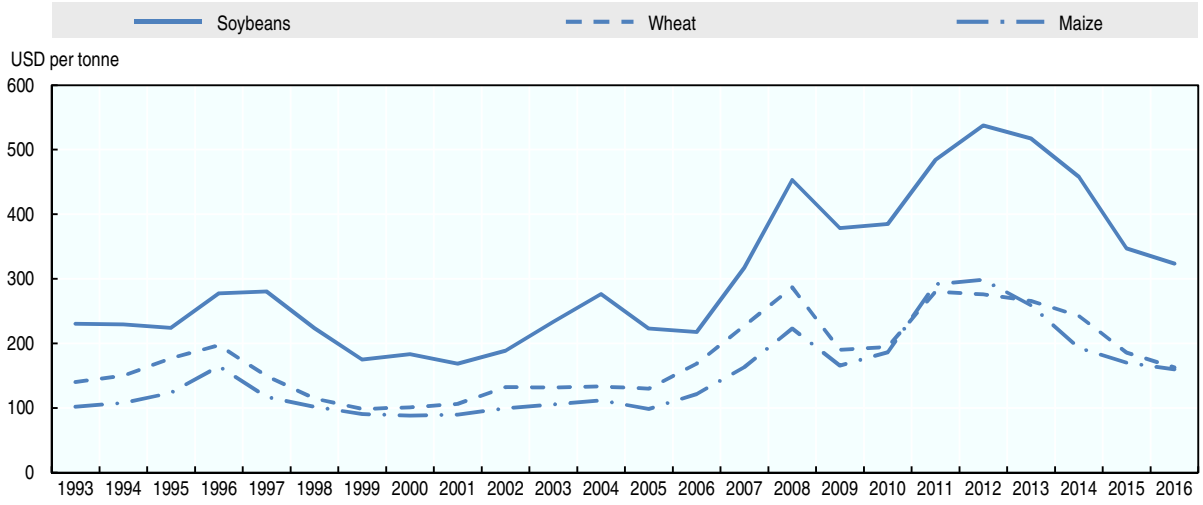
Córdoba in a challenging national context: recent economic trends

Córdoba's economic performance must be considered against the backdrop of a challenging national and international macroeconomic context that has a major bearing in shaping provincial development options. Following the economic crisis of 2001-02, Argentina experienced rapid economic expansion, largely driven by rising prices of commodity exports and expansion of internal consumption. National GDP was estimated to grow at an average of 6.5% between 2003 and 2013, while more recent estimates suggest a slowing down in the pace of GDP growth, although the magnitude of the decline appears controversial.[10] However, previous studies on Argentina suggest that much of the recovery and growth experience between 2003 and 2008 were due to high commodity prices and favourable terms of trade (Figure 1.7) (Artana et al., 2010). Hence, it is not surprising that the downturn of commodity prices and economic recession or slowdown of major trading partners (i.e. People's Republic of China [China] and Brazil) has now changed the economic perspective for Argentina and the province of Córdoba. The provincial economy remains highly reliant on a few export products and markets.

In addition, the country is now facing a number of macroeconomic challenges, including a federal fiscal deficit that was largely financed with monetary transfer from the central bank, high inflation (ranging between 10% and 25% annually depending on the source), and a relatively low level of gross fixed investments over the most recent years (IMF, 2016). The country had little to no access to foreign credit for public sector provincial actors and increasingly tight credit to the private sector (IMF, 2016).

Since the 2001 crisis, agricultural and other exports have faced high taxes and tariffs, an inflated currency, and a complicated exchange rate structure. This resulted in a business environment perceived as risky by foreign investors. Indeed, previous studies have suggested that the main factors hindering growth were related to poor investment incentives due to macroeconomic instability, and poor protection of property rights, with frequent changes in the "rules of the game" after a crisis (Artana et al., 2010).

Figure 1.7. **International prices of major agricultural commodities, 1993-2016**



Note: All prices are in USD per tonne, annual averages of monthly prices. The indicators used for each commodity are included in brackets: Wheat [refers to the indicator: HRW G. Mexico], Maize [refers to the indicator: Amarillo No. 2 G México], and soybeans [refers to the indicator: Amarillo No. 2 Futuro Chicago].

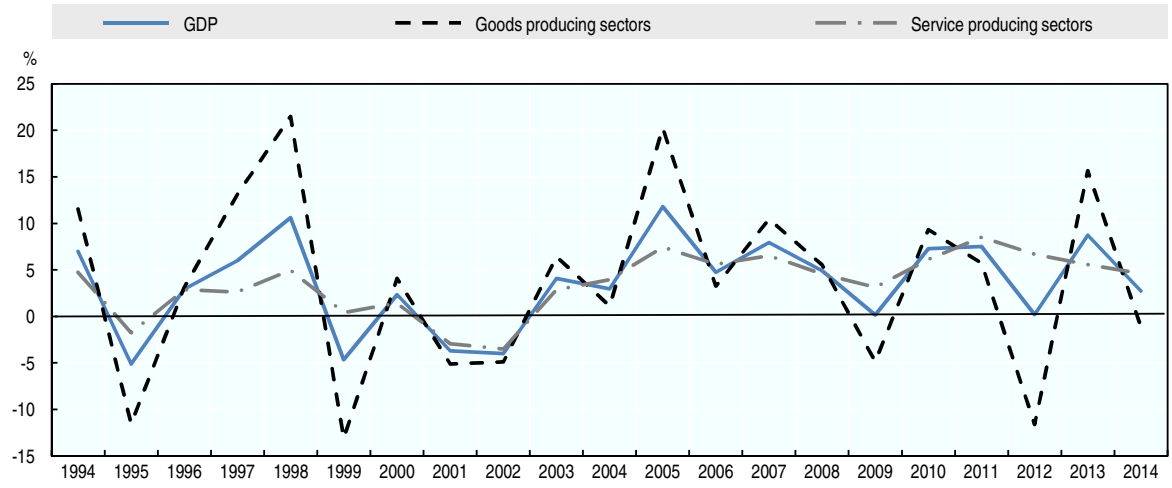
Source: Elaboration based on data from MECON (2016), "Secretaría de Política Económica y Planificación del Desarrollo: Programación Macroeconómica", Ministerio de Hacienda y Finanzas Públicas [Ministry of Economy and Finance], www.mecon.gov.ar/download/infoeco/internacional_ied.xlsx (accessed April 2016).

The main provincial economic trends, in terms of economic activity and employment indicators, provide insights into the recent performance of the province. In spite of data gap and statistical weaknesses that affect the province as well as the rest of the nation, most of the existing information can help move forward evidence-based policies at the regional level.

From 1993 to 2012, Córdoba's GDP grew at an average annual rate of 3.2%, slightly below the national average of 3.7% (reported by the Department of Statistics and Censuses of the Province of Córdoba [*Dirección General de Estadística y Censos*]). The growth trajectory of the province over the past two decades has not been smooth. According to official provincial statistics, the province experienced three periods of economic contractions, with negative GDP growth, in 1995, 1999 and then 2001-02 (Figure 1.8). Over the period 2003-08, Córdoba, like the rest of Argentina, went through a period of sustained growth averaging over 6% per year. The year 2009 saw a stop in the provincial GDP expansion, followed by years of relatively large fluctuations. This trend continued between 2010 and 2014, when GDP reached approximately Argentine peso (ARS) 36 505 million (in 1993 constant prices).[11]

The variability of economic growth in the province is largely associated with the fluctuating performance of the goods-producing sector, which is relatively more important in the provincial economy than in the national. These fluctuations have been large for the goods-producing sector, whereas more contained for service sectors (Figure 1.8). According to provincial official estimates, the declining GDP growth rate in 2009 and 2012 is associated with a contraction of the goods-producing sector component of -4.9% and -11.6%, respectively. Similarly, in 2014, the goods-producing sector was estimated to have declined slightly (-1%)[12] while the service sector increased by approximately 5% (Figure 1.8).

Figure 1.8. **Annual economic growth by major sectors, 1993-2014, Córdoba**

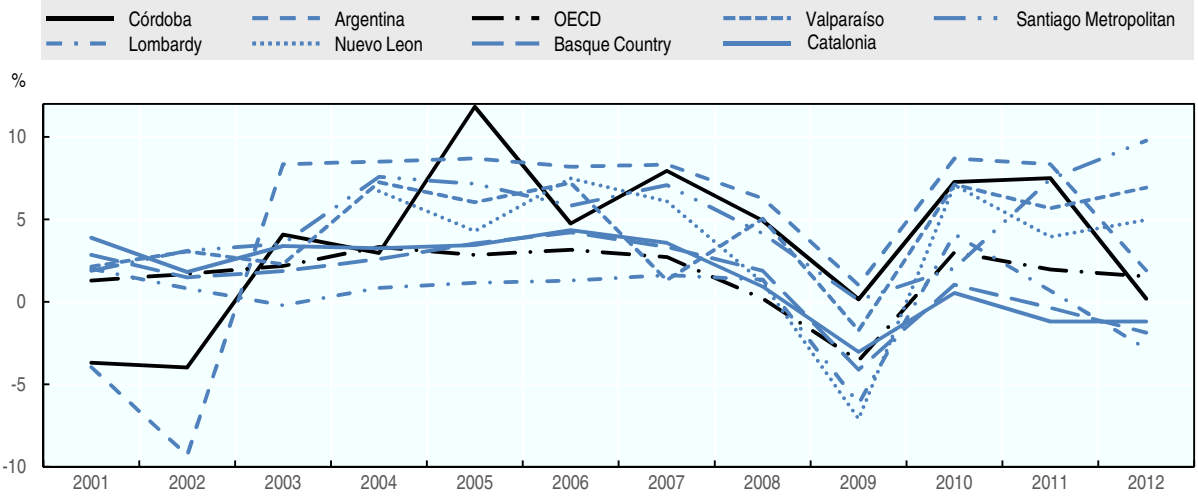


Note: Gross Value Added of the province of Córdoba by category at producers' 1993 prices.

Source: Elaboration based on data from the Dirección General de Estadística y Censos de la Provincia de Córdoba [Department of Statistics and Censuses of the Province of Córdoba].

The GDP trends recorded for the province of Córdoba share some similarity with those observed for other OECD regions but also point to some unique findings. After 2001-02, Córdoba generally outperformed the growth trajectory recorded by OECD countries. Figure 1.9 shows the GDP growth rate of Córdoba, Argentina and selected OECD regions. Even in 2009, when most OECD countries and regions reported a negative GDP change, Córdoba reported a virtually stable GDP, according to official statistics. In most recent years, the province has outperformed several OECD regions, although both the province and national GDP growth rate appear to be heading toward another period of slower growth.

Figure 1.9. **Annual economic growth, 1993-2012, Córdoba, Argentina and OECD regions**



Note: For Córdoba and Argentina the indicator is Gross Value Added of the province of Córdoba by category at producers' 1993 prices.

Source: Elaboration based on data from the Dirección General de Estadística y Censos de la Provincia de Córdoba [Department of Statistics and Censuses of the Province of Córdoba] (Córdoba) and Ministerio de Hacienda y Finanzas Públicas [Ministry of Finance and Public Finance] (Argentina). For OECD countries: OECD (2014b), "Real GDP growth", in *OECD Factbook 2014*, http://dx.doi.org/10.1787/factbook-2014-table29-en.

In spite of some large annual fluctuations, the sectoral composition of the provincial economy has remained relatively stable over the past two decades. The level of sectoral aggregation at which data are published (ISIC Rev 3.1.) does not allow tracking specific industries (groups or classes, within the ISIC classification). Nevertheless, the table provides insights into the structure of the provincial economy. In the province of Córdoba, the goods-producing sector represents slightly over one-third of the provincial economy, when measured in terms of contribution to the provincial Gross Value Added. The goods-producing sector is primarily composed of the manufacturing industry (the average of the period 2010-12 was 16.3%) and agriculture and livestock (average 9.2% over the same period). Among the most competitive subsectors in the province are crop agriculture and the food production industry, traditional manufacturing in the automotive and agro-machinery industries, information and communication technologies (ICT), and tourism.

The service sector (about 65%) is predominant in Córdoba's economy (Table 1.1). Real estate, renting and business activities represent about 20%, in 2010-12 period; this aggregate includes computer and related activities, research and development and other business activities such as legal, advertising, consulting and other business services, suggesting that in the national context, Córdoba enjoys a relatively strong presence of the service sector for business activities.

Table 1.1. **Economic sectors by share of GVA, Córdoba and Argentina**

	Córdoba			Argentina		
	1993-95	2003-05	2010-12	1993-95	2003-05	2010-12
	Percentage					
Goods-producing	**33.1**	**35.2**	**34.3**	**34.5**	**34.3**	**32.0**
Agriculture, forestry	8.2	11.9	9.2	5.5	6.0	4.6
Fishing	0	0	0	0.2	0.1	0.1
Mining and quarrying	0.2	0.3	0.2	1.8	1.9	1.2
Manufacturing industry	16.4	14.5	16.3	19.0	17.6	17.4
Electricity, gas and water	2.5	2.9	2.5	2.2	3.1	2.7
Construction	5.8	5.5	6.0	5.8	5.5	6.0
Service producing	**66.9**	**64.8**	**65.7**	**65.5**	**65.7**	**68.0**
Wholesale and retail trade	14.2	13.5	12.5	15.0	13.2	14.9
Hotels and restaurants	2.0	2.1	2.8	2.5	2.7	2.6
Transport, storage and communications	5.8	5.7	8.4	7.6	9.7	12.9
Financial intermediation	3.7	2.7	6.8	4.6	4.2	6.5
Real estate activities	23.3	24.3	20.1	15.6	15.4	13.2
Education	5.7	4.2	4.5	6.3	5.5	4.6
Health and social work	7.8	8.0	7.9	8.2	9.1	7.7
Activities of private households	4.5	4.2	2.8	5.8	6.1	5.6
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

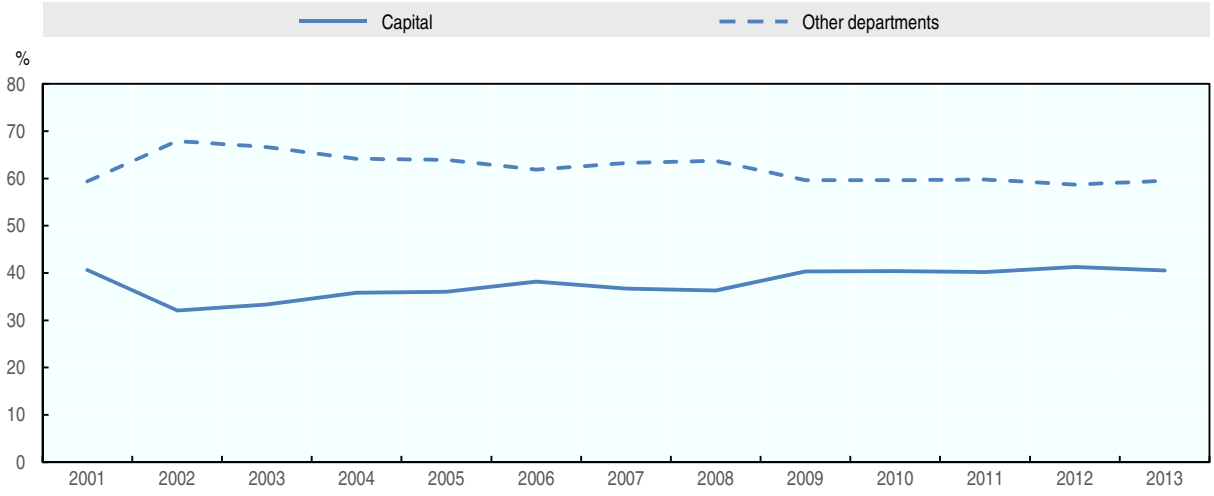
Note: All shares are computed as average for the corresponding years. For Córdoba, shares are calculated for provincial GVA by industry category at producers' 1993 prices. For Argentina, shares are calculated for GVA at producers' 1993 prices. The category "*Servicios de Intermediación Financiera Medidos Indirectamente*" available at the national but not provincial level was excluded from the computation for the sake of comparability.

Source: Elaboration based on data from the *Dirección General de Estadística y Censos de la Provincia de Córdoba* [Department of Statistics and Censuses of the Province of Córdoba] (Córdoba) and *Ministerio de Hacienda y Finanzas Públicas* [Ministry of Finance and Public Finance] (Argentina).

When comparing the national economic profile with the provincial, it can be observed that the goods-producing sectors have a slightly higher weight in Córdoba's economy than in the national economy, particularly since 2000. In both cases, the services sector has been gaining more weight since 2000. However, compared to the national aggregate, Córdoba has larger sectoral shares in agriculture and livestock as well as real estate, renting and business activities; while it is below the national average with respect to the share in manufacturing.

Within the province of Córdoba, economic activities mirroring population settlements are highly concentrated in a small number of departments; this distribution has been relatively stable over time (Figure 1.10). In 2012, 9 of the 26 departments generated 80% of the provincial GDP. The Capital department, having a high concentration of economic activity with respect to other provincial departments, contributed 40% of the provincial GDP, a share that has remained stable since 2002. Río Cuarto and San Justo contributed approximately 7% and 8% of the GDP in 2012; while General San Martín, Colón and Unión contributed between 3% and 5% (Figure 1.10).

Figure 1.10. **Contribution to provincial GDP, Capital city and other departments, 2001-13**

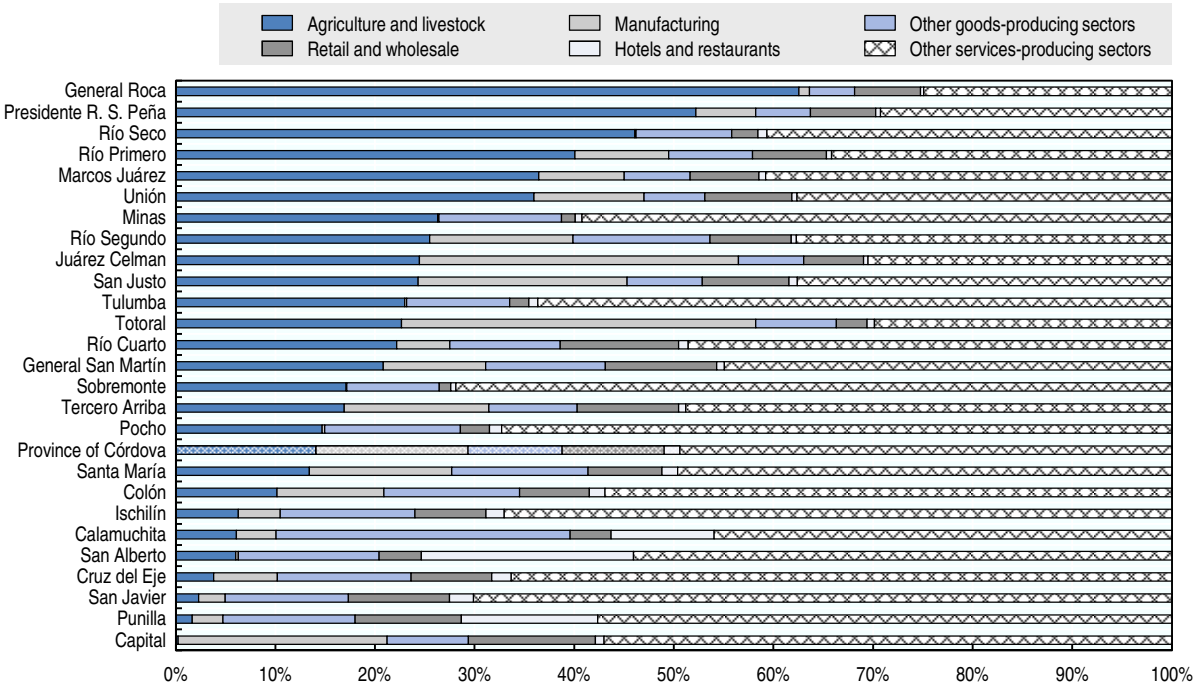


Note: Producto Bruto Regional, en miles de pesos corrientes, a precios de productor (Regional GDP, in thousands of current ARS, at producers' prices).

Source: Elaboration based on Dirección General de Estadística y Censos de la Provincia de Córdoba [Department of Statistics and Censuses of the Province of Córdoba].

Figure 1.11 shows the sectoral composition of the 26 departments and of the province of Córdoba, with a distinction made between goods-producing sectors (agriculture and livestock, manufacturing and other goods-producing sectors) and services producing sectors (retail and wholesale, food services and accommodation).

Figure 1.11. **Economic structure of departments, 2013, province of Córdoba**



Note: The dataset used for the computation refers to Gross Value Added of the province of Córdoba by department and by category in current prices, year 2013.

Source: Elaboration based on Dirección General de Estadística y Censos de la Provincia de Córdoba [Department of Statistics and Censuses of the Province of Córdoba].

Employment composition and trends correspond to those observed for GDP. Owing to the nature of this indicator, employment trends are less volatile than GDP data, but reveal the growth path the province is following. Over time, the composition of the provincial employment has shifted toward service sectors. The share of the services sector in total employment has increased from approximately 60% in 1996 to 67% in 2013; while the share of the goods-producing sector has declined, from nearly 40% in 1996 to 33% in 2013. This reflects the commonly observed process of the increasing role of services activities in the economy (including business services). Indeed, when provincial data are compared for similar time periods, these trends are common to other provinces of Argentina and the country as a whole. Table 1.2 shows the average employment share over the period 2003-05 and 2010-12, for Córdoba Santa Fe and Argentina. Over this time period, Córdoba has a broad sectoral composition in line with that of the country and significantly more service oriented than the neighbouring province of Santa Fe.

In spite of the relevance of service sectors as a whole, the dominant single sector for the province of Córdoba remains manufacturing, with approximately 111 000 employees in 2013. Employment in this sector expanded nearly 60% between 1996 and 2013 (Figure 1.12). This sector is followed by wholesale and retail trade, with approximately 109 000 employees, and a rate of expansion on the order of 125% between 1996 and 2013. Employment in agriculture is relatively contained (about 31 000 units in 2013 or 6% of total employment) and is the sector that expanded the least between 1996 and 2013, growing about 44%. In contrast, among the sectors that grew the most in terms of employment are hotels and restaurants, which grew 207% over the period considered, and

is now employing about 21 000 workers; as well as real estate, renting and business activities, which also expanded about 170% over the 18-year span (in Figure 1.12, the sector is aggregated with financial intermediation, which presents a smaller and more stable share of total employment).

Table 1.2. **Employment share by major sectors, Córdoba, Santa Fe and Argentina**

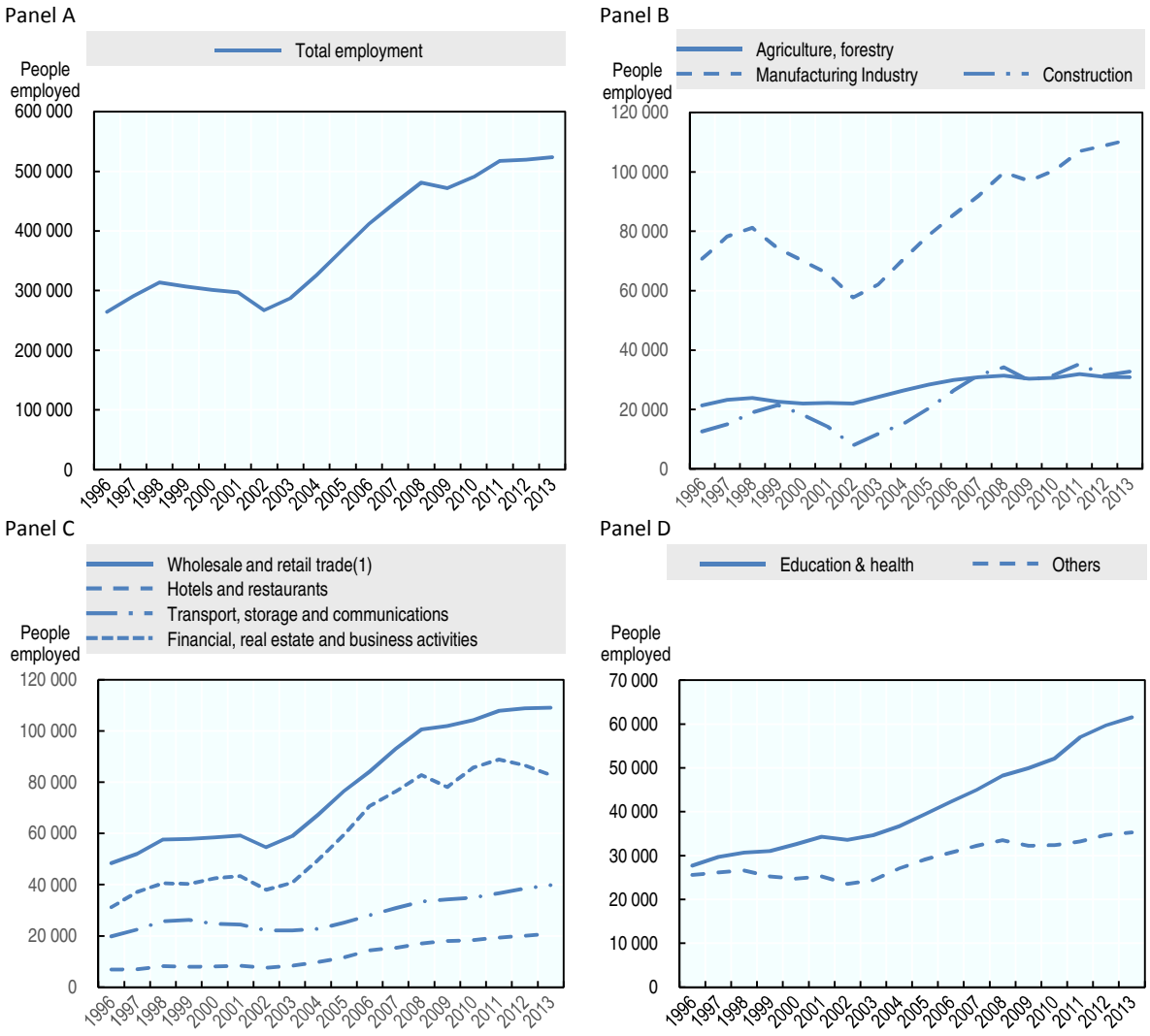
	Córdoba		Santa Fe		Argentina	
	2003-05	2010-12	2003-05	2010-12	2003-05	2010-12
	Percentage					
Goods-producing	**36.5**	**34.9**	**53.6**	**52.1**	**36.4**	**35.7**
Agriculture, forestry	8.1	6.1	4.7	3.1	6.7	5.7
Fishing	0.0	0.0	10.0	6.8	0.9	0.8
Mining and quarrying	0.3	0.3	0.1	0.1	0.9	1.1
Manufacturing industry	21.5	20.7	6.1	5.4	21.3	20.1
Electricity, gas and water	1.8	1.3	0.3	0.3	1.1	0.9
Construction	4.8	6.4	17.5	17.5	5.5	7.1
Service producing	**63.5**	**65.1**	**45.8**	**47.6**	**63.9**	**64.7**
Wholesale and retail trade	20.6	21.0	14.4	14.9	16.5	17.9
Hotels and restaurants	3.0	3.8	4.5	5.7	3.4	4.1
Transport, storage and communications	7.1	7.2	7.5	8.4	8.5	8.6
Financial intermediation	2.2	1.7	1.9	1.4	2.8	2.5
Real estate activities	13.1	15.4	11.0	9.2	14.2	14.2
Education	6.9	6.9	1.0	1.7	7.6	6.8
Health and social work	4.4	4.2	1.7	1.8	4.4	4.4
Activities of private households	6.2	4.9	3.9	4.5	6.6	6.2
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Note: GDP by industry category at producers' 1993 prices. For Argentina, shares are calculated for Gross Value Added at producers' 1993 prices. The category "Servicios de Intermediación Financiera Medidos Indirectamente" available at the national but not provincial level was excluded from the computation for sake of comparability.

Source: Elaboration based on OEDE (n.d.), *Estadísticas e indicadores regionales, (database), Observatorio de Empleo y Dinámica Empresarial, Ministerio de Trabajo, Empleo y Seguridad Social de la Nación* [federal Ministry of Labour, Employment and Social Security], www.trabajo.gov.ar/left/estadisticas/oede/estadisticas_provinciales.asp (accessed March 2016).

Total employment and employment growth indicators by major industries show that, after a rapid expansion between 2002 and 2008, the economy is now on a different growth trajectory (Figure 1.12). Following a contraction of total employment between 2008 and 2009, the province experienced a more modest pace of employment growth. Figure 1.12 (Panel A) illustrates the current deceleration of employment growth. A more detailed picture is presented in Table 1.3, which reports the annual employment growth rate for total employment for selected industry sectors. The table further illustrates the economic downturn of 2009, in which total employment declined 2%. Five of the main sectors recorded negative employment changes in 2009. Employment then grew for the following two years, 2010 and 2011, and then grew marginally in 2012 and 2013. Employment in agriculture and real estate, renting and business activities contracted in 2012 and 2013 (Table 1.3).

Figure 1.12. **Formal employment in the private sector by major sectors, 1996-2013, Córdoba**



Note: Employment counts refer to formal employment in the private sector. At the provincial level the private sector is estimated to account for about 85% of all jobs. (1) Includes repair of motor vehicles, motorcycles and personal and household goods.

Source: Elaboration based on OEDE (n.d.), Estadísticas e indicadores regionales, (database), Observatorio de Empleo y Dinámica Empresarial, Ministerio de Trabajo, Empleo y Seguridad Social de la Nación [federal Ministry of Labour, Employment and Social Security], www.trabajo.gov.ar/left/estadisticas/oede/estadisticas_provinciales.asp (accessed March 2016).

Table 1.3. **Annual employment growth, selected sectors, 2008-14, province of Córdoba**

	2008	2009	2010	2011	2012	2013
	Percentage					
Goods-producing	**7.1**	**-5.1**	**3.6**	**7.0**	**-1.7**	**1.9**
Agriculture, forestry	1.7	-3.3	0.9	4.1	-2.8	-0.6
Manufacturing industry	8.5	-2.9	3.7	6.4	1.7	2.0
Construction	8.3	-13.1	6.3	11.9	-11.1	3.9

Table 1.3. **Annual employment growth, selected sectors, 2008-14, province of Córdoba** (*cont.*)

Service producing	**7.8**	**-0.4**	**4.2**	**4.7**	**1.6**	**0.3**
Wholesale and retail trade	8.2	1.3	2.3	3.6	0.8	0.3
Hotels and restaurants	10.6	6.0	2.2	5.0	4.0	3.7
Transport, storage and communications	8.4	2.5	1.9	4.9	5.0	3.3
Financial intermediation	3.9	-9.3	2.1	8.2	2.8	1.9
Real estate activities	8.9	-5.3	10.6	3.2	-3.1	-5.0
Education	7.2	3.4	4.1	11.9	4.5	3.4
Health and social work	7.1	3.8	4.9	5.6	4.9	2.7
Activities of private households	4.2	-4.8	-0.1	2.0	5.2	1.5
Total employment	**7.6**	**-2.0**	**4.0**	**5.5**	**0.5**	**0.8**

Note: All figures are year-to-year variation in employment counts; e.g. 2008 figures refer to change between 2007 and 2008. Smaller or more stable sectors are not included (such as fishing, mining and quarrying, electricity gas and water).

Source: Elaboration on INDEC (n.a), Encuesta Permanente de Hogares [Household Survey], www.indec.gov.ar/bases-de-datos.asp.

Table 1.4. **Selected employment indicators, 2010-14, province of Córdoba**

	2010	2011	2012	2013	2014[1]
Labour force	55.8%	57.1%	60.7%	61.4%	60.4%
Employed	92.8%	93.0%	92.1%	91.4%	89.7%
Unemployed	7.2%	7.0%	7.9%	8.6%	10.3%
Employed population	1 247 095	1 292 951	1 383 468	1 376 797	1 332 674
Private Sector	83.6%	84.8%	86.7%	85.3%	84.6%
Public Sector	14.8%	14.1%	12.4%	12.6%	14.3%
Other	1.6%	1.1%	0.8%	2.1%	1.1%
Private Sector. Employed occupation by category.	1 042 888	1 096 158	1 199 902	1 173 960	1 126 814
Employee	69.0%	66.0%	70.2%	64.6%	64.2%
Employer	7.7%	7.5%	6.5%	8.0%	4.5%
Self-employed	22.9%	26.1%	22.5%	26.5%	30.6%
Domestic worker with no wage	0.4%	0.4%	0.8%	0.9%	0.7%

1. Data for 2014 refers to the 3rd trimester.

Source: INDEC (n.a), *Encuesta Permanente de Hogares* [Household Survey], www.indec.gov.ar/bases-de-datos.asp.

The current deceleration of employment growth is reflected in most of the recent survey employment statistics (Table 1.4). The provincial employment rate has declined while the unemployment rate has increased from 7.2% to 10.3% over the period of time considered. An additional indicator of conditions in the labour market is the declining share of employees receiving wages or salaries, which has dropped from 69% in 2010 to about 64% in 2014. This has been paralleled by a steady increase in self-employment from 23% in 2010 to about 30% in 2014. Another indicator that is signalling a distressed labour market is the increasing share of informal employment (*no registrados*) at the provincial level. The informal economy represents a challenge for the national and provincial labour markets, as well as an element of potential distortion of labour and

employment statistics and a bottleneck to provincial productivity. Informality stems from diverse causes, such as tax burdens, wage levels, excessive labour regulations, skills mismatches or fragile institutions. Tackling informality requires a comprehensive approach both at national and provincial levels. Although the level of informality of the Argentinian economy is not perceived to be as pervasive as in other Latin American countries,[13] the existence of the informal economy is clearly perceived as problematic, particularly for more vulnerable groups in the labour markets including youth (Bolsa de Comercio de Córdoba, 2014).

Estimates of the magnitude of the informal economy vary and most of the existing measures are employment related (Artana et al., 2010). There is limited information on the weight of the informal activities in the provincial economic output. There are various estimates of the informal economy in Argentina and its provinces (see for instance, Bertranou and Casanova, 2015). An analysis on the provincial labour market conducted by the *Instituto de Investigaciones Económicas* indicates that the share of workers without social security (*no registrados*) has increased in recent years (Bolsa de Comercio de Córdoba, 2014), which is confirmed by more recent statistics (Table 1.5) reporting an increase from about 43% in 2010 to slightly over 50% in 2014.

Table 1.5. **Employment indicators related to informality, 2010-14, province of Córdoba**

Employment statistics	2010	2011	2012	2013	2014[1]
Employees receiving wage or salary in the private sector, units	719 118	723 900	842 126	758 801	723 860
Formal employment, percentage	56.0%	54.1%	51.5%	52.4%	49.0%
Informal employment, percentage	43.4%	45.9%	48.3%	47.6%	51.0%
No data, percentage	0.6%	0.1%	0.2%	0.0%	0.0%

1. Data for 2014 refers to the 3rd trimester.

Source: INDEC (n.a.), Encuesta Anual de Hogares Urbanos [Annual Urban Household Survey], www.indec.gov.ar/bases-de-datos.asp.

Córdoba's competitiveness at the national and international scales

Competitiveness has several dimensions and its measurement may include a multitude of indicators, spanning from competitiveness of the factors of production (labour), to business characteristics and performance (profit margin), to institutional factors and business environment (taxation, corruption, enforcement of existing legislation, etc.). In this review, the focus is on a selection of such indicators.

Córdoba's commodity- and export-driven economy is not as competitive as it could be due to a number of internal and external elements:

- Some of the important impediments to macroeconomic growth from the past, namely macroeconomic and regulatory instability and poor investment incentives, remain unaddressed.
- The province has become reliant on a reduced number of trading partners, such as Brazil and China, and has been adversely affected by downturns in regional and international markets.
- Traditional manufacturing exports are under pressure from increasing competition from low labour-cost emerging economies.

- The province is also facing some of the same issues as many OECD countries, including an ageing population and increasing demand for municipal services, together with a need to upgrade or expand basic infrastructure, lack of skills and innovation bottlenecks.

This report explores the challenges that are within the scope of provincial policies and influence. Macroeconomic impediments and ageing population were described briefly in previous sections in this chapter. Issues on access to services as well as the need to upgrade or expand basic infrastructure, lack of skills and innovation bottlenecks are discussed in-depth in Chapter 2.

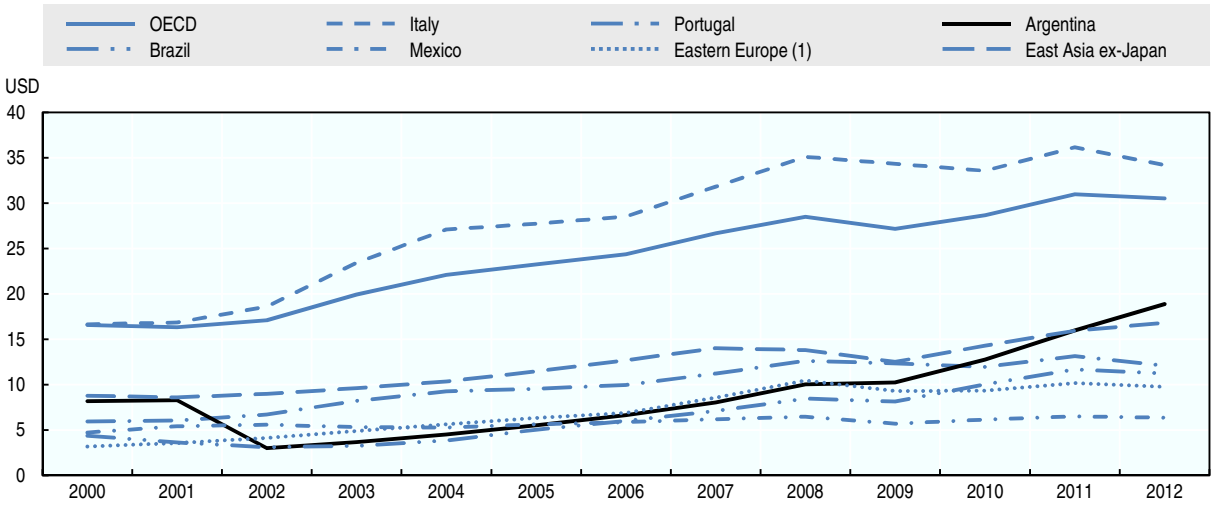
GDP and labour force wages

According to the most recent GDP estimates in 2014, Córdoba is Argentina's third largest contributor to GDP, contributing approximately 7%. According to official statistics, Córdoba's national share of GDP has been relatively stable since 1993 with a slow turndown since 2002. Nevertheless, in 2013 GDP per capita for Córdoba (ARS 55 075) was lower than for Santa Fe or the national average (ARS 74 903 and 67 262, respectively).[14]

Up-to-date data on labour productivity at the provincial level are lacking. Labour productivity measures are relatively complex statistics, which derive from a set of wages and salaries by major industry sectors. Hence, comparison of wages and salaries is likely to provide a more accurate picture with respect to one of the main factors of production that has a key role in competitiveness. Wage and salary statistics in current terms are collected by the federal Ministry of Labour, Employment and Social Security,[15] while international comparative wage statistics used here have been produced by the U.S. Bureau of Labor Statistics.[16]

International comparison of compensation costs in manufacturing shows that Argentina has recently surpassed major competitors in the region in terms of labour costs (Figure 1.13). The most recent estimates indicate an average hourly compensation in manufacturing of nearly USD 19 equivalent in 2012; this compares to around USD 11 for Brazil and USD 6 for Mexico for the same reference year. Over the last few years, estimates of the US Bureau of Labor Statistics suggest that Argentina's average labour cost in manufacturing has progressively surpassed that of Eastern Europe, East Asia (excluding Japan) and even that of some European countries such as Portugal (Figure 1.13). Wages and salaries, however, show substantial variation across provinces and within each province. Figure 1.14 shows the average monthly remuneration in the private sector for the year 2014. The average remuneration in the province of Córdoba is approximately 87% of the national average (that is ARS 10 170 and ARS 11 655, respectively).

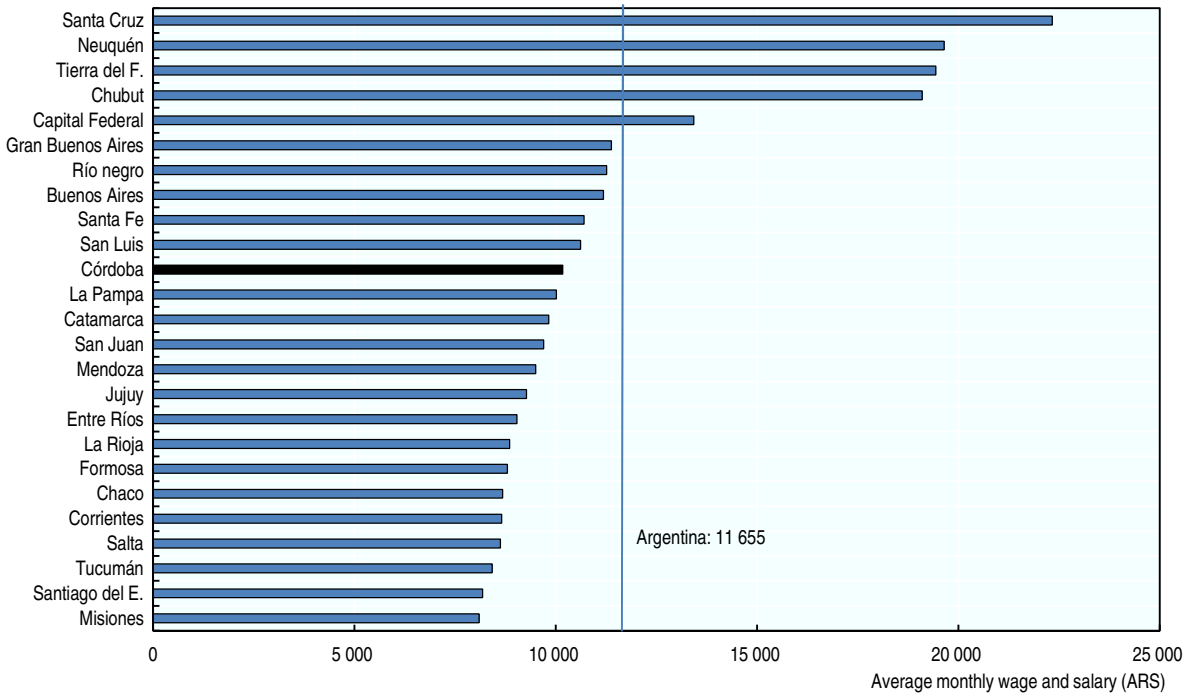
Figure 1.13. **Hourly compensation costs in manufacturing, 1996-2012, USD**



Notes: Compensation costs include direct pay, social insurance expenditures, and labour-related taxes. For Argentina data relate to manufacturing as defined by the International Standard Industrial Classification of All Economic Activities (ISIC) Revision 4. Complete information on definitions, industrial classifications, and trade-weighted measures, is available at www.bls.gov/ilc/ichcctn.pdf, and country notes at www.bls.gov/ilc/ichccsources.pdf. No comparable data for China and India.

Source: Elaboration based on Bureau of Labor Statistics (2013), *International Labor Comparisons*, US Department of Labor, August, www.bls.gov/fls/home.htm (accessed 3 August 2016).

Figure 1.14. **Average monthly remuneration in the private sector, by province, 2014, ARS**



Note: Average wage of formal workers in the private sector. Gross total wage by province, current values, ARS.

Source: Elaboration based on OEDE (n.d.), Estadísticas e indicadores regionales (database), Observatorio de Empleo y Dinámica Empresarial, Ministerio de Trabajo, Empleo y Seguridad Social de la Nación [federal Ministry of Labour, Employment and Social Security], www.trabajo.gov.ar/left/estadisticas/oede/estadisticas_provinciales.asp (accessed March 2016).

Even within each sector there is substantial variation in the average remuneration. Table 1.6 shows the evolution of the relative remuneration in major industry sectors. A decline in the average remuneration in agriculture and construction is noteworthy. The construction sector has also experienced a decline in employment in recent years, as Table 1.3 shows.

Table 1.6. **Average monthly remuneration by sector, province of Córdoba, 2008-14**

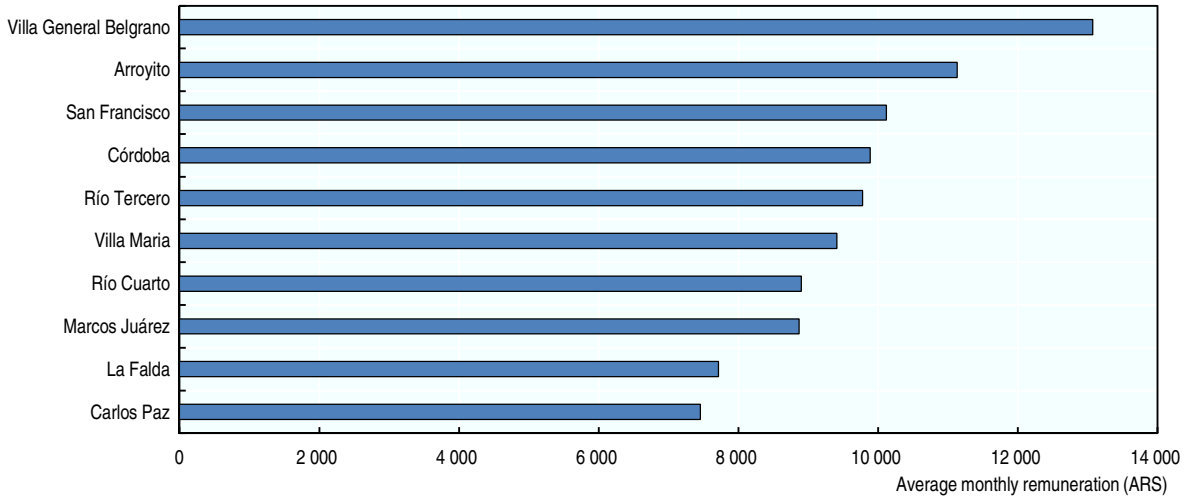
	2008	2009	2010	2011	2012	2013	2014
	Province average = 100						
Agriculture, forestry	73.6	74.1	73.9	71.8	70.5	69.8	68.5
Manufacturing industry	133.4	134.0	139.9	138.3	135.3	135.5	131.5
Utilities	199.1	203.4	208.3	198.6	199.4	201.7	197.4
Construction	82.0	78.0	74.0	74.8	69.7	68.6	67.5
Wholesale and retail trade and repairs	87.3	87.6	88.2	90.9	93.6	93.4	95.7
Hotels and restaurants	60.5	59.8	57.7	56.3	56.4	55.3	53.3
Transport, storage and communications	129.9	131.1	128.3	127.7	126.2	126.2	126.1
Financial intermediation	176.2	183.3	185.8	178.6	175.2	173.7	175.9
Real estate activities	78.8	78.2	76.6	76.5	77.3	76.9	79.6
Education	77.7	76.1	72.6	73.3	70.1	70.5	71.6
Health and social work	97.1	100.5	98.2	98.5	99.3	97.9	97.6
Activities of private households	95.4	93.5	92.4	93.7	98.5	99.9	100.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Note: Average wage of formal workers in the private sector. Gross total wage by province, current values, ARS.

Source: Elaboration based on OEDE (n.d.), *Estadísticas e indicadores regionales,* (database), *Observatorio de Empleo y Dinámica Empresarial, Ministerio de Trabajo, Empleo y Seguridad Social de la Nación* [federal Ministry of Labour, Employment and Social Security], www.trabajo.gov.ar/left/estadisticas/oede/estadisticas_provinciales.asp (accessed March 2016).

There is also evidence of geographic variation of salaries within Córdoba (Figure 1.15). The Observatorio de Empleo y Dinámica Empresarial publishes average monthly remuneration for registered employees in the private sector. The datasets are generated from administrative business and employment sources. These statistics are released by LEAs, which represent local labour markets (each LEA is named after the core urban areas to which most of its labour force commutes). Figure 1.15 shows the variation in remuneration within Córdoba's 10 LEAs. In 2014, the LEA of Carlos Paz presented the lowest average remunerations in the province, estimated at ARS 7 500. The LEA of Córdoba had an average remuneration of about ARS 10 000, while the LEA of Villa General Belgrano had the highest average remuneration in the province (ARS 13 000).

Figure 1.15. **Average monthly remuneration by Local Economic Area, 2014**



Note: Local economic Areas do not cover the entire provincial territory.

Source: Elaboration based on OEDE (n.d.), Estadísticas e indicadores regionales (database), Observatorio de Empleo y Dinámica Empresarial, Ministerio de Trabajo, Empleo y Seguridad Social de la Nación [federal Ministry of Labour, Employment and Social Security], www.trabajo.gov.ar/left/estadisticas/oede/estadisticas_provinciales.asp (accessed March 2016).

Table 1.7 provides business and labour market statistics by LEA for the province of Córdoba. It shows that over half of the private businesses are located in the LEA of the city of Córdoba, and that the employment rate in manufacturing is highest in the LEAs of Arroyito (47.9%) and San Francisco (34.5%). The former is home to the headquarters of ARCOR, one of the biggest Argentinian food firms, and the latter is a major centre for crop processing machinery and mechanical manufacturing.

Table 1.7. **Employment by size and major sectors, 2014, Córdoba and Argentina**

Sectors/size	Córdoba	Argentina
	Percentage	
Manufacturing	**24.5**	**23.3**
Large (Grandes)	55.0	53.9
Medium (Medianas)	19.3	22.3
Small (Pequeñas)	18.7	17.8
Micro (Microempresas)	7.0	6.0
Commerce	**24.0**	**21.3**
Large (Grandes)	39.2	37.6
Medium (Medianas)	14.4	15.1
Small (Pequeñas)	25.1	26.3
Micro (Microempresas)	21.3	20.9
Services	**51.5**	**55.4**
Large (Grandes)	50.9	54.0
Medium (Medianas)	20.5	20.5
Small (Pequeñas)	15.9	15.4
Micro (Microempresas)	12.7	10.1
Total	**100.0**	**100.0**

Table 1.7. **Employment by size and major sectors, 2014, Córdoba and Argentina** (*cont.*)

Large (Grandes)	49.1	50.5
Medium (Medianas)	18.8	19.8
Small (Pequeñas)	18.8	18.3
Micro (Microempresas)	13.3	11.4

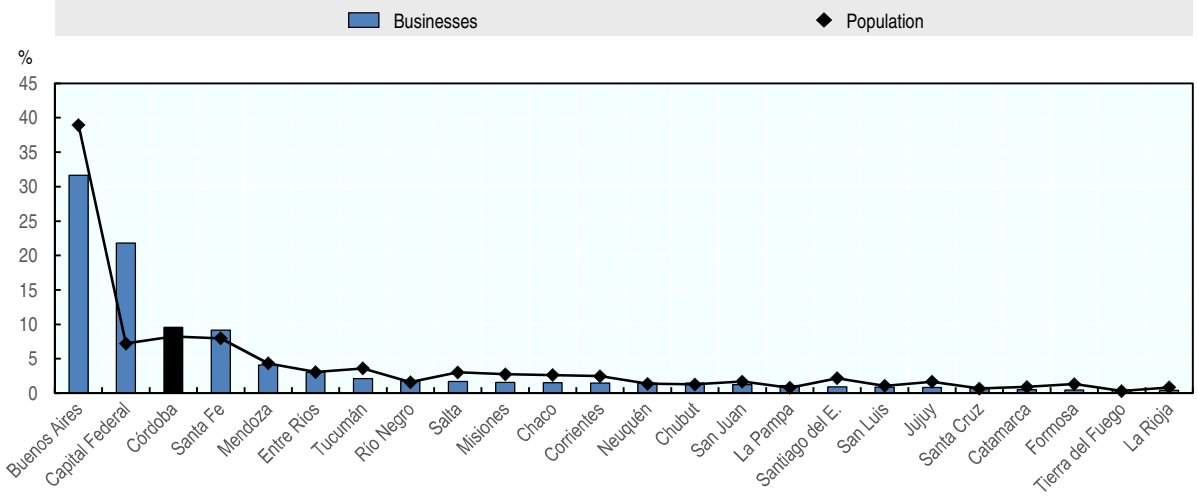
Note: Employment corresponding to businesses with stakes held by the private and public sector are included in the private sector category. The definition of business size is based on a specific methodology that accounts for employment size; the employment classes vary by industry sector. A detailed description of the methodology is provided by the data source.

Source: Authors' elaboration. Population counts are from INDEC (2010), *Censo Nacional de Población, Hogares y Viviendas* [National Census of Population and Housing]; business counts are from the OEDE (n.d.), *Estadísticas e indicadores regionales,* (database), *Observatorio de Empleo y Dinámica Empresarial, Ministerio de Trabajo, Empleo y Seguridad Social de la Nación* [federal Ministry of Labour, Employment and Social Security], www.trabajo.gov.ar/left/estadisticas/oede/estadisticas_provinciales.asp (accessed March 2016).

Business dynamics

Recent statistics on business dynamics indicate that Córdoba is losing its competitive grip. After leading the country on year-over-year growth in business counts, the number of businesses operating in the province has stalled since 2009, and even contracted in the most recent years. However, Córdoba still has a relatively high concentration of businesses. In 2013, the province was home to 61 864 businesses (*empresas*), which accounted for approximately 10% of the total business population of Argentina (estimated at 647 209). Figure 1.16 shows that the share of businesses is higher than the share of the provincial population, although not as high as that observed in the federal capital.

Figure 1.16. **Location of businesses and population (% of national total), 2013**



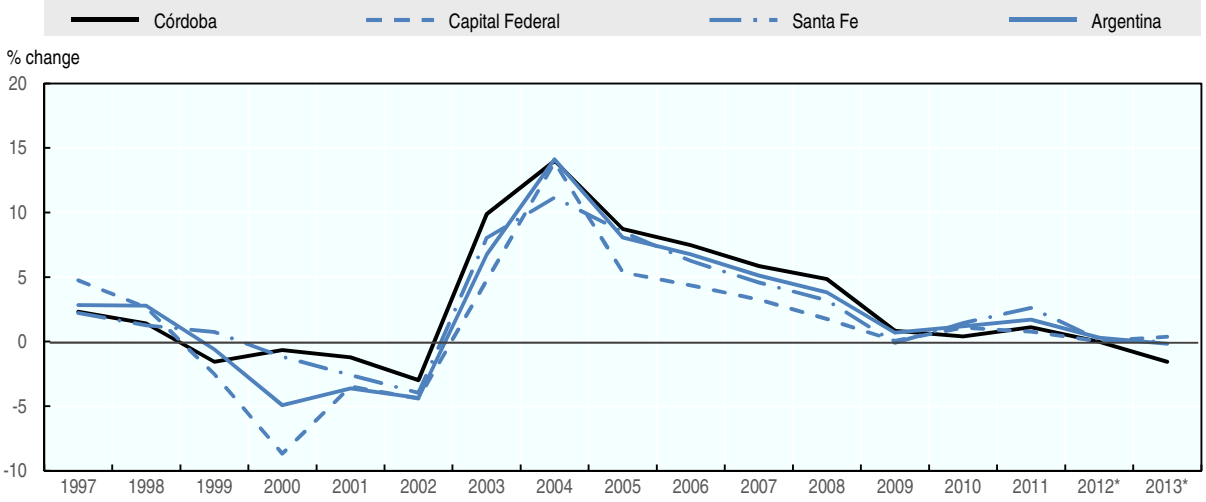
Note: % are relative to total national. For business counts "Buenos Aires" includes Partidos de GBA and Resto de Buenos Aires.

Source: Authors' elaboration. Population counts are from INDEC (2010), *Censo Nacional de Población, Hogares y Viviendas* [National Census of Population and Housing]; business counts are from the OEDE (n.d.), *Estadísticas e indicadores regionales,* (database), *Observatorio de Empleo y Dinámica Empresarial, Ministerio de Trabajo, Empleo y Seguridad Social de la Nación* [federal Ministry of Labour, Employment and Social Security], www.trabajo.gov.ar/left/estadisticas/oede/estadisticas_provinciales.asp (accessed March 2016).

After the 2001-02 crisis, the number of businesses in Argentina exponentially increased due to the removal of the parity with the USD, which had been in place the decade before (Figure 1.17). The exchange rate was left to float and the peso depreciated, which made Argentinian exports competitive. Together with the increase in the price of soy in the commodities market (see Figure 1.17, for the post-crisis period) this drove growth in the country.

The year-over-year growth in the number of businesses has been higher in the province of Córdoba than the national average in most of the years between 1996 and 2009; however, since 2009 growth in the number of businesses in the province has been below the national average (Figure 1.17). Moreover, preliminary estimates for 2012 and 2013 indicate a contraction of business numbers in the province of Córdoba. Total exports also declined during those two years (see Figure 1.23, panel A), which suggests that the deterioration of international markets also had a significant impact on business demographics indicators.

Figure 1.17. **Annual growth in businesses, selected provinces, 1996-2013**



Note: Percentage change refers to the year to year growth rate in counts of business (used 4th quarters data, 1996-2013). The years shown on the horizontal axis refer to the ending year for each period considered.

(*) Data for 2012 and 2013 are preliminary estimates.

Source: Elaboration based on OEDE (n.d.), *Estadísticas e indicadores regionales,* (database), *Observatorio de Empleo y Dinámica Empresarial, Ministerio de Trabajo, Empleo y Seguridad Social de la Nación* [federal Ministry of Labour, Employment and Social Security], www.trabajo.gov.ar/left/estadisticas/oede/estadisticas_provinciales.asp (accessed March 2016).

Figure 1.18 shows the annual growth in the number of businesses for major industry sectors in the province of Córdoba. The sectoral dynamics are similar across sectors. However, the magnitude of changes and time lag show relevant differences between sectors. Retail and construction are among the most volatile sectors, while agriculture and manufacturing tend to have smaller year-to-year changes. The latter two tend to anticipate phases of economic downturns. Hence, the relatively sharp decline in business counts in the two most recent years, especially in agriculture with a contraction of the number of business of 2.1% and 4.6% for 2012 and 2013 respectively, is a further sign of possible economic slowdown in the near future.

Figure 1.18. **Annual growth in businesses by major industry sector, 1996-2013**

Note: Percentage change refers to the year to year growth rate in counts of business (used 4th quarters data, 1996-2013). The years shown on the horizontal axis refer to the ending year for each period considered. (*) Data for 2012 and 2013 are preliminary estimates. Industry sectors are agriculture (agricultura, ganadería y pesca), manufacturing (industria), wholesale and retail (comercio), services (servicios), construction (construcción).

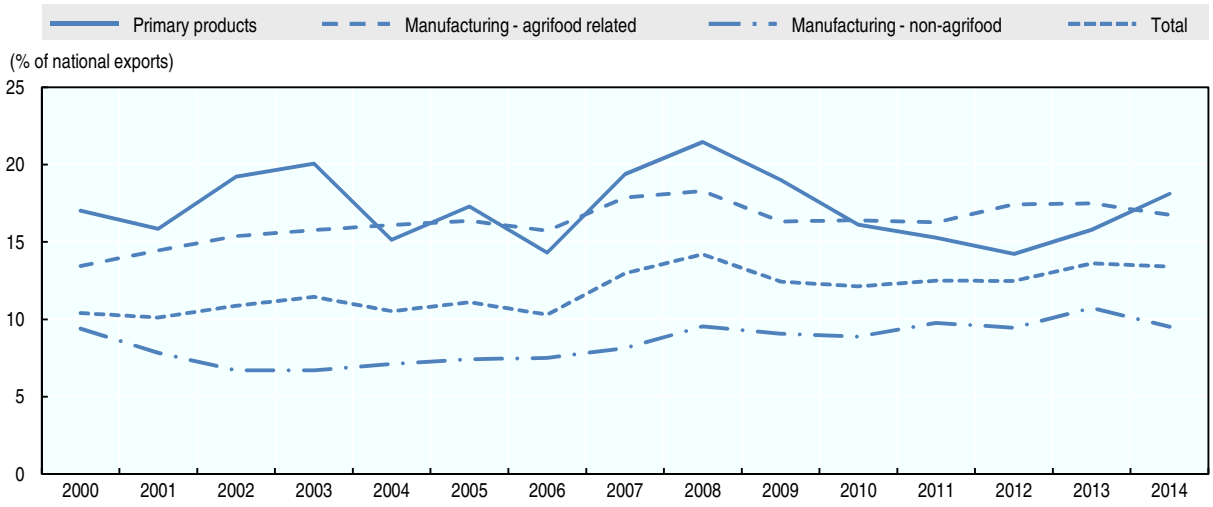
Source: Elaboration based on OEDE (n.d.), *Estadísticas e indicadores regionales* (database), *Observatorio de Empleo y Dinámica Empresarial, Ministerio de Trabajo, Empleo y Seguridad Social de la Nación* [federal Ministry of Labour, Employment and Social Security], www.trabajo.gov.ar/left/estadisticas/oede/estadisticas_provinciales.asp (accessed March 2016).

Exporting structure and activity

Another signal of a deceleration of economic activity in the province is the value of Córdoba's exports. Exports have grown by a factor of 3.3 over the past 15 years (more than national exports), but most of this growth occurred between 2000 and 2008. Since then gross exports have fluctuated around a plateau. In 2015, the province of Córdoba contributed 15% of Argentina's exports, ranking third among provinces (INDEC, 2016).

This share has been moving gradually upwards since 2000, reaching a peak in 2008, when provincial primary commodity exports contributed well over 20% of national commodity exports. Also since the crisis of 2001-02, the province's manufacturing exports have increased steadily relative to the national exports of the sector (Figure 1.19). Export composition of the province of Córdoba is 27% agricultural products (including livestock) and 73% manufactured products (e.g. cars, food or agricultural machinery) (Figure 1.20). This composition reflects the production structure of the province, where exports are concentrated in primary goods and industries associated with resource sectors.

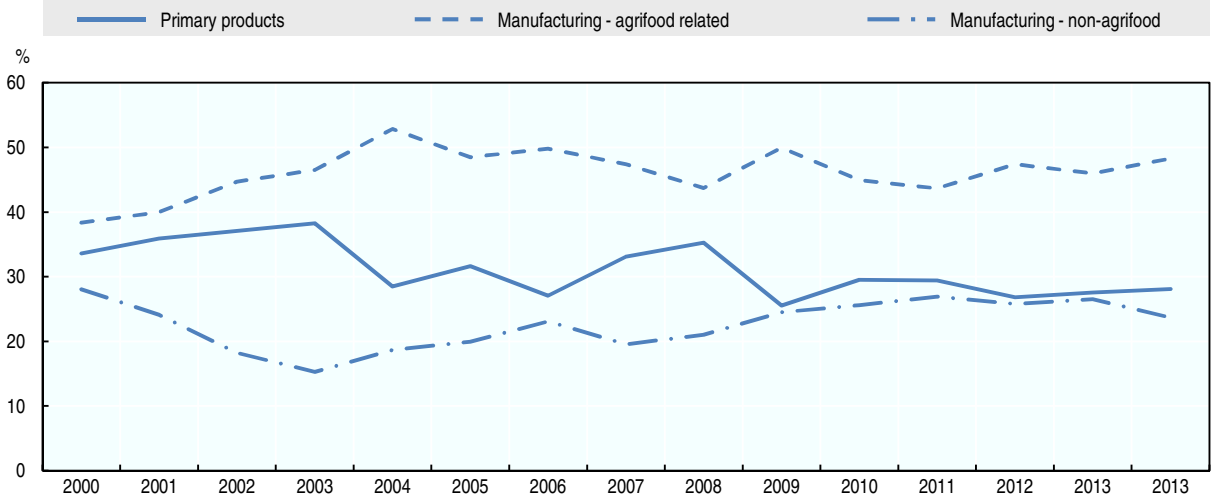
Figure 1.19. **Provincial exports' contribution to national exports by major category, 2000-14**



Note: Share of the total national exports that corresponds to Córdoba's exports. Percentage of major exporting groups.

Source: Elaboration based on Agencia ProCórdoba (n.a.), "Data on exports and imports" (database) .Agencia ProCórdoba website: http://www.procordoba.org/descargas.asp.

Figure 1.20. **Exports composition, 2000-14, province of Córdoba**



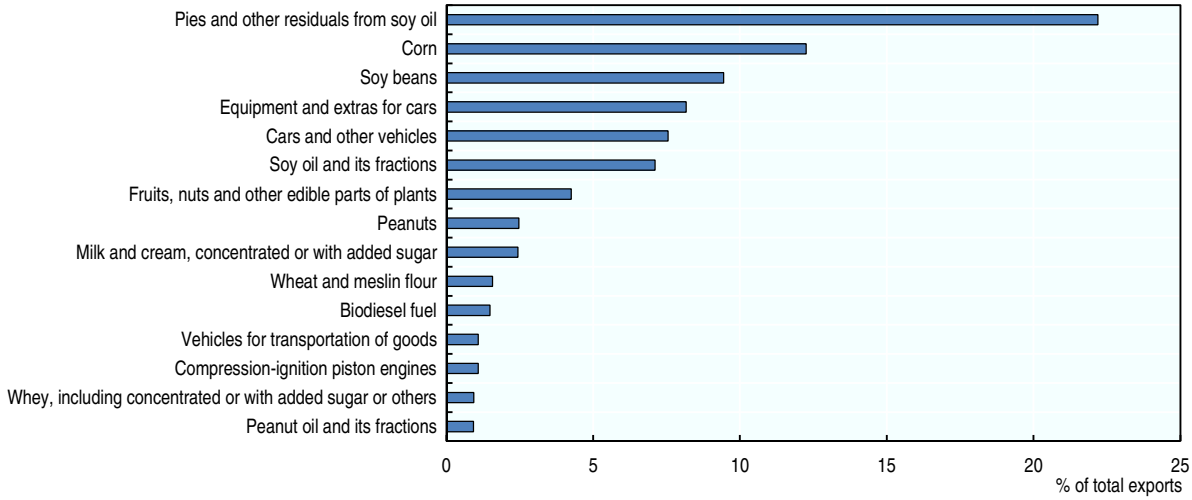
Note: Share of the total national exports that corresponds to Córdoba's exports. Percentage of major exporting groups.

Source: Elaboration based on Agencia ProCórdoba (n.a.), "Data on exports and imports" (database), provided by Local Team. Agencia ProCórdoba website: http://www.procordoba.org/descargas.asp.

A limited number of products make up the bulk of provincial exports (Figure 1.21). Four "tariff headings" account for over 50% of total export values over the period 2012-14. *Tortas* and other derivatives from soy represent 22.2% of total export value. Beans represent 9.4%; corn another 12.3%; while automotive parts and accessories are an additional 8.2%. Another 11 "tariff headings" constitute about 30% of total export value over the period 2012-14.

The top 15 export countries account for approximately 64% of the total provincial export value over the period 2012 to 2014 (Figure 1.22). Brazil is the main commercial partner for the province of Córdoba, with nearly 20% of the total value of provincial exports. Other important export destinations include the MERCOSUR countries[17] (16%) and the European Union (10%), followed by China (about 10%), with the remaining part spread out globally. An estimated 95% of Córdoba's total soy production (Córdoba's second largest crop after corn) is exported to China and Southeast Asia.

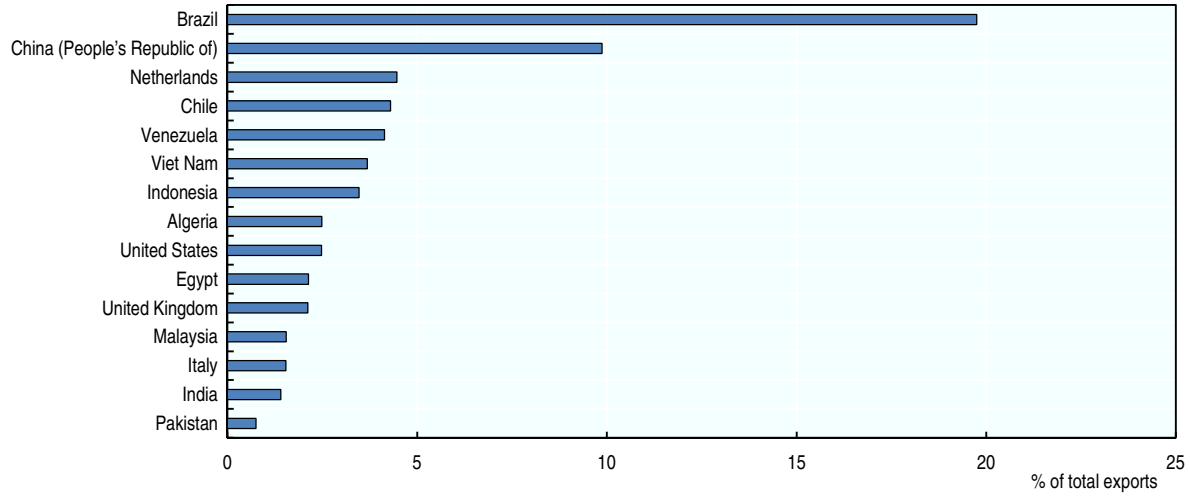
Figure 1.21. **Top export products (% of total export value), 2012-14, province of Córdoba**



Note: Share of the total national exports that corresponds to Córdoba's exports. Percentage of major exporting groups.

Source: Elaboration based on Agencia ProCórdoba (n.a.), *"Data on exports and imports"* (database), *provided by Local Team.* Agencia ProCórdoba website: http://www.procordoba.org/descargas.asp.

Figure 1.22. **Top export destinations (% of total export value), 2012-14, province of Córdoba**



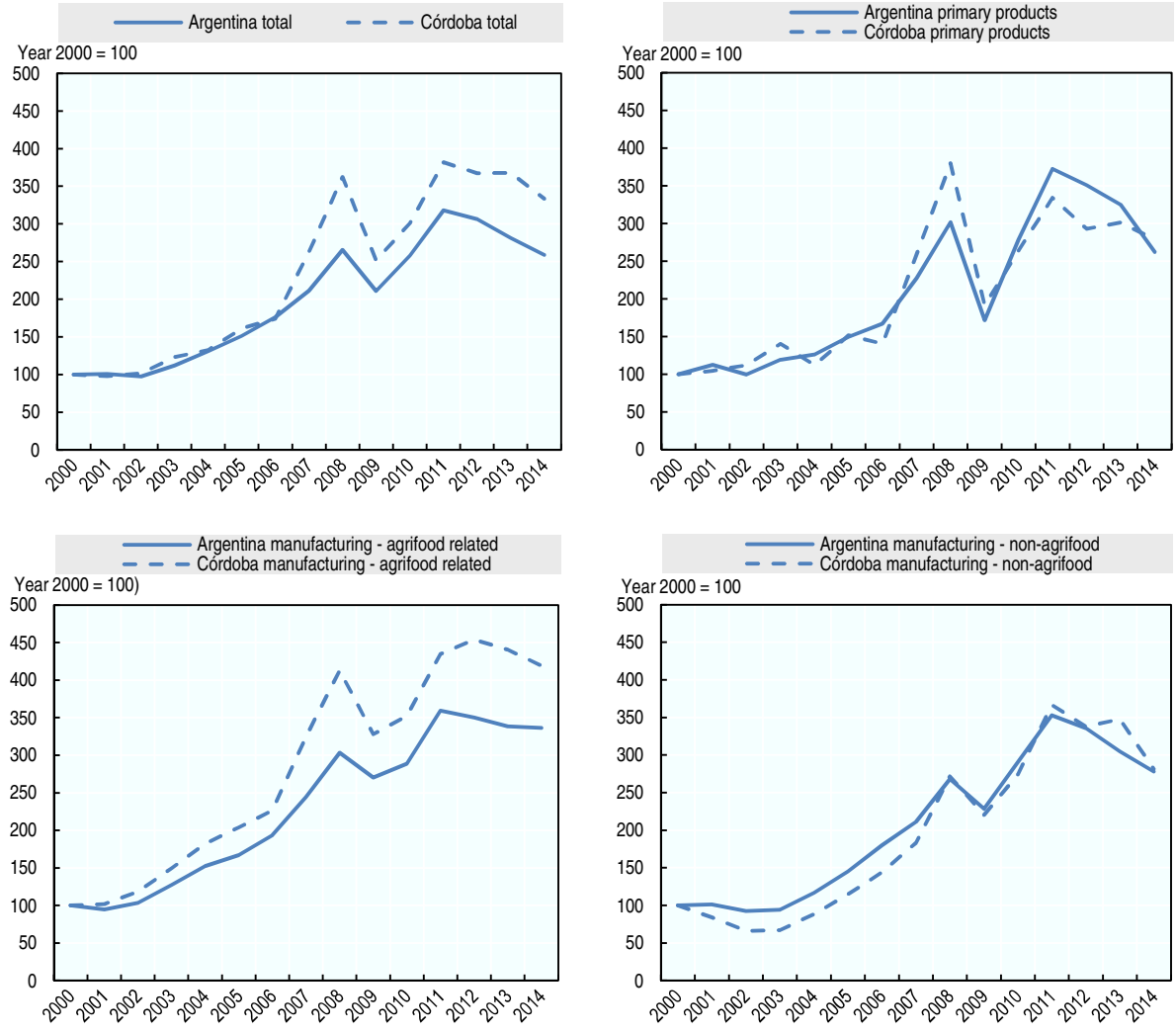
Note: Share of the total national exports that corresponds to Córdoba's exports. Percentage of major exporting groups.

Source: Elaboration based on Agencia ProCórdoba (n.a.), *"Data on exports and imports"* (database), provided by Local Team. Agencia ProCórdoba website: http://www.procordoba.org/descargas.asp.

The total value of provincial exports expanded by a factor of 3.3 between 2000 and 2014. This expansion rate is larger than that of total national exports, which grew by a factor of approximately 2.5 over the same period of time (Figure 1.23, Panel A). Most of this expansion, however, occurred between 2000 and 2007; the growth of total exports has since flattened.

For the province of Córdoba, the best export performance relative to the national trends was in the manufacturing agri-food-related sectors (Figure 1.23, Panel C); the total value of agri-food manufacturing in Córdoba quadrupled between 2000 and 2014. In contrast, growth in primary products and non-agri-food manufacturing, closely mirroring the national trends in these sectors, was by a factor of between 2.6 and 2.8 over the decade.

Figure 1.23. **Export growth by major category, 2000-14, Córdoba and Argentina**



Note: Exports by major exporting groups – evolution – 2000=100.

Source: Elaboration based on Agencia ProCórdoba (n.a.), *"Data on exports and imports"* (database), provided by Local Team. Agencia ProCórdoba website: http://www.procordoba.org/descargas.asp.

Science and technology

Data for Argentina as a whole suggest that domestic science and technology infrastructure is lagging in comparative terms (OECD, 2011). This limits the capacity of the country to generate new research linked to areas in which it enjoys comparative advantage. Moreover, business expenditure on R&D has remained low compared with OECD member countries and other Latin American countries; for instance business R&D expenditure as a percentage of GDP was estimated at 1.61% in 2013, up from 1.47% in 2002; for Argentina the same indicator was estimated at 0.16%, up from 0.1% in 2002; while business R&D investment was 0.5% for Brazil in 2012.[18]

Although the presence of academic and research institutions might be greater in Córdoba than in other provinces, the gap for specialised skills remains a concern. Policies are needed to address potential distortions of the educational system; for instance, student enrolment in science and technology programmes is declining and drop-out rates are remarkably high compared to most OECD countries; this suggests that students are facing a lack of incentives for enrolling or completing these programmes, part of which can be corrected at the level of the educational system. A more detailed discussion on education and innovation performance and policies is included in Chapter 2.

Regional well-being

The focus of this section is on dimensions and indicators that are comparable with those used in the OECD regional database and specifically on the indicators used in the OECD regional well-being framework (OECD, 2015a) (Box 1.4). These indicators cover both material and non-material conditions or quality of life. The framework provides a comprehensive monitoring structure to guide inclusive regional policy development at the national level (OECD, 2015a). For each dimension, in addition to the indicator used in the OECD well-being framework (when available), other indicators are used to assess the key issues and socioeconomic reality of Córdoba and other Argentinian provinces.

Box 1.4. **Measuring well-being**

Economic prosperity is only one among several pillars that support an individual's well-being and quality of life. The OECD has developed a framework for measuring well-being in OECD regions which encompasses two broad pillars. The first pillar, **material conditions**, comprises the dimensions of income, jobs, and housing conditions. The second pillar, **quality of life**, comprises health, education, environment, community, life satisfaction, civic engagement, safety, and access to services. This framework has also been adapted to measure well-being in non-OECD countries, where possible, taking into account the literature on measuring development outcomes, and the socio-economic and institutional conditions in these countries (OECD, 2014e).

Box 1.4. **Measuring well-being** (*cont.*)

OECD well-being dimensions

Source: OECD (2014e), *How's Life in Your Region?: Measuring Regional and Local Well-being for Policy Making*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264217416-en.

Material conditions

Income: disposable income of private households per capita

Like most statistics expressed in monetary terms, using income statistics presents challenges. Conversion of national currency in Argentina into standard currencies is particularly difficult, due to the former complex exchange rate system in place and high inflation rates. As a result, the purchasing power parity conversion factor which is available for most countries cannot be applied to Argentina.[19] Income statistics used in this section are presented in local currency and in current values. Moreover, updated income statistics are only available for major metropolitan areas. For the province of Córdoba, the data used in this section refer to the metropolitan area of Córdoba (*Aglomerado Gran Córdoba*).

The median household income per capita reported for the metropolitan area of Córdoba in the second trimester of 2015 was ARS 3 000. The median value for a household member with an occupation was ARS 6 709. This compares with slightly higher income levels for the metropolitan area of Santa Fe on both indicators (ARS 3 425 and ARS 7 795), and a similar level for all urban agglomerations of Argentina (ARS 3 067 and ARS 7 354) (INDEC, n.a.).

According to official sources in the provincial government, the province of Córdoba is, on average, performing as well as or better with respect to poverty than the country taken as a whole. Overall poverty levels for the province are estimated as being between 18% and 20% by the Ministry of Social Development (*Ministerio de Desarrollo Social*). However, statistical and data challenges in Argentina and in the province make it difficult to verify these figures.

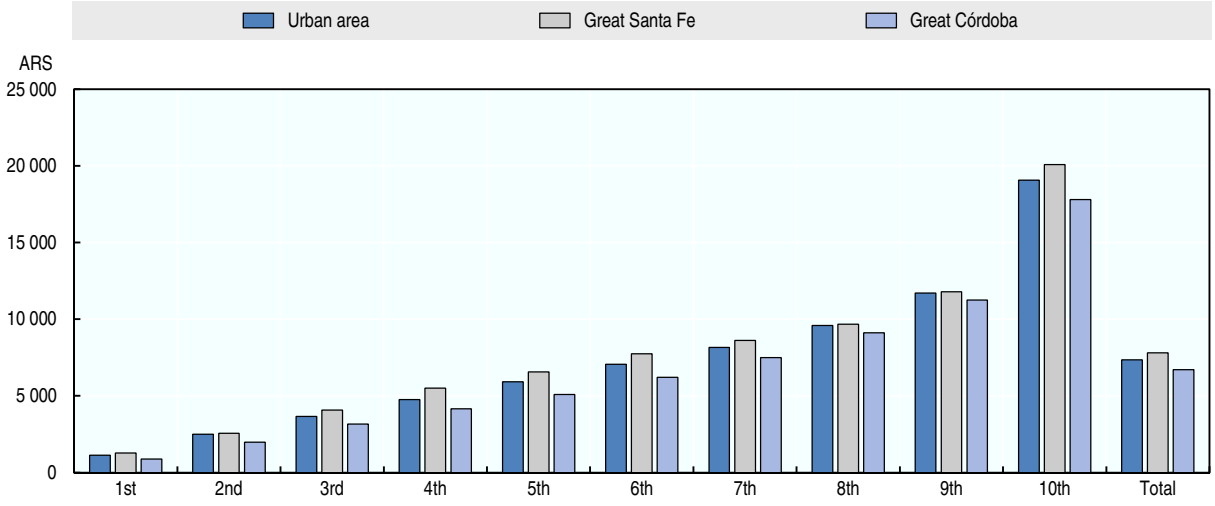
Statistics on income disparities between deciles indicate that the ratio between the top and bottom income deciles in the metropolitan agglomeration of Córdoba is higher than in the metropolitan agglomeration of Santa Fe and for all urban agglomerations (INDEC, n.a.). In 2015, individuals in the top income decile in the metropolitan agglomeration of Córdoba reported a household income per capita that was 13 times the income of individuals in the bottom decile (compared to 11 times in the metropolitan agglomeration of Santa Fe and 12 times for all urban agglomerations).

Figure 1.24 shows the distribution by decile of the average income of household members reporting an occupation. Also, the income level for each decile is consistently lower for the metropolitan area of Córdoba compared to the other selected metropolitan areas, while the income gap between the top and bottom deciles is higher.

Historically, Córdoba has faced lower levels of socio-economic disparity than other provinces; however, recent data shows that income disparity between deciles is reducing in other metropolitan areas (Figure 1.25). As a result, income disparities between deciles in the province of Córdoba are now considered to be greater.

The lack of objective indicators, especially on poverty, is an impediment to effective evidence-based decision-making and public action. In 2013, INDEC stopped measuring poverty in Argentina. Before this, official data reported poverty to be around 7%, whereas researchers placed poverty levels above 20%. Beyond the provincial scale, there is a need for sound, harmonised poverty data products that enable monitoring, evaluating and benchmarking policies within and across provinces in a way that goes beyond GDP and other economic measurements, and also pay attention to well-being indicators.

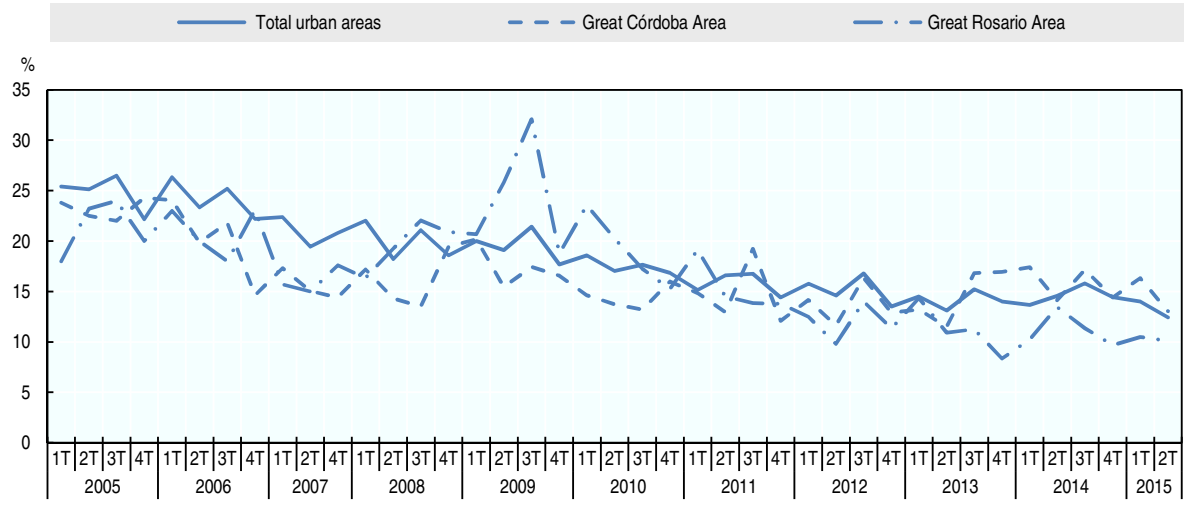
Figure 1.24. **Average income of employed household by decile, 2015**



Note: Población ocupada según ingreso de la ocupación principal, Media. Segundo trimestre de 2015 [population employed, average income of main occupation. Second quarter of 2015].

Source: Elaboration based on INDEC (n.a), *Encuesta Permanente de Hogares [Household Survey,* www.indec.gov.ar/bases-de-datos.asp.

Figure 1.25. **Income disparities between 10th and 1st decile, 2005-15**



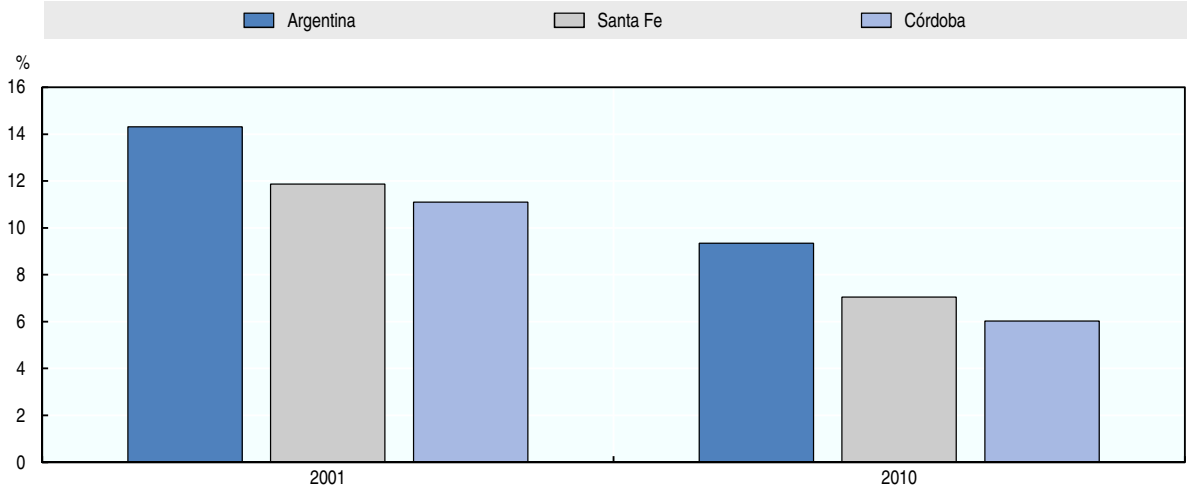
Note: Population according to household income. Income gap between the 10th and 1st percentile (calculated based on the median of Quarterly Household Income per capita).

Source: INDEC (n.a), *Encuesta Permanente de Hogares* [Household Survey], www.indec.gov.ar/bases-de-datos.asp.

In spite of the lack of statistical measurement, there is evidence that pockets of poverty do exist. One of the key challenges currently being faced is how to address inequalities within urban and peri-urban areas. While significant efforts have been made to deliver services and improve living conditions in remote areas of the province (e.g. in its north-west), it is unclear whether there are policies that seek to bridge the inequality gaps within the province's major cities.

An alternative measure of economic disadvantage is provided by the measure of basic necessities that are not satisfied (*Necesidades Básicas Insatisfechas*) (Figure 1.26). In this respect, there has been a substantial improvement from 2001 to 2010 with a recorded decrease of 5%.

Figure 1.26. **Households % with at least one basic necessity not met, 2001-10**



Note: Necesidades Básicas Insatisfechas (NBI) [Basic necessities unmet].

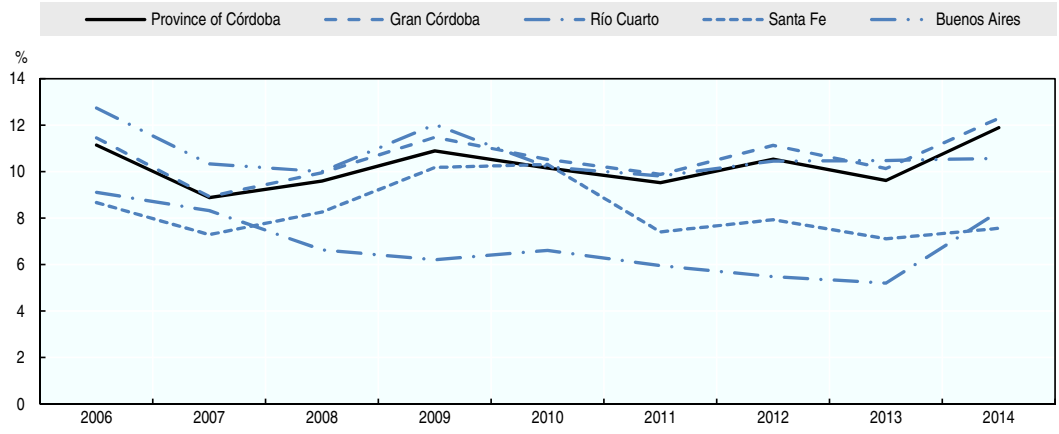
Source: Elaboration based on INDEC (2010), *Censo Nacional de Población, Hogares y Viviendas* [National Census of Population and Housing].

Jobs: employment and unemployment rate

Labour market indicators are monitored through regular household surveys (*Encuesta Permanente de Hogares, EPH*). The coverage of this survey is limited to major metropolitan areas and for the province of Córdoba to the metropolitan areas of Gran Córdoba and Río Cuarto (*aglomerados Gran Córdoba y Río Cuarto*).

Employment rate figures further confirm the deterioration in labour market conditions pointed out in previous sections (Figure 1.29). The unemployment rate in the province is also relatively high and has increased in recent years (Figure 1.28). Estimates show that the national unemployment rate has remained stable at about 7.2% since 2011. Córdoba experienced similar levels in 2011, but unemployment in the metropolitan area of Córdoba grew to 9.7% in 2014. Quarterly estimates since 2014 suggest that the unemployment rate of Córdoba has decreased.

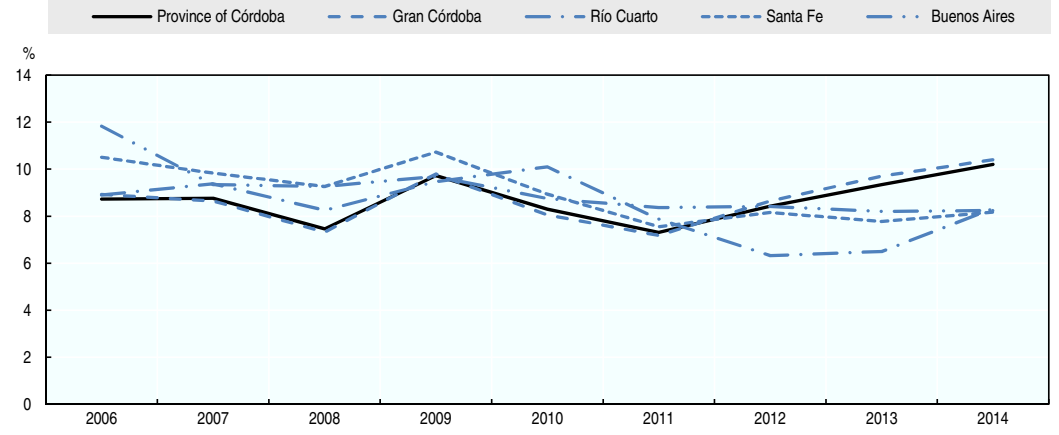
Figure 1.27. **Under-occupation, 2006-14, selected provinces and metropolitan areas**



Note: The variable under-occupation refers to i) individuals that being employed: wish to work more hours, either by expanding their working hours at their current job or by having another/ additional job; or ii) the individuals would work less than 35 hours. This is computed with respect to the percentage of the labour force.

Source: INDEC (n.a), *Encuesta Permanente de Hogares* [Household Survey], www.indec.gov.ar/bases-de-datos.asp.

Figure 1.28. **Unemployment rate, 2006-14, selected provinces and metropolitan areas**

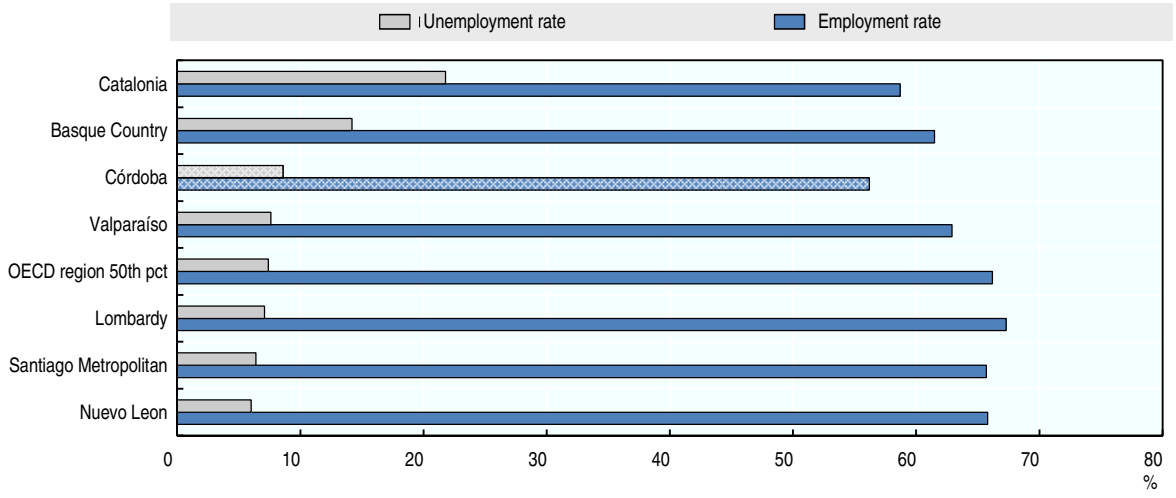


Note: Unemployment rate is computed with respect to the labour force and for population 14 years old and older.

Source: INDEC (n.a), *Encuesta Permanente de Hogares* [Household Survey], www.indec.gov.ar/bases-de-datos.asp.

When compared with selected OECD regions, Córdoba has a lower employment rate (56.2%) than most OECD regions (66.2%), and in particular peer provinces such as Nuevo Leon (Mexico), Lombardy (Italy), Santiago and Valparaiso (Chile), Basque Country and Catalonia (Spain) (Figure 1.29). When looking at unemployment rates, Córdoba has a higher rate (8.6%) than the median OECD regions (7.4%), and also Valparaiso, Santiago, Lombardy and Nuevo Leon (Figure 1.29). However, it is worth noticing that unemployment rates in the province of Córdoba are still lower than many EU regions, such as Catalonia (21.8%) and the Basque Country (14.2%) in Spain (Figure 1.29).

Figure 1.29. **Employment and unemployment rates, 2013 or most recent year available**



Note: Reference year is 2013 for most regions, or last reference year available (Córdoba is 2013). See OECD Regional Database 2013 for details on reference years and methods.

Source: Elaboration based on INDEC (n.a.), *Encuesta Anual de Hogares Urbanos* [Annual Urban Household Survey], www.indec.gov.ar/bases-de-datos.asp; OECD (2013d), *OECD Regional Statistics* (database), http://dx.doi.org/10.1787/region-data-en (accessed 3 August 2016).

In Córdoba, youth unemployment is high, and the percentage of NEET[20] is roughly 16.6% based on data from the 2010 census. As reflected in the 2010 National Census, there are 92 948 youth between 14 to 24 years of age who are neither in school nor employed.

Housing

Housing remains a challenge for the province, especially in rural and remote areas. Past and present projects, such as *Mi Casa, Mi Vida* (My House, My Life), in co-operation with the Inter-American Development Bank (IDB) and the World Bank (*Promueva* programme) to address this issue have either stopped or stalled for various reasons, including inaccessibility of credit, a problem affecting both the public and private sectors in Córdoba.

Housing indicators are lacking. The average number of rooms per dwelling derived from the census of population 2010 indicates a relatively limited variation across provinces. The national average is 3.2 rooms per dwelling; Córdoba reports an average of 3.4 rooms per dwelling and the same average value is found in Santa Fe.

Non-material conditions

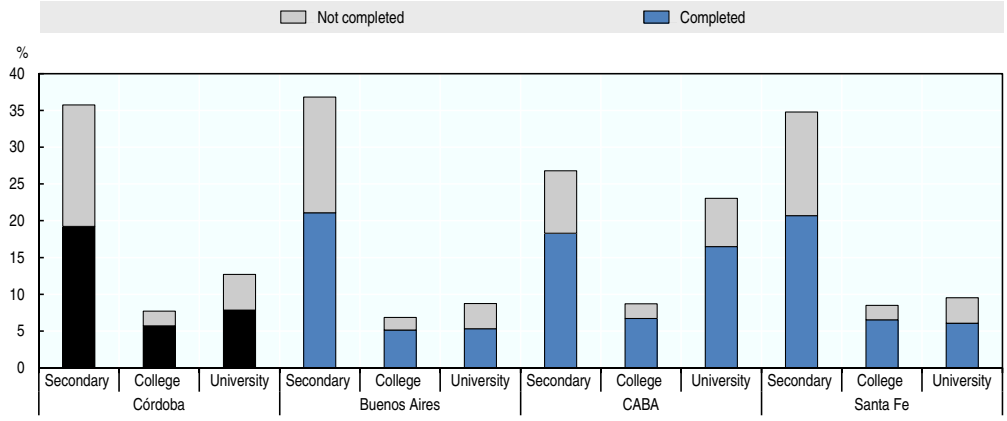
Shifting attention away from an analysis of merely material conditions to a broader focus that includes quality of life is necessary to ensure a process of inclusive growth. Measuring non-material conditions goes hand in hand with the improvement of the material conditions. In the following sections, some quality of life indicators used in the OECD regional well-being framework are presented in combination with additional and related indicators that are more specific to the context of the province of Córdoba.

Education: labour force with at least secondary education

Illiteracy rates are marginal in the province of Córdoba. In 2010 and for the province of Córdoba, the literacy rate of the total population 10 years and older was 98.5% and it was virtually identical for males and females (98.3% and 98.7%, respectively). Thus, the illiteracy rate is smaller than 2%. Percentages are similar across departments of the province of Córdoba, with the highest literacy rate in the Capital (99%) and the lowest in the department of Sobremonte (95.2%) (INDEC, 2010).

Data on educational attainment of the labour force are available for the Capital department of Córdoba (INDEC, 2010). It is interesting to note that the percentage of the labour force that has at least completed secondary education is 40%; however, the percentage of workers who have completed or started a secondary education is nearly 80%. This second result would bring the Capital department of Córdoba in line with the median value for OECD regions (about 81%). This suggests that one of the main problems of the province's educational system is retention and completion rates.

Figure 1.30. **Educational attainment (15-59 years), Córdoba, Santa Fe, Buenos Aires, 2010**

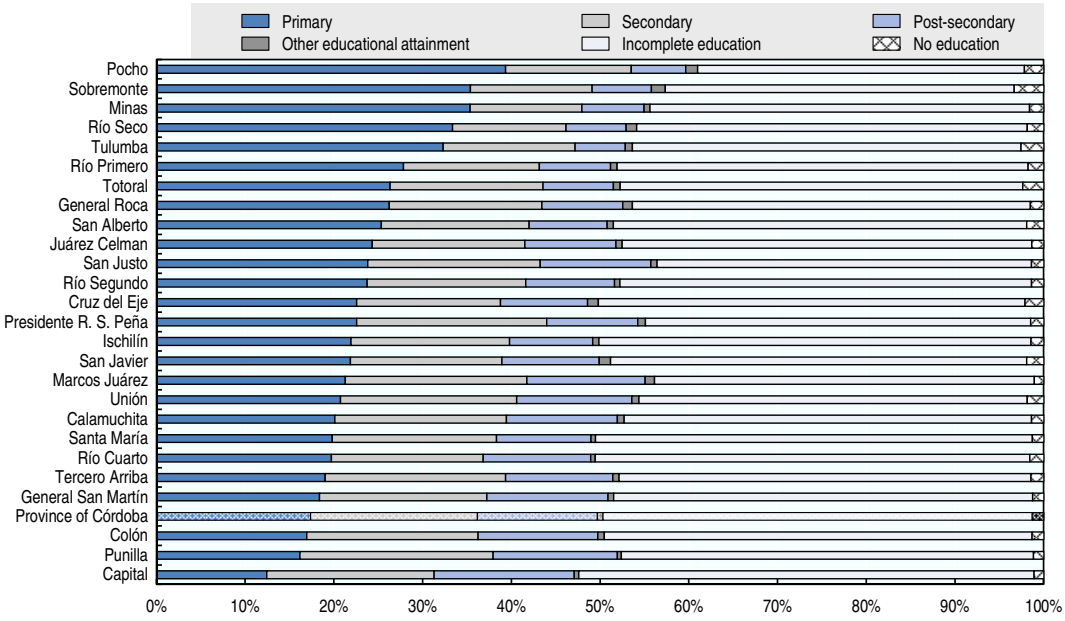


Note: Percentages are computed using total population aged 15 to 59. College includes: superior no universitario (tertiary not university). University includes: universitario (university) and post universitario (post university).

Source: Elaboration based on INDEC (2010), *Censo Nacional de Población, Hogares y Viviendas* [National Census of Population and Housing].

Educational attainment in the provinces of Córdoba, Santa Fe and Buenos Aires, for the population age 15 to 59, is reported in Figure 1.30. The figure shows high dropout rates for all levels of educational attainment. Approximately 20% of the population between 15 and 59 years old completed secondary education, while another 16% reported some secondary education without completion of the programme. College education (*superior no universitario*) is reported by almost 6% of the population, with a dropout rate of 2%, and nearly 8% of the population reported having university education, with a dropout rate of about 5%. In comparison to Córdoba, Santa Fe reported high educational attainments, except for university education, and lower dropout rates.

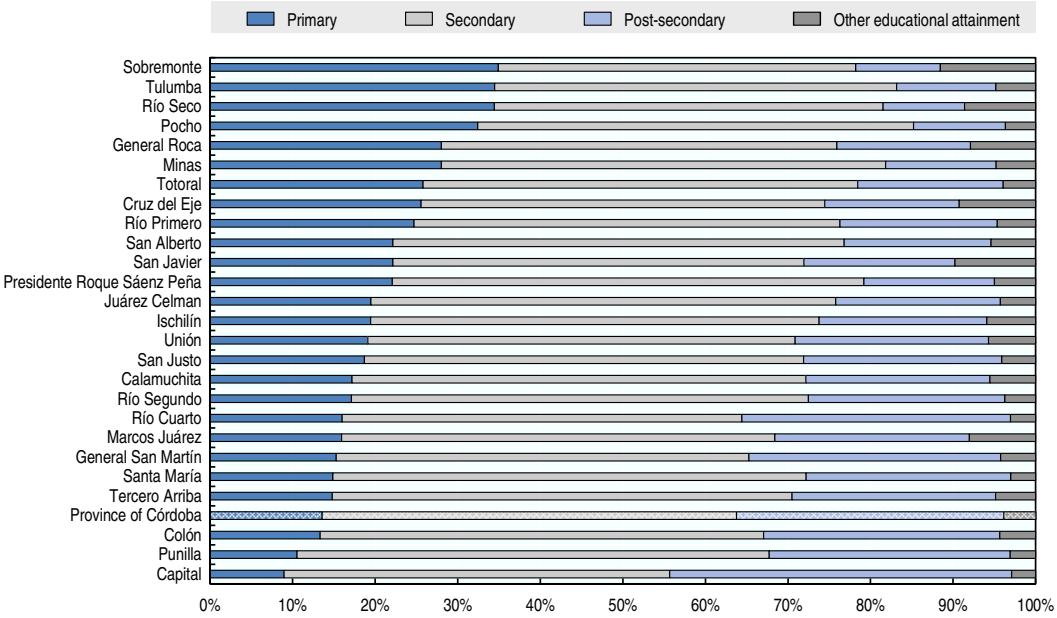
Figure 1.31. **Educational attainment by department (15 to 59 years), 2010**



Note: Percentage computed using total population aged 15 to 59. Post-secondary includes: superior no universitario (tertiary not university), universitario (university), post universitario (post university). Other educational attainment includes: EGB (general basic education) and polimodal (post general basic education).

Source: Elaboration based on INDEC (2010), *Censo Nacional de Población, Hogares y Viviendas* [National Census of Population and Housing].

Figure 1.32. **Uncompleted educational attainment by department, 2010**



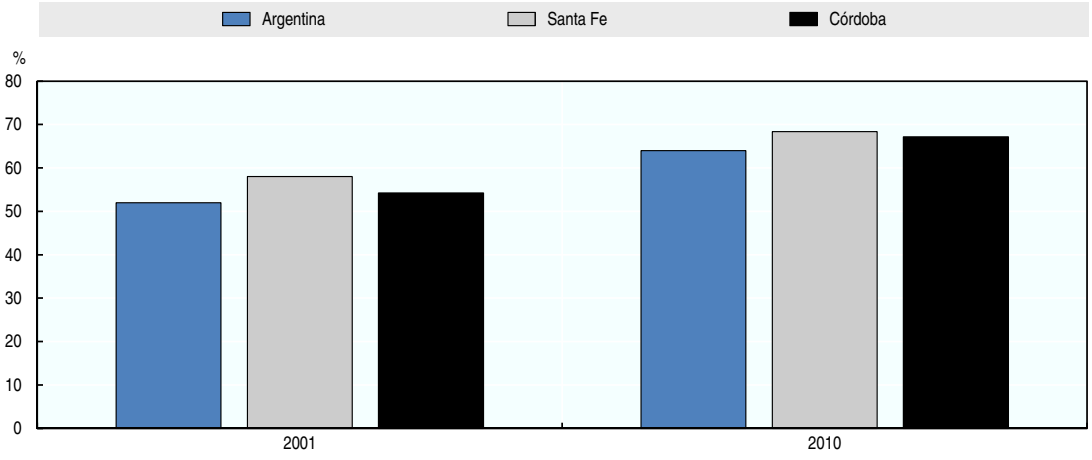
Note: Percentage computed using total population age 15 to 59 years reporting some uncompleted educational attainment. Post-secondary includes: superior no universitario (tertiary not university), universitario (university), post universitario (post university). Other educational attainment includes: EGB (general basic education) and polimodal (post general basic education).

Source: Elaboration based on INDEC (2010), *Censo Nacional de Población, Hogares y Viviendas* [National Census of Population and Housing].

Health

Over the past 10 years, Argentina has experienced substantial improvements in health indicators. This is reflected by indicators of health service provision, such as the share of population covered by (private or public) health plans, as well as for basic health related indicators, such as life expectancy at birth, mortality rate or infant mortality. The share of individuals with health coverage has increased substantially between 2001 and 2010 (Figure 1.33). At the national level this has increased from about 52% to 64% over the same period. The percentage of individuals with health coverage in Córdoba has increased from 54% to 67% between 2001 and 2010, although it remains slightly lower than in the neighbouring province of Santa Fe.

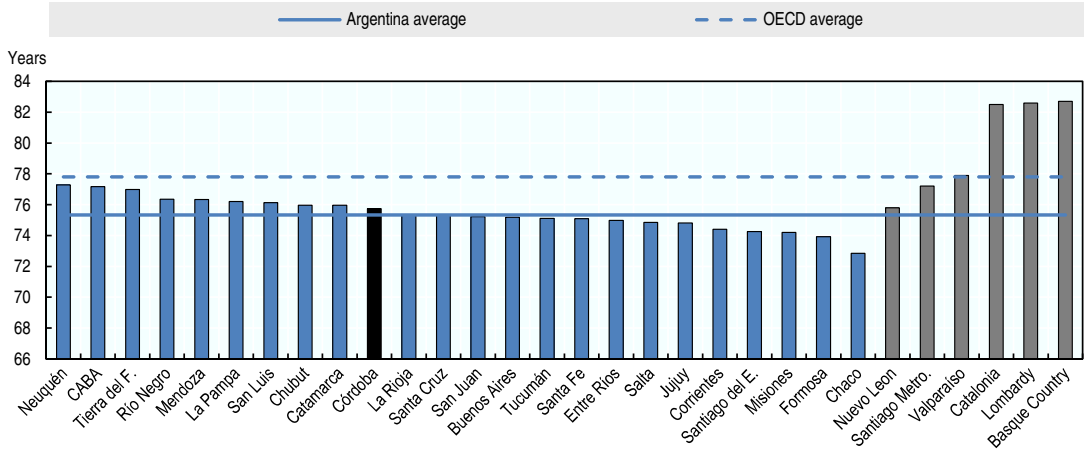
Figure 1.33. **Percentage of population with a health plan, 2001 and 2010**



Note: Health coverage includes union or professional organisations' insurance and/or insurance provided by private companies or mutual insurance companies.

Source: Elaboration based on INDEC (2001 and 2010), *Censo Nacional de Población, Hogares y Viviendas* [National Census of Population and Housing].

Figure 1.34. **Life expectancy at birth by province, 2010**



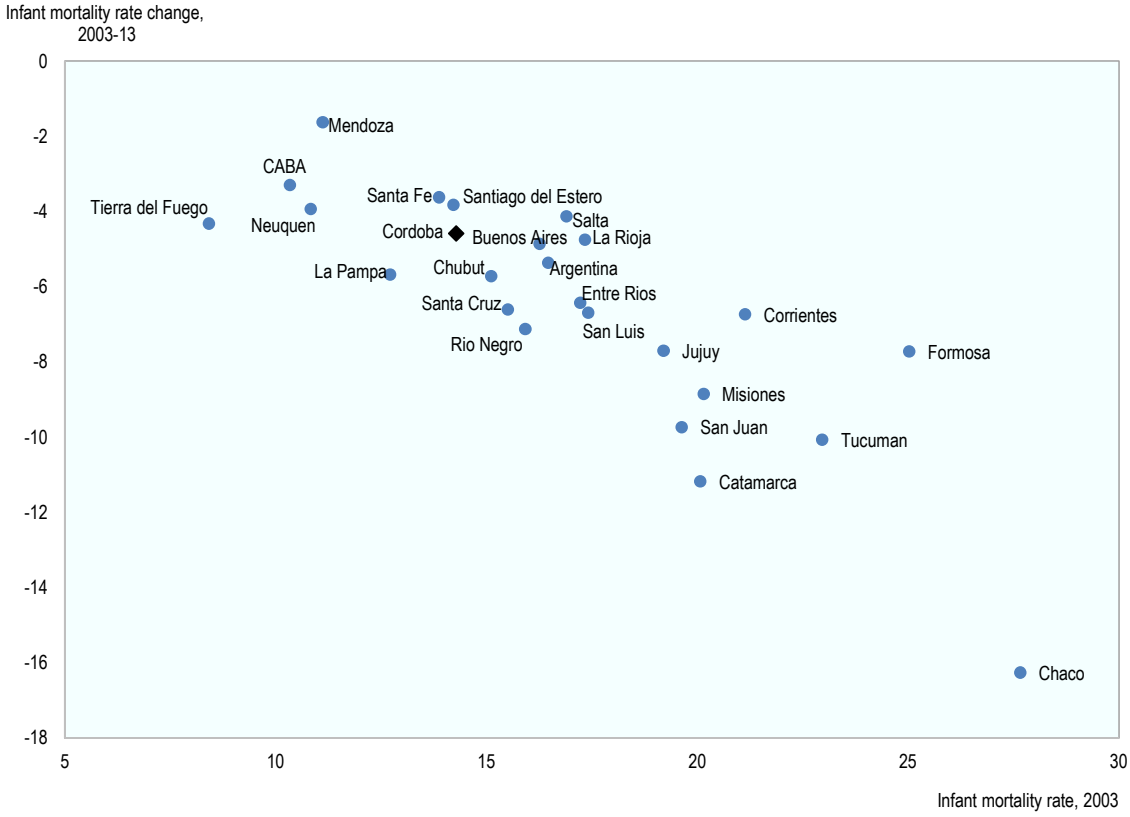
Notes: Esperanza de vida al nacer en años [life expectancy at birth]. The columns in grey represent non-Argentinian regions.

Source: Elaboration based on INDEC (2010), Censo Nacional de Población, Hogares y Viviendas [National Census of Population and Housing], www.indec.gov.ar/bases-de-datos.asp.

In 2010, life expectancy at birth was estimated at 75.3 years for Argentina, which places the county at the lower end of the OECD range for this indicator, just above Mexico (74.1), Turkey (74.3) and Hungary (74.7) for the same reference year.[21] In 2010, the life expectancy for the average OECD region was 77.8 years, meaning that all provinces of Argentina would fall below this average value. In the national context, Córdoba reported life expectancy of 75.7 years, slightly above the national average (Figure 1.34).

Infant mortality rates of the province of Córdoba have dropped considerably over the past decades, from 56.9 in 1960 to 9.6 deaths per 1 000 live births in 2013 (Figure 1.35.). These values are high when compared to OECD national values; in 2012 only two OECD countries had infant mortality rates greater than 10 (Turkey at 11.6 and Mexico at 13.3).[22] Figure 1.35 shows the changes in infant mortality rates across provinces from 2003 to 2013. The vertical axis indicates that all provinces of Argentina experienced an improvement in this indicator (meaning a declining rate between 2003 and 2013). Provinces with higher infant mortality rates in 2013, such as Chaco (27.7), are those experiencing the largest decline in this mortality rate over the decade (e.g. -16.1 for Chaco). In 2003 the infant mortality rate of Córdoba was 14.3 deaths per 1 000 live births. Over the decade it declined 4.7 points to 9.6 in 2013.

Figure 1.35. **Infant mortality rates by province, 2003-13**



Note: Measured by deaths per 1 000 live births.

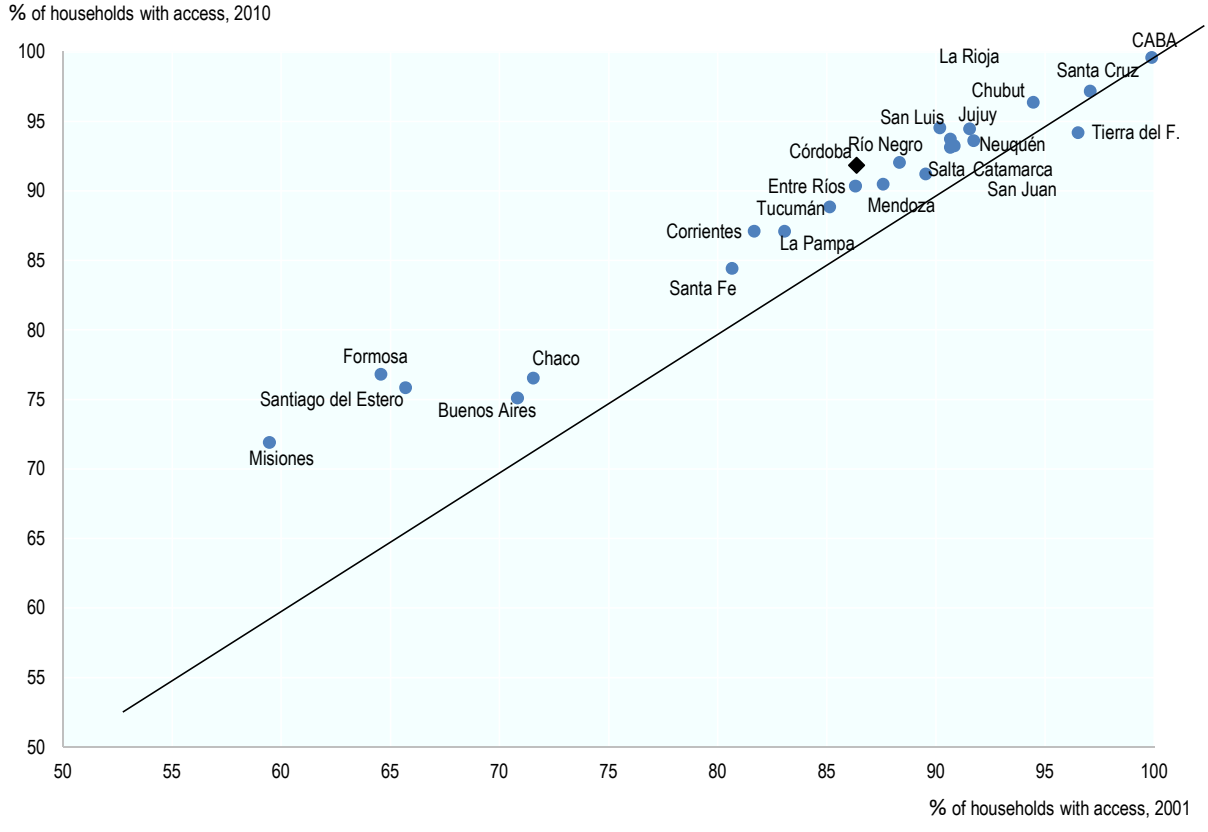
Source: Elaboration based on MECON (2015), "Fichas Provinciales", Ministerio de Economía y Finanzas Públicas, www.mecon.gov.ar/peconomica/basehome/fichas_provinciales.htm.

Access to services

Access to basic utilities is generally high across Argentina. Between 2001 and 2010 access to drinking water from the municipal system has improved in most provinces. This is reflected by the pattern outlined in Figure 1.36, which compares the provincial share of households with access to water in 2001 (horizontal axis) with the same indicator in 2010 (vertical axis).

The share of households with access to water and gas municipal services in Córdoba is generally higher than in the neighbouring province of Santa Fe (Figure 1.37). However, it is reported that the access to sewage systems is still lower than in neighbouring provinces as well as the country as a whole (Figure 1.37). Sanitation infrastructure is lagging behind (only 38% households are connected to a sewage system, whereas the national average is 53%), though there are plans to develop this further in Córdoba's four largest cities – the City of Córdoba, San Francisco, Rio Cuarto and Carlos Paz – as well as in the Valle de Punilla. The latter is due mainly to the significant backlog in terms of wastewater infrastructure, which, contrary to drinking water supply, was not concessioned to the private sector in the late 1990s (Akhmouch, 2009).

Figure 1.36. **Households with access to municipal water supply, 2001 and 2010**

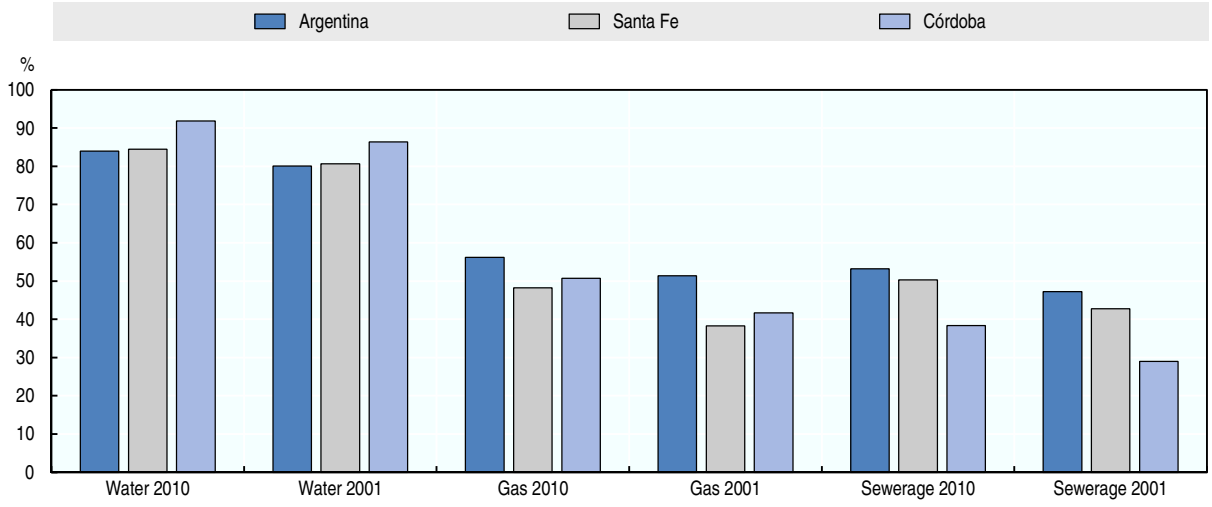


Note: Agua de red (% de hogares con acceso) [households with access to municipal water supply].

Source: Elaboration based on INDEC (2010), Censo Nacional de Población, Hogares y Viviendas [National Census of Population and Housing], www.indec.gov.ar/bases-de-datos.asp.; INDEC (2001), Censo Nacional de Población, Hogares y Viviendas [National Census of Population and Housing], www.indec.gov.ar/bases-de-datos.asp.

Other than investment gaps, part of the diversity observed in service provision is likely to be explained by the province's degree of urbanisation, population density and the dispersion of the population across the provincial territory. Remote or isolated communities, particularly in mountainous areas, have difficulty accessing potable water. Limited access and poor quality of water and sanitation services can accentuate inequalities and jeopardise the province's attractiveness as a place to live or invest in the long run.

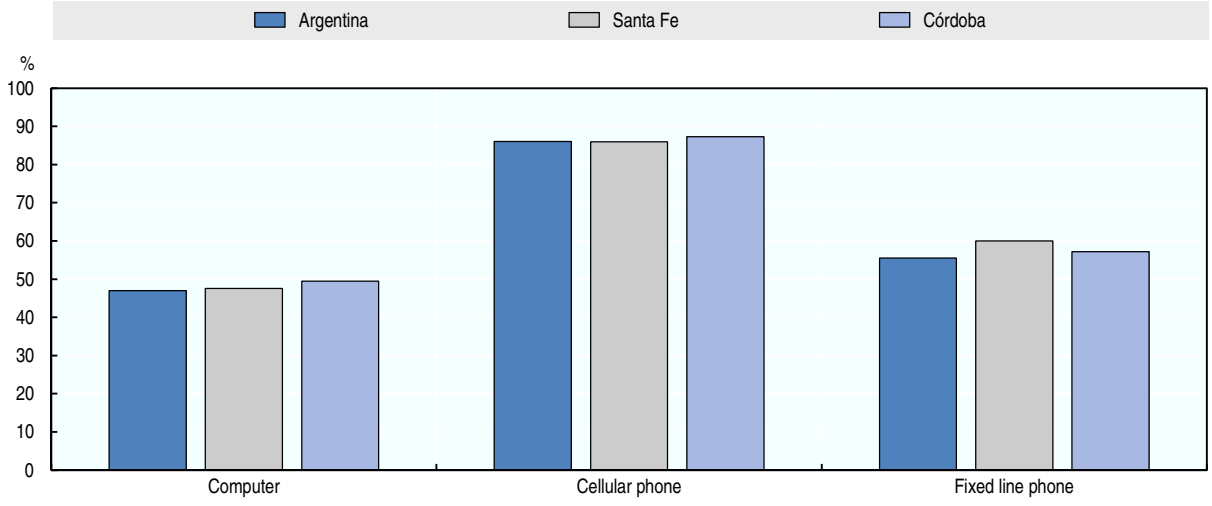
Figure 1.37. **Households with access to selected municipal services, 2001 and 2010**



Note: The variables refer to *Red pública (agua corriente), Gas de red, Cloacas* [water supply, access to gas at home, sewerage].

Source: INDEC (2010 and 2001), *Censo Nacional de Población, Hogares y Viviendas* [National Census of Population and Housing].

Figure 1.38. **Access to communication and information technology (% of households), 2010**



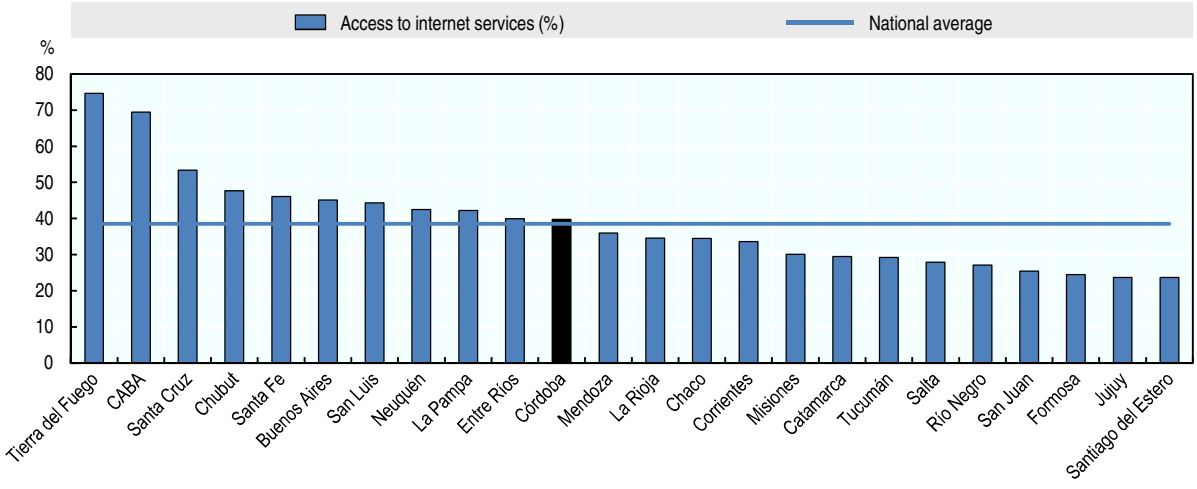
Note: Households with access to the goods, by province. Year 2010.

Source: Authors' elaboration based on Censo Nacional de Población, Hogares y Viviendas 2010 (INDEC).

The use of cellular phones has expanded rapidly across the country. In 2001, at the national level approximately 30% of households were estimated to have access to a cellular phone, with Córdoba showing similar percentage values. By 2010, the use of cellular phone had become pervasive across the country (Figure 1.38). At the national level, 86% of households had access to cellular phones; this percentage is slightly higher in Córdoba (87.3%). In contrast, the percentage of households with access to a fixed phone line has remained virtually unchanged; a trend that is also observed in other OECD countries.

Statistics on access to Internet services in urban areas and by province are available for 2011 (Figure 1.39). There is limited information on accessibility in rural areas and since the availability of Internet services is generally considerably low in rural areas, which suggests that the available data are overestimating, to some extent, overall uptake. Within the national context, Córdoba household accessibility to Internet service is close to the national average, at nearly 40%. More urbanised areas, such as CABA (Autonomous City of Buenos Aires), present a higher share of Internet accessibility, at nearly 70%.

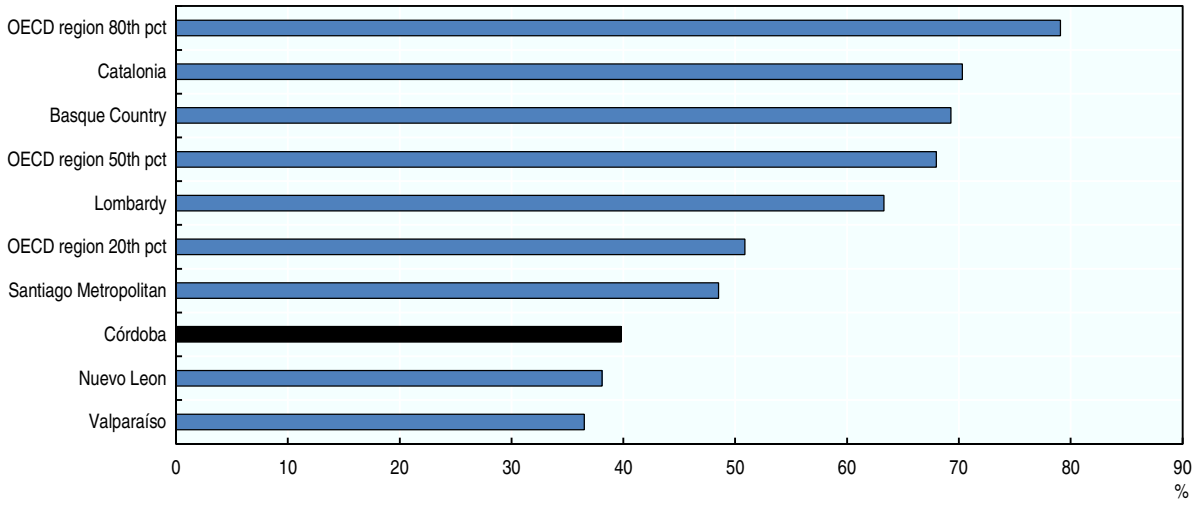
Figure 1.39. **Access to Internet services by province, Argentina, 2011**



Source: INDEC (n.a.), *Encuesta Nacional sobre Acceso y Uso de Tecnologías de la Información y la Comunicación* [National Survey of Access to Information and Communications Technologies], www.indec.gov.ar/bases-de-datos.asp.

Given the information available for Argentinian provinces, compared to selected OECD regions, Internet accessibility in Córdoba remains low (Figure 1.40). The typical region in OECD member countries (i.e. median value) reports 68% of households with broadband Internet access. It should also be noted that the percentage for Córdoba refers to access to the Internet from computers or mobile devices, not necessarily to broadband access (hence there is a quality component that is not accounted for in this statistic). Even with this cautionary note, and bearing in mind that the Argentinian statistics are for urban areas only, Internet access in Córdoba compares poorly with the majority of OECD regions.

Figure 1.40. **Internet accessibility in Córdoba and OECD regions, 2013 (or most recent)**



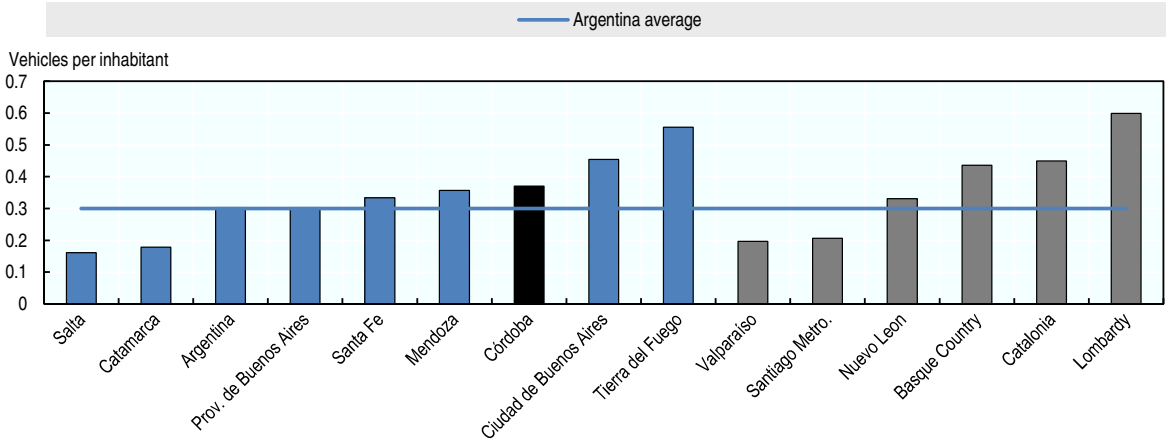
Note: Reference year is 2013 for most regions, or last reference year available (Córdoba is 2011). See OECD Regional Database 2013 for details on reference years and methods.

Source: Elaboration based INDEC (n.a.), *Encuesta Nacional sobre Acceso y Uso de Tecnologías de la Información y la Comunicación* [National Survey of Access to Information and Communications Technologies], www.indec.gov.ar/bases-de-datos.asp; OECD (2013d), *OECD Regional Statistics* (database) Regions and Cities, https://stats.oecd.org/ (accessed 3 August 2016).

Environment indicators

The number of vehicles per inhabitant is an indicator that provides several insights on the level of general economic development, transportation and mobility opportunities for individuals as well as environmental concerns. In 2013, Argentina had an estimated 0.3 vehicles per inhabitants (Figure 1.41). Córdoba is one of the provinces with a value above national average for this indicator (3.7 vehicles per inhabitants) along with Santa Fe (3.3) and Mendoza (3.6).

Figure 1.41. **Vehicles per inhabitants, selected provinces and OECD regions, 2013**



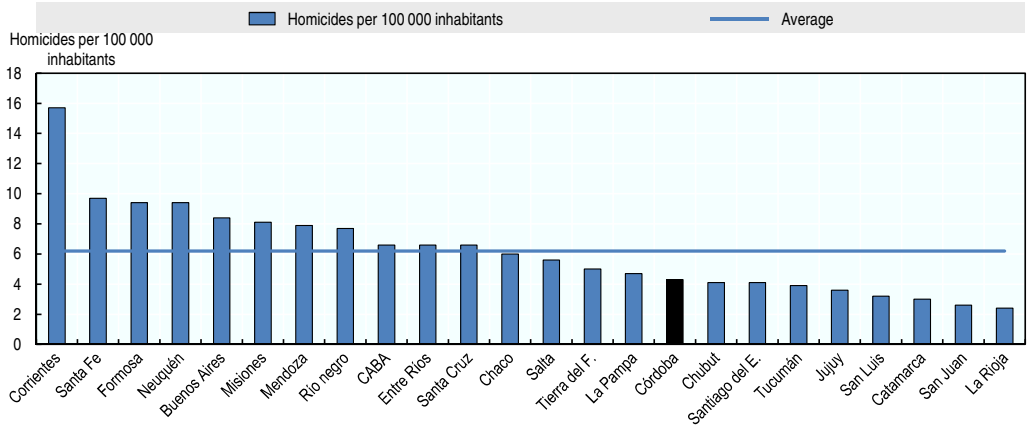
Note: The columns in grey reprensent non-Argentinian regions.

Source: Elaboration on ACARA (2013), *"Anuario 2013"* [Yearly publication 2013], Association of Car Dealers of the Republic of Argentina (*Asociación de Concesionarios de Automotores de la Republica Argentina*), www.acara.org.ar/estudios_economicos/detalles.php?ecaAnio=2013 and OECD (2013d), *OECD Regional Statistics* (database), Regions and Cities, https://stats.oecd.org/ (accessed 3 August 2016).

Safety

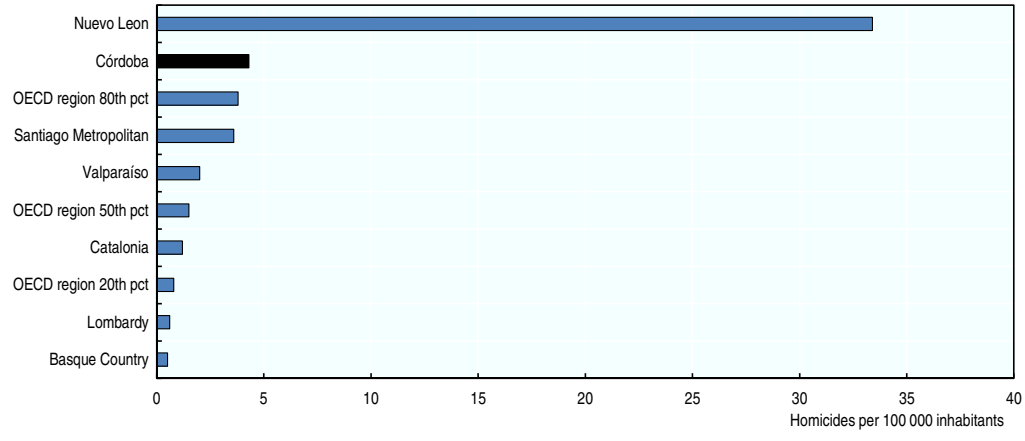
Within the OECD regional well-being framework, safety is measured by homicide rates: homicides per 100 000 inhabitants. In 2012, the province of Córdoba reported a homicide rate of 4.3 (Figure 1.42). Compared to other regions in the OECD, Córdoba's homicide rate is high. Figure 1.43 presents the homicide rates for selected OECD regions (TL2) showing a median value of 1.5 for all OECD regions. Homicide rates in comparable regions, such as Spain and Italy, are between 0.5 for Basque Country and 1.2 in Catalonia. Comparable regions in Chile have homicide rates ranging from 2 to 3.6. Only regions like Nuevo Leon (33.4), in Mexico, have value of homicide rates considerably higher than Córdoba.

Figure 1.42. **Homicide rates by province, Argentina, 2012**



Source: Elaboration based on Fleitas Ortiz de Rozas, D. (2014), "Homicidios y Suicidios en Argentina: Alcances y Evolucion 2012", Asociación para Políticas Públicas, http://observatorio.insusep.edu.ar/descargarEstadiscica/54ac2df5f76b74f2194dedd8.pdf.

Figure 1.43. **Homicide rates, Córdoba and selected regions, 2013 (or most recent)**



Note: Reference year is 2013 for most regions, or last reference year available (Córdoba is 2012). See OECD Regional Database 2013 for details on reference years and methods.

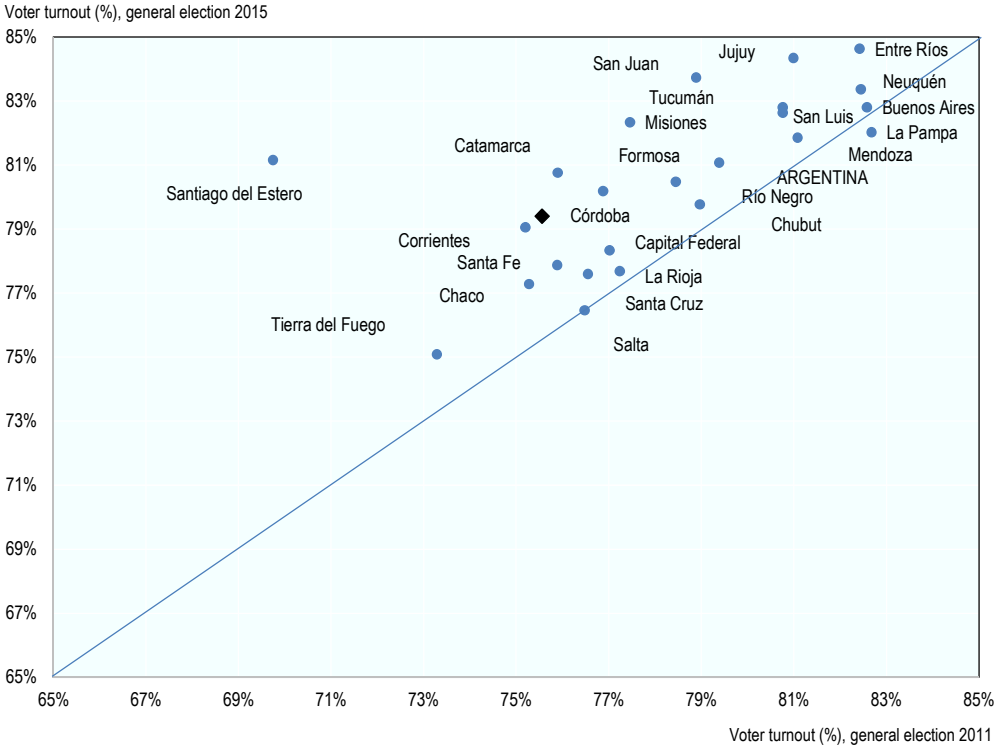
Source: Elaboration based on Fleitas Ortiz de Rozas, D. (2014), "Homicidios y Suicidios en Argentina: Alcances y Evolucion 2012", Asociación para Políticas Públicas, http://observatorio.insusep.edu.ar/descargarEstadiscica/54ac2df5f76b74f2194dedd8.pdf; and OECD (2013d), *OECD Regional Statistics* (database), Regions and Cities, https://stats.oecd.org/ (accessed 3 August 2016).

Civic Engagement: voter turnout

Institutional factors are important to regional growth across the OECD. Formal and informal institutions that facilitate co-operation and dialogue among key stakeholders are vital to mobilise and integrate them into the development process. This co-operation is easier when citizens trust each other and expect reciprocity and there is confidence in democratic institutions.

One of the basic indicators of civic engagement used within the OECD regional well-being framework is voter turnout. Participation in the democratic process through electoral vote is generally high across all provinces of Argentina. Figure 1.44 shows the percentage of voters in the 2011 and 2015 general elections by province. In 2015, voter turnout was above 75% in all provinces, with a national average of 81%. Córdoba reported a 79.4% participation rate, up from 75.5% in the 2011 general election.

Figure 1.44. **Voter turnout by province, general elections 2011 and 2015**

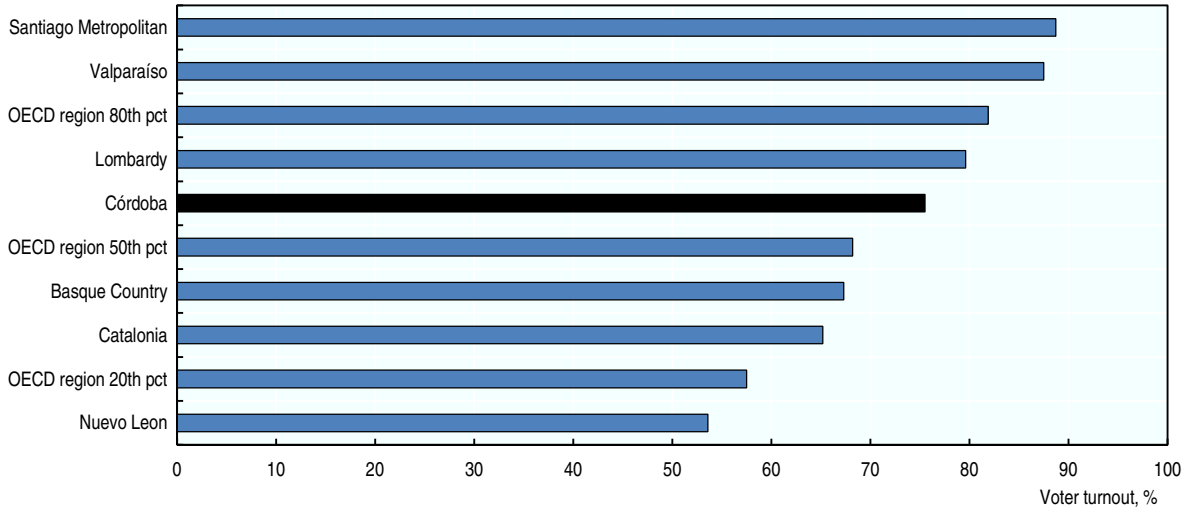


Note: Participación electoral (votantes en relación al padrón electoral) [voter turnout (participation rate)], General elections for president and vice-president.

Source: Dirección Nacional Electoral (n.a.), *Resultados y Estadísticas* (database), Government of Argentina, www.elecciones.gob.ar/articulo_princ.php?secc=2&sub_secc=9.

When compared to other OECD regions, Córdoba's voter turnout ranks above the median value of OECD regions (68%) (Figure 1.45), which can be partly explained by the fact that voting is obligatory in Argentina. Although it is not as high as the voter turnout of regions such as the metropolitan areas of Santiago (Chile) and Valparaiso (Chile) with voter turnout well over 85%, Córdoba is above comparable regions in Spain and Mexico.

Figure 1.45. **Voter turnout of Córdoba and selected OECD regions**



Note: Reference year varies by region (Córdoba is 2011). See OECD Regional Database 2013 for details on reference years and methods.

Source: Elaboration based on Dirección Nacional Electoral (n.a.), *Resultados y Estadísticas* (database), Government of Argentina, www.elecciones.gob.ar/articulo_princ.php?secc=2&sub_secc=9; OECD (2013d), *OECD Regional Statistics* (database), Regions and Cities, https://stats.oecd.org/ (accessed 3 August 2016).

Conclusion

A review of socioeconomic indicators of Córdoba indicates that the province is at a turning point in its development pathway. A cycle of economic expansion, largely driven by commodity and traditional manufacturing exports is coming to an end due to a changing international context, deteriorating terms of trade and increasing competition from low-wage emerging countries. The macroeconomic context will remain a factor influencing future development opportunities for the province; but, much of the macroeconomic leverage will remain beyond the control of provincial authorities and stakeholders. The current juncture, however, gives the province space to rethink its provincial development strategy building on policy approaches and best practices that are emerging across OECD regions.

Córdoba has valuable assets but their potential has not been fully unleashed. The province has a strategic location with relatively easy access to major communication routes and ports. It has favourable agro-climatic conditions and one of the most productive agricultural sectors in Latin America. The provincial labour force also has a relatively high level of educational attainments, and the province is home to many universities and research centres. In addition, the province has made remarkable progress in terms of well-being indicators and inclusive growth. Inequalities declined in the 2000s but pockets of disadvantages, particularly in rural and more remote areas, remain.

Córdoba needs to shift from a predominantly sectoral perspective to greater cross-sectoral focused regional policy. Agriculture, manufacturing, ICT, tourism, as well as other economic sectors, share strategic linkages that are not systematically explored (see Chapter 2). Common activities range from transportation logistics, to research, marketing, design, and software infrastructure. Córdoba needs to design and implement a robust regional development strategy linking diverse objectives, policies, programmes and projects, building on its territorial assets and place-based specificities, and showing how

one programme may support more than one objective or sector. Such a strategic planning does require solid data and analysis to be formalised and outcome-driven.

Reliable data is necessary to support evidence-based policy and programme review. One of the gaps Córdoba faces is quality data, in particular in the current context of statistical emergency. For instance, housing indicators are lacking, there is no sound and harmonised poverty data, data on labour productivity at the provincial level are complex statistics which are not available at provincial and national levels; urban services data are outdated (i.e. water services data dates back to 2010), among others. To a large extent, this is a national-level problem; hence, modernisation and consolidation of the statistical infrastructure will indeed require nation-wide initiatives. However, there is scope for action at subnational level to modernise the provincial statistical infrastructure as well. Córdoba could become an early implementer in Argentina of innovative approaches and best practices that are currently becoming part of the "data revolution" taking place in national and regional statistical offices across OECD countries (Box 1.5). The use of alternative data sources would help bridge some of the above-mentioned gaps and align the provincial statistical infrastructure with those of OECD countries. For instance, new methods such as tracking mobile phone could be used to produce "commuting flows" data to delineate functional areas within the province of Córdoba to better understand better interactions between people and places and shape place-based policies accordingly. A parallel step forward could build on the current Local Economic Areas (LEAs) produced by the national administration as a first approximation to functional definitions of urban areas. Another room for manoeuver at provincial level is to consider the relevance of well-being indicators that go beyond GDP and other economic measurements. The OECD well-being framework could serve as a reference. However, Córdoba lacks comparable data in some of the OECD framework's dimensions since data produced for housing, education, access to services, environment and income, do not use the same indicators as the OECD. A final area of improvement relates to the need to produce disaggregated data by municipalities, and to the extent possible within municipalities to tailor policy responses to territorial specificities. This is all the more important as a key challenge of Córdoba at present is how to address inequalities within urban and peri-urban areas. This would strengthen the ability of the government to make evidence-based policy decisions, as well as to ensure high-quality data is available to businesses, non-profits and citizen advocacy groups to foster the effectiveness, efficiency and inclusiveness of policy and decision-making.

In some cases, ministries have started building their own datasets and indicators, which has resulted in a proliferation of database initiatives. For example, the Ministry of Education (*Ministerio de Educación*) is developing a self-assessment tool to measure the province's educational performance against specific criteria or standards (e.g. enrolment, completion, dropout rates, grade repetition, etc.). In the absence of harmonisation and co-ordination, there could be implications in terms of methodological incoherence challenging the comparability. The Government General Secretariat (*Secretaría General de la Gobernación*), formerly Ministry of Public Administration, has been working on harmonising norms and datasets across ministries and agencies. Although it is possible to establish and maintain a highly decentralised statistical system, i.e. databases set up by thematic area by relevant department, statistical infrastructure requires a high degree of co-ordination as well as methodological coherence among datasets for the sake of comparison, and to be shared internally and online in a standard format.

Box 1.5. **Data revolution: examples from OECD countries**

The idea of a "data revolution" was first presented by the UN High Level Panel on the global development agenda in 2015. It stems from the potential of new technological possibilities and associated data sources for production of official statistics, particularly for building internationally comparable baselines to monitor policies. It also embodies the need to make data more open and accessible as well as build capacity in national statistics systems to work with existing and emerging data sources.

In January 2012, **Statistics Netherlands** launched a programme to accelerate innovation and introduce new technologies and processes. It provides a platform to channel new ideas and identify infrastructural facilities for pilot test projects. Prior to the programme, launch study visits were conducted to assess how innovative government institutions and private companies deal with innovation. Many best practices were duplicated in the Dutch plan, giving it a head start increasing the programme's chance of success.

The innovation programme is driven by three sides:

1. *External developments.* New output channels are emerging that require attention. One example is the move towards Open Data. All Dutch government institutes are required to make their information publicly available in open data format and reduce the administrative burden on companies. Statistics Netherlands is playing a leading role in this movement.
2. *Technological challenges.* Increasingly, many new so-called "big data" sources are becoming available that provide new output opportunities but require new processing techniques. Examples include data from social media like Twitter, mobile positioning data, prices collected from Internet and traffic detector loops (over 10 000 measure points built in highways in the Netherlands to measure traffic intensities on a minute-to-minute basis).
3. *Internal ideas.* Many employees at Statistics Netherlands have ideas to improve existing statistical processes, create new output based on the re-use of existing material, or generate synergies across different subject matter domains. However, a proper outlet for this creativity was lacking. Many ideas could therefore not sufficiently be explored, to the disappointment of their inventors.

Italy Statistical Office (Istat): In the framework of an integrated research project aimed at evaluating the potential of Big Data, Istat has also experimented with the production of preliminary estimates using Google Trends indicators for nowcasting purposes in the labour-force domain. Another ongoing experiment within Istat is based on the use of mobile phone (tracking) data for mobility statistics with the aim of producing origin/destination matrix of daily mobility for work and study at the spatial granularity of municipalities. The results obtained using Big Data as a proxy of the presence and mobility of individuals are generally encouraging and promising, in comparison to analogous statistics obtained with official data. Other areas of work include the use of alternative social media indicators (e.g. work on Twitter and Facebook), application to other variables (e.g. retail sales, employment), calculation of road traffic estimates using webcams (mainly on motorways) and smart city indicators.

Statistics Canada is also placing an increasing emphasis on the role of administrative and alternative information sources in the delivery of its statistical programme (Statistics Canada, 2016). The Agency is aiming at increasing the use of administrative data to replace, complement or support more efficient survey collection and to provide new statistical and analytical outputs relevant to information needs. A particular emphasis is on establishing partnerships with key administrative data source stakeholders to gain access to relevant data sources and to improve data at the source. Statistics Canada is also reviewing the data gaps in its infrastructure of registers to be able to support its programmes in their increased use of administrative data and this strategic undertaking could have a profound impact on the future methods of producing official statistics in Canada (Statistics Canada, 2016).

Box 1.5. **Data revolution: examples from OECD countries** (*cont.*)

Statistics Canada is looking at partnerships with the private sector with the aim of expanding the use of "big data'' sources for statistical purposes (such as credit card information, satellite imagery to track agricultural field crop conditions, data from smart meters to measure electricity consumption, and automated collection of information from the Internet for price indices, etc.). In addition to considering the innovation potential on technical and methodological issues, the existing legislative and policy frameworks is also being examined and is expected to be modified as needed to support the statistical use of administrative data sources (Statistics Canada, 2016).

Sources: UN Secretary-General (2014), *A World That Counts: Mobilising The Data Revolution for Sustainable Development*, www.undatarevolution.org/wp-content/uploads/2014/12/A-World-That-Counts2.pdf; Braaksma, B., N. Heerschap, M. Roos and M. Verbruggen (2012), "New methods and technologies; Innovation at Statistics Netherlands", Statistics Netherlands, invited paper for the United Nations seminar on: *New Frontiers for Statistical Data Collection,* Economic Commission for Europe Conference of European Statisticians, Geneva, Switzerland, 31 October-2 November 2012; Alleva, G. (2015), "Adding Value to Statistics in the Data Revolution Age", Italian National Institute of Statistics – Istat, Rome, Italy, 60th World Statistics Congress – ISI2015; Statistics Canada (2016), *Corporate Business Plan, 2016/2017 to 2018/2019,* www.statcan.gc.ca/eng/about/bp (accessed 4 August 2016).

Recommendations

The following recommendations are suggested as critical steps forward for the province to modernise its statistical infrastructure, in co-operation with lower and upper levels of government.

1. **Maintain and improve some of the traditional statistical methods and programmes.**

   - Expand the production of municipal data beyond demography and education data. At present, economic, social and environmental data are only available for the largest urban centres in the province (City of Córdoba, Rio Cuarto) and often inexistent for smaller municipalities. Disaggregated data at municipal level will be key to guide decision-making and shape policies tackling territorial disparities within the province;
   - Update data on access to and quality of public services. Currently, there is very limited information at municipal and provincial levels on the performance of public services such as solid waste management, public transportation or water services (both water supply and sanitation). These are critical dimensions to appraise the effectiveness, efficiency and inclusiveness of regional policies and to measure regional well-being.
   - Enhance the use of economic disaggregated data to evaluate the performance of selected industries as well as their role in value chains. For instance, disaggregated data by sector (automotive industry, food industry, ICTs, etc.) on trade flows (international and intra-national), employment, output, and business dynamics would allow for competitiveness and value chain analysis of specific sectors.
   - Develop a framework with all indicators needed for measuring multi-dimensional wellbeing at a regional level. The OECD Regional Well-Being framework provides for a solid reference in this area. At present, Córdoba lacks comparable data in several dimensions of OECD's framework

especially housing, education, access to services, environment and income, which prevents benchmarking the province against peer regions.

2. **Invest in developing expertise in non-traditional data collection and processing methods, which have proven particularly promising in other OECD countries.**

   - Argentina's national register systems23 offer good opportunities for statistical uses at provincial level, for instance regarding wages and salaries, business demography, and sectoral employment. The province should liaise with the national government to have access to such indicators, as well as to the black box used to produce them, so as to conduct more detailed statistical analyses on labour markets, business dynamics and urban inequalities at a disaggregated level (department, municipality, or even neighbourhoods).
   - The province should invest in satellite imagery and remote sensing data system, which offer a wide array of possibilities to produce new datasets. For instance, regularly updated agriculture censuses; geographic information, including land-use, geology, hydrographical data and topographic information; meteorological information; water resources forecasts and models that help manage risks of floods or droughts; or transport information, which can include information on traffic congestion, work on roads, public transport etc.
   - Consider resorting to mobile phone data to produce "commuting flows" for which there is currently no data in the province of Córdoba. Mobile phone tracking data are being used in some countries to produce mobility statistics leading to an origin/destination matrix for work and study. This is a key way forward to define a more functional approach to cities, based on where people work and leave rather than mere administrative policies.

3. **Consider a functional approach to "metropolitan areas" to define and address Greater Córdoba's challenges at the right scale, in comparison with OECD metropolitan areas.**

   - Policy responses should not be targeting only administrative boundaries, but take into account where people work and leave. The OECD redefined the boundaries of functional metropolitan areas through journey to work and travel time data, which could benefit the Greater Córdoba in terms of diagnosis, benchmarking and policy responses.
   - The ten Local Economic Areas (LEAs), produced by the national administration in Argentina could also serve as a first approximation to establish functional definitions of urban areas. Currently, LEAs only aggregate data of employment and salaries/wages, but building on this delimitation, the Provincial Statistics Office could broaden the datasets produced nationally for LEAs.
   - Develop indicators at metropolitan level for the environment (e.g. exposure to air pollution by PM2.5, green area per 500 000 inhabitants), economic performance (e.g. labour productivity, GDP of the metropolitan area), and innovation (e.g. patent activity), to allow for international comparability and benchmark the performance of the Greater Córdoba against other peer metropolitan areas.

4. **Become an early adopter of innovative approaches and best practices part of the "data revolution" taking place in national and provincial statistical offices across OECD countries.**

   - The province should endorse an "open data" agenda for its information products with an "open by default" policy. A concrete way forward would be to design and implement a "Córdoba Genial" (Smart Córdoba) agenda for open government data, transparency, and innovation in service delivery. This would also support concrete actions in lines with the Open Government Partnership, which Argentina joined in 2012.
   - Prior to setting an open data agenda the province should assess where it stands in terms of soft and hard capacity, i.e. human capital, software systems and other infrastructure. This will entail taking stock of and assessing existing provincial data produced within and outside the provincial statistics office, as well as mapping potential users/beneficiaries of open data and assessing their capacity to use it.
   - Open data policies imply a number of protocols to increase accessibility of non-confidential data holdings of the public sector. To ensure that the maximum benefits from open data are achieved, the latter should be: *i)* accessible to the public; *ii)* readable by computation software; *iii)* at the least cost (if not free); and, *iv)* not subject to any right held by the government that limits data reuse and redistribution.

5. **Strengthen the role of the provincial statistics office by endowing it with sufficient hard and soft capacity and enhancing co-ordination with other provincial and national ministries.**

   - The statistical office should be the horizontal mechanism across provincial ministries producing data to ensure methodological coherence, policy relevance, use for decision-making and comparability. In practice, it is the administrative body that has the technical knowledge to execute this role.
   - Support and co-operate with upper levels of government in the ongoing reform of INDEC to foster methodological consistency across levels of government. INDEC is currently revising statistics dating back to 2007, which should engage provincial statistical offices, such as Córdoba's.
   - When developing expertise in non-traditional data collection and processing methods, the province should ensure that technicians can use the new data sources such as mobile phones, satellite imagery and remote sensing systems to produce timely, relevant, consistent, comparable and policy-relevant information that can effectively guide decision-making.
   - In parallel to the open data policy, increase access to data by improving 'front-office' delivery of services, particularly for vulnerable or disadvantaged groups for which ICT might represent a social or economic barrier. Access to Internet is still not as developed as it could be in Córdoba and the digital gap tends to affect more strongly disadvantaged groups.

Notes

1. For a description of the methods used to delineate LEA, see: Mazorra, Filippo and Schleser (2005); Ministerio de Trabajo, Empleo y Seguridad Social de la Nación (n.d.); and OEDE (n.d.).

2. See: *Ministerio de Trabajo*, *Empleo y Seguridad Social de la Nación* (n.d.) and Alburquerque (2004).

3. See: OEDE (n.d.), "Estadísticas e indicadores regionales", (database), Observatorio de Empleo y Dinámica Empresarial, Ministerio de Trabajo, Empleo y Seguridad Social de la Nación, federal Ministry of Labour, Employment and Social Security, www.trabajo.gov.ar/left/estadisticas/oede/estadisticas_provinciales.asp (accessed March 2016).

4. See: OECD (2013b), "Population growth rates", in *OECD Factbook 2013*, http://dx.doi.org/10.1787/factbook-2013-table4-en.

5. *Dirección de Estadísticas Socio-demográficas de la Dirección General de Estadística y Censos de la Provincia de Córdoba.*

6. *Dirección de Estadísticas Socio-demográficas de la Dirección General de Estadística y Censos de la Provincia de Córdoba.*

7. OECD (2013c), "Trends in total fertility rates: Number of children born to women aged 15 to 49", in *OECD Factbook 2013*, http://dx.doi.org/10.1787/factbook-2013-graph8-en.

8. OECD (2016b), "Elderly population: As a percentage of total population, 2000 and 2014", in *OECD Factbook 2015-2016*, OECD Publishing, Paris, http://dx.doi.org/10.1787/factbook-2015-graph9-en.

9. According to the Argentinian population census, urban areas are defined as localities with 2 000 inhabitants or more (hence, localities with less than 2 000 inhabitants are defined as rural). Localities are defined as a spatial concentration of buildings connected by streets (source: INDEC (2001), *Censo Nacional de Población, Hogares y Viviendas, Definiciones de la base de datos* [National Census of Population and Housing, Definitions database]).

10. The reliability of major macroeconomic indicators, for Argentina and its provinces, has been often questioned since 2007. Consequently, official statistics are often presented along with statistics from private sources. In most cases, official and non-official statistics display similar trends, although magnitude of changes or absolute values may be substantially different. For instance, both official and non-official sources indicated a sharp decline in GDP in 2009; however, while INDEC reported a small but positive GDP growth in that year, private sources estimated a sharp decline resulting in a negative GDP change (IMF, 2016).

11. Constant 1993 ARS (source: background report prepared by the local team at the beginning of the review process).

12. The manufacturing sector is divided into agricultural products, fishery, hunting, livestock; electricity, water and gas services; automotive and agricultural machinery production; the food (alimentary) industry; other small manufacturing industries.

13. In Peru informal employment was estimated at 74% of total employment in 2012 (INEI (n.a.), Producción y Empleo Informal en Peru [Production and Informal Employment in Peru] (database), Instituto Nacional de Estadística e Informatica, Government of Peru, https://www.inei.gob.pe/media/MenuRecursivo/publicaciones_digitales/Est/Lib1154/index.html.

14. Estimates of GDP per capita for Santa Fe and Argentina are from the *Instituto Provincial de Estadisticas y Censos. Provincia de Santa Fe.* Estimates of GDP per capita of Córdoba are from *INDEC y Dirección General de Estadística y Censos de la Provincia de Córdoba*.

15. See: OEDE (n.d.), Estadísticas e indicadores para el total del país, (database), Observatorio de Empleo y Dinámica Empresarial, Ministerio de Trabajo, Empleo y Seguridad Social de la Nación: www.trabajo.gov.ar/left/estadisticas/oede/estadisticas_nacionales.asp (accessed March 2016).

16. See: Bureau of Labor Statistics (n.d.), *International Labor Comparisons,* US Department of Labor, www.bls.gov/fls/home.htm.

17. MERCOSUR countries include Argentina, Bolivarian Republic of Venezuela, Brazil, Paraguay and Uruguay. Members in accession process include Plurinational State of Bolivia. Associate members are Chile, Colombia, Ecuador, Guyana, Peru, and Suriname.

18. OECD (2015b), Main Science and Technology Indicators (database), www.oecd.org/sti/msti (accessed 3 August 2016); and calculations 73ase don *RICYT* (n.a.), "Indicadores" [Indicators] (database), *Red de Indicadores de Ciencia y Tecnología – Iberoamericana e Interamericana*, www.ricyt.org/indicadores.

19. One of the most commonly used purchasing power parity (PPP) conversion factors is that produced by the World Bank; it represents the number of units of a country's currency required to buy the same amount of goods and services in the domestic market as a US dollar would buy in the United States. This factor is not computed for Argentina. See:

    World Bank (2015), "Price level ratio of PPP conversion factor (GDP) to market exchange rate", http://data.worldbank.org/indicator/pa.nus.pppc.RF (accessed 3 August 2016).

20. NEET is defined as "not in education, not in employment"; the 16.6% was arrived at using the real value of 92 948 NEET 14-24 year olds; a population baseline of 558 277 15-24 year olds, and was calculated with 2010 census data (INDEC, 2010).

21. OECD (2014c), "Life expectancy at birth" (indicator), http://dx.doi.org/10.1787/27e0fc9d-en (accessed 4 August 2016).

22. OECD (2014d), "Infant mortality rates" (indicator), http://dx.doi.org/10.1787/83dea506-en (accessed 4 August 2016).

23. See for instance the databases available at: www.trabajo.gob.ar/left/estadisticas/oede/estadisticas_provinciales.asp.

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Chapter 2

Policies to increase Córdoba's competitiveness

This chapter describes Córdoba's economic profile, its strategic sectors for regional development and competitiveness and the contribution of the province to Global Value Chains (GVCs). Building on modern perspectives of regional development, the chapter analyses the four policy areas with a regional/provincial dimension that present bottlenecks to provincial competitiveness and productivity, namely: i) the potential of infrastructure to reduce production costs and increase the attractiveness of the province as well as promote social inclusion to reduce regional inequalities; ii) the private sector activity and the role of SMEs; iii) education policies to strengthen human capital and promote inclusion and meet the private and public sector skills-demand; and iv) how innovation can upgrade and diversify economic activities. The chapter concludes by suggesting policy recommendations to boost Córdoba's competitiveness.

Introduction

During the past decade, the province of Córdoba has followed a sectoral approach focusing to build activity in its competitive sectors (agriculture and food industry, metal-mechanic manufacturing, ICTs and tourism). This matrix does not serve the province anymore and it requires a new approach to keep up pace of growth and continue to reduce inequalities across people and places. Increasing regional competitiveness requires focusing investments and efforts on setting the required framework conditions for growth. In Córdoba, bottlenecks holding back the performance of the province are clearly identified by public and private actors, these are: need to upgrade or expand infrastructure, low access to credit for SMEs, lack of skills among its labour force, or low value-added of productive activities. This chapter argues that implementing hard, i.e. increasing investments, and soft, i.e. improving strategic planning and human capacity, measures to overcome these challenges will contribute to reap the full benefits of provincial assets and bring the province back to a successful development path. Integrating all these measures in a provincial strategy to make the most out of complementarities among sectors and public investments is critical to ensure the success of this new approach,

Setting the scene

For the period 2010-12, Córdoba's goods-producing sectors contributed with 34.3% of provincial output and services-producing sectors with 65.7% (see Chapter 1). Among such categories, the most productive sectors are the production of agricultural crops and the food industry, manufacturing in the automotive and agro-machinery industries, ICTs, and tourism:

- Production of agricultural commodities (corn, soya, wheat and peanuts) represented an average of 9.2% of total output in the 2010-12 period.
- The automotive industry composed of large, multinational car companies (e.g. Renault, Fiat and Volkswagen) and local SMEs, which provide 30% of intermediate goods and services.
- Agro-machinery is a logical extension of the province's agricultural and industrial capacity, producing and exporting finished vehicles (e.g. tractors) as well as parts and pieces. Córdoba exports 84% of total national tractors and 64% of parts and pieces. Outside of Argentina, the primary market for these items is the MERCOSUR (particularly Brazil).
- The ICT sector has been rapidly developing in Córdoba since the 2000s, where the local industry was boosted with the arrival of large multinational enterprises (e.g. Hewlett Packard and Motorola).
- Tourism experienced a robust growth over the last decade (5% compound average annual growth between 1993 and 2013), and is also an important source of employment in the province (9.2% of the total number of jobs in 2014).

These activities are unevenly distributed along the province, where one can delineate five regions with distinctive economic and territorial features:

- The *Centre* forms the heart of the province in terms of population and economic activity comprises the capital city of Córdoba, and other large cities in the province (Rio Cuarto, Villa Maria y San Francisco). This region is home to important metal-manufacturing and food industry activity.
- The *North/North-East* and the *North-West* are scarcely populated – essentially a national park with salt flats and a large salt lake in the former case, and highly mountainous terrain with remote, generally poor, localities in the latter.
- The *West*, although being also a mountainous terrain located just before the Andes, is more developed, hosts important cities and represents an important spot of provincial tourism. For instance, this is where the Jesuit missions are located (Colón, Santa María, Totoral and Ischilín). They were declared heritage of humanity by UNESCO and attract thousands of national and international tourists every year.
- The *East* and *South* the most fertile parts of the province somewhat similar to the humid pampa, are dedicated to agriculture and related industries such as agro-machinery and the food industry.

Córdoba has a strong private sector that accounts for 80% of all jobs, 67% of which are in the services sector and 33% in the goods-producing sectors. Over time, the share of services sector employment has increased from approximately 60% in 1996 to 67% in 2013; while the share of employment in the goods-producing sector has declined (from nearly 40% in 1996, down to 33% in 2013) (see Chapter 1). This likely reflects a normal process of the increasing role of services activities in the economy. The dominant sector of the province, in terms of employment, still remains manufacturing, with approximately 111 000 employees (in 2013). This sector is followed by wholesale and retail trade, with approximately 109 000 employees and agriculture with about 31 000 employees in 2013. The sector that has grown the most in terms of employment is the Hotels and Restaurants, which is now employing about 21 000 workers.

Córdoba also has a strong export base although highly dependent on a reduced number of products and markets. Measured in US dollars, in 2015 Córdoba represented 15% of Argentina's exports, ranking third among other provinces. Agricultural production (including livestock) reached 28% of total provincial exports while 72% were manufactured products (48% food-related and 24% industrial-related manufactures). Córdoba's primary export markets are Brazil (20% of total), other MERCOSUR countries[1] (16%), and the European Union (10%), with the remaining 44% spread globally. An estimated 95% of Córdoba's total soy production (Córdoba's second largest crop after corn) is exported to the People's Republic of China (China) and Southeast Asia. It is important to mention that nearly all (98%) the production of peanuts suitable for confectionary (product obtained by selection from the raw crop) is exported with Córdoba being the world's first exporter in 2015.[2]

Following the 2001 crisis, Córdoba enjoyed a period of recovery, driven by favourable terms of trade in commodity and traditional manufacturing exports. Between 2003 and 2008, Córdoba, like the rest of Argentina, went through a period of sustained growth, averaging over 6% GDP growth per year. Moreover, the value of exports has grown by a factor of 3.3 over the past 15 years (more than national exports), with most of this growth realised between 2000 and 2008.

Today, the provincial economy is at a turning point in its competitiveness and productivity pathway, due to the downturn of regional and international markets on which it relied (e.g. Brazil, China) and selected national and provincial bottlenecks which are hereinafter analysed in this chapter. Traditional manufacturing exports have also faced increasing competition from emerging economies with low labour costs. Historical impediments to growth at the macroeconomic level, namely macroeconomic and regulatory instability and poor investment incentives have yet to be settled. The province is also facing some of the issues common to many OECD countries, such as population ageing and increasing demand for basic services, together with a need to upgrade or expand basic infrastructure which requires significant investment amounts. The latter, together with insufficient and mismatching skills, and the lack of financing sources for provincial SMEs, are the most pressing issues for Córdoba to tackle in order to reap social, economic and environmental outcomes of a to-be-established regional development strategy.

Argentina's economic complexity and Global Value Chains

Argentina, similar to Córdoba, has experienced strong economic growth and made significant advances in quality of life. This good economic performance was also mainly driven by a strong increase of the country's exports, particularly low- to medium-tech manufacturing and commodities or low-processed agricultural products. The latter, together with the increase of prices in agricultural commodities, and the good performance of key trading partners such as Brazil and China, have created an ideal framework for Argentina's macroeconomic growth. Argentina's investments in education and health during the last decade have driven the increase of quality of life for its citizens (IMF, 2014). The period of economic growth did not increase linkages among different sectors nor did it diversify Argentina's economy.

Box 2.1. **Economic Complexity: What is it and how is it measured?**

Export diversification has been associated in the literature with increased growth levels (OECD, 2016a). Economic complexity is seen as a driver of growth, and growth trends suggest that countries move towards an income level that is compatible with their overall level of embedded know-how. Thus, countries with greater economic complexity tend to grow faster than those that have high-income levels compared to their current level of economic complexity (i.e. countries with commodity-based economies) (Huassman et al., 2015).

What is Economic Complexity? The complexity of an economy is related to the useful knowledge embedded in it, and it is expressed in the composition of a country's productive output. Thus, complex economies are considered those that can weave large quantities of knowledge together, across networks of people, to generate a diverse mix of knowledge-intensive products.

How is it measured? It is considered that the diversity of products that a player country can make to be strongly related to the number of capabilities that it has. Two different dimensions are considered for this:

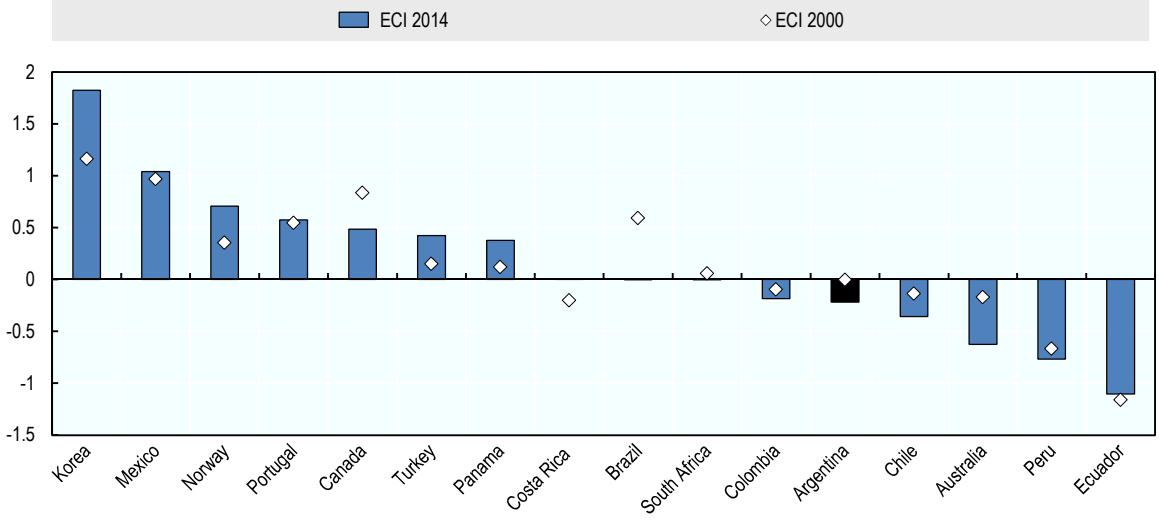
1. The amount of embedded knowledge is expressed in the number of distinct products that a country makes.
2. Products that demand large volumes of knowledge are feasible only in the places where all the requisite knowledge is available.

The Economic Complexity Index (ECI) captures these two considerations in a single index to provide a single measurement of economic complexity.

Source: Hausmann et al. (2015), "The atlas of Economic Complexity: Mapping Paths to Prosperity", http://atlas.cid.harvard.edu/media/atlas/pdf/HarvardMIT_AtlasOfEconomicComplexity_Part_I.pdf.

Argentina's concentration of exports in a limited number of products and partners could jeopardise future competitiveness and economic development. Argentina's Economic Complexity Index (Box 2.1) signals a remarkable decrease of complexity from 2000 to 2014 (Figure 2.1). The complexity of the export basket, computed by the ECI, remains lower than that of Mexico, Costa Rica, Brazil and, in a lesser proportion, Colombia. Argentina should design policies that aim to create an environment where a greater diversity and more complex productive activities can develop. For this, it is easier to focus on products and activities that are close to the current set of Argentina's productive capabilities. Moreover, specialisation and complexity in production are increasingly shaped and constrained by Global Value Chains (GVCs) (Box 2.2). OECD studies on GVCs have shown that where a country's products are placed on the GVC is far more important than the volume of exports of a country or the products. Thus, focusing on the value-added by exported products, i.e. the more complex a product is the greater value it adds, is more relevant than the gross exports (OECD, 2013a).

Figure 2.1. **Economic Complexity Index (ECI), 2014 and 2000**



Source: Harvard University (2016), "Country Rankings", The atlas of Economic Complexity (database), http://atlas.cid.harvard.edu/rankings/country/ (accessed on 28 June 2016).

Box 2.2. **Global Value Chains**

Global Value Chains (GCVs) can be defined as the full range of firms' activities, from the conception of a product to its end use and beyond. It includes activities such as design, production, marketing, distribution and support to the final consumer (Porter, 1986; Gereffi et al., 2001). The activities in a value chain can be undertaken by a single company or divided among several (supplier) firms. They cover goods as well as services, and they can be concentrated at one location or spread out over different locations. The term 'global value chains' was coined to reflect a strong trend towards the dispersion of value chain activities across the world. Many companies have broken up their value chains and distributed production stages across many countries; at the same time, they have outsourced parts of their value chains to external partners.

The following structural characteristics of countries are key determinants for participation in GVCs: i) domestic market size, capacity to supply intermediates both in terms of purchases and sales, ii) level of development, the higher the per capita income the higher is the aggregate engagement; iii) industrial structure, the higher the share of the manufacturing sector in GDP the higher the necessity to import industrial inputs; and, iv) location, GVC activity is organised around large manufacturing hubs (Europe, North America and Asia), suggesting that there is a premium to locating close to large "headquarter" economies (OECD/WTO/WB, 2014).

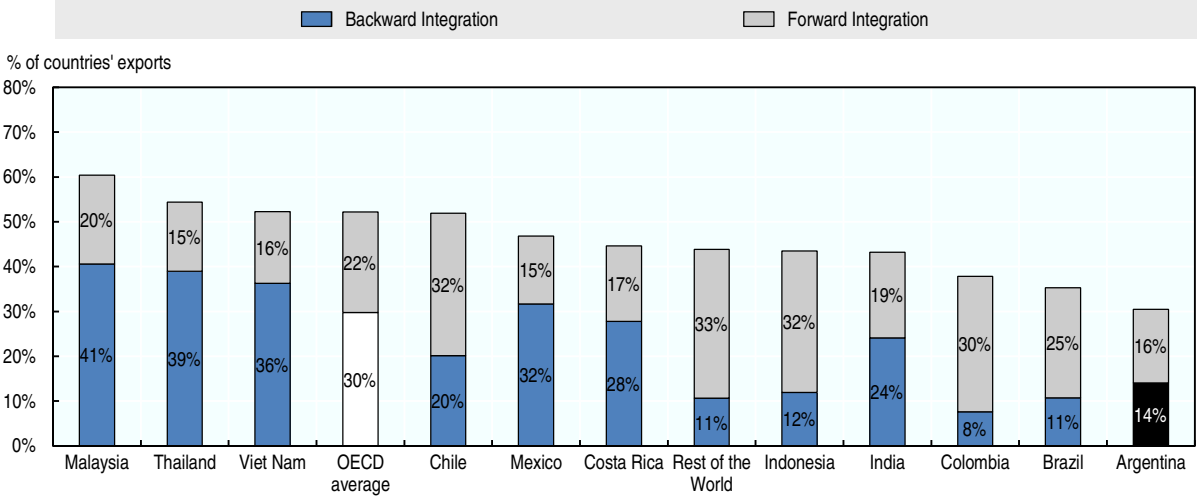
Box 2.2. **Global Value Chains** (*cont.*)

However, trade policies also play a significant role in GVCs as trade costs correlate positively with participation in GVCs; therefore, policies aiming to reduce trade costs might help economies to further integrate into these chains (OECD/WTO/WB, 2014). Trade costs are driven by tariff and non-tariff barriers, logistics, ICTs, transport costs, etc. Integration in GVCs also depends on a favourable investment environment, access to intermediate goods and services, availability of human capital, quality of public institutions, etc. Thus effective border and domestic policies are critical for participation in GVCs. Whilst policies the former are decided at the national level, and there is very little subnational governments can do to change them, the latter do have a territorial dimension and often fall under the competences of subnational governments.

Source: OECD (2013a), Interconnected Economies: Benefiting from Global Value Chains, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264189560-en; Porter, M. E. (1986). Competition in global industries. Harvard Business Press; Gereffi, G., Humphrey, J., & Kaplinsky, R. (2001). Introduction: Globalisation, value chains and development. IDS bulletin, 32(3), 1-8. Available at https://www.ids.ac.uk/files/dmfile/gereffietal323.pdf.

Argentina's participation in GVCs is below than that of other Latin American countries (i.e. Chile, Mexico or Costa Rica) and even lower than that of OECD and Southeast Asian countries (Figure 2.2). Existing analysis of the integration of the Argentinian economy and GVCs shows that the participation of Argentina in GVCs is mainly driven by the so called "forward linkages" (Figure 2.2). This relates to Argentina's commodity-based exports that are then used as input in other countries' export products. Moreover, Argentina's participation in GVCs is in the lower end of supply chains, mainly by providing primary products to other countries.

Figure 2.2. **Participation of Argentina and selected countries in GVCs (2011)**



Note: The backward linkage corresponds to the foreign value added that is embodied in a country's exports. The forward linkage corresponds to the domestic value added that is used for other countries' exports.

Source: Graph adapted from OECD (2016a), Promoting Productivity for Inclusive Growth in Latin America, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264258389-en with data from: OECD (2016b), OECD – WTO Trade in Value-Added (TiVA) database, http://stats.oecd.org/Index.aspx?datasetcode=tiva2015_c1 (accessed on 25 February 2016).

Argentina's agriculture, mining, transport and telecom services exports are important players along the GVC for the industrial sector. Argentinian exports in these sectors are

used as inputs in exports of other countries down the chain. Argentina also participates in a number of manufacturing GVCs, particularly in food, chemicals and transport equipment. In these sectors, Argentina uses foreign inputs and value added that are then incorporated in Argentina's exports (OECD, 2013b).

A second revealing feature of Argentina's participation in the manufacturing GVC is the relatively low share of service components that are incorporated in manufacturing exports (OECD, 2013b). Modern manufacturing includes much more than the pure production of goods; it increasingly incorporates service-related activities that add value to the final manufactured good. These service activities include logistics, communication services and other business services such as design, development, marketing, client services and after-sale care and so on. For Argentina as a whole, service value added represents less than 25% of value added in manufacturing exports (compared to well over 35% for France, Italy and Germany) (OECD, 2013b).

Although there is no detailed analysis on the degree of global integration and value adding at the provincial level, the national profile appears to reflect Córdoba's situation as well. The provincial trade patterns and sectoral analysis indicate a high degree of provincial reliance on commodity exports, which represent around 27% of total exports, and in the car and agro-machinery industry, where activities are mostly of low and medium value added. Hence, the potential for upgrading in higher value-adding segments of provincial value chains is large.

Córdoba's four strategic sectors and global value chains

Both the provincial public and private sectors have placed the four strategic sectors at the core of the provincial policy discourse, with an implicit vision of further linking these sectors to global markets and/or global value chains. Such sectors, defined in broad terms, include agriculture (a sector estimated at 16% of total output in 2014), metal-manufacturing (representing around 13.7% of aggregate provincial output), ICT, transport and logistics (estimated at 7.1%) and tourism (around 4.6%) (Figure 2.3).

Córdoba has strong tradition of private associations (e.g. different chambers) underpinning the development of these four sectors. Ministers and the private sector are well versed in the need to prioritise these areas in their discourse and activities. There is a longstanding culture of public-private partnership at provincial level, some of which is based on personalism resulting from the social capital and networking stemming from Cordobese universities (see Chapter 3).

In order to meet its development goals, Córdoba also needs to go beyond the sectoral and siloed approach of each of the four strategic sectors, to seek economic activities that arise from synergies and complementarities among such sectors. This requires a full-fledge regional development strategy and establishing enabling framework conditions to allow firms to be more connected, access new credit sources, better match skills and human capital, and implement an effective mix of innovation policy instruments.

Figure 2.3. **Key strategic sectors in Córdoba**

Agriculture / Food industry

- Agriculture represents 9% of provincial output
- In 2013, agriculture and agrifood related manufacturing represented 28.3% and 48.1% of total provincial exports, respectively
- China and Vietnam receive over 16% of this provincial exports
- Exports rely on commodities (corn, soya, wheat, peanuts) and related products

Metalmechanic Industry

- Cars and agro-machinery involves leading MNEs and many local SMEs
- SMEs supply around 30% of intermediate goods and services
- Cars and automotive-related equipment represented 18% of total provincial exports in the 2012-14 period.
- The Brazilian market received close to 75% of these exports in the 2012-14 period

ICTs

- Rapidly emerging since the arrival of Motorola in 2000, followed by others such as Hewlett-Packard, Intel or Indra. Recorded a 16% interannual growth (2013-14)
- Highly concentrated in the city of Córdoba: represented approximately 5 000 jobs in and 3.75% of the city's GDP in terms of the value of sales in 2014
- 40% of ICT businesses are estimated to operate only on the domestic market

Tourism

- 5% compound annual growth since 1993, represents approximately 5% of provincial GDP and 150 000 are related to this industry
- Main categories of tourism: Cultural, language, natural, adventure, rural, sport
- Activity reaches local (45%), national (45%) and international (10%) tourists
- Events and conferences are increasing in Córdoba: 139 out of 373 in ICCA's ranking

Source: Authors' elaboration.

Middle-income level economies, such as Córdoba, are required to upgrade, diversify and move up the value chain, i.e. to shift from producing low added value goods or services to those of higher added value, if they intend to keep compete with other less developed economies. A closer look at the contribution of the province's productive priorities (metal mechanics, agriculture and its related industry, ICTs and software development, and tourism) reveals opportunities to do so:

- metal mechanics is a cross-cutting area to various sectors, e.g. agro-machinery, cars, petroleum, etc. where Córdoba has developed strong expertise and capacities since the establishment of the federal aeronautical firm back in 1928, and could further introduce innovative processes and upgrade activities (e.g. product development, marketing services).
- agriculture and related industry has traditionally been a strong sector due to the high productivity and efficiency, and would benefit from greater innovation, such as biotechnology.
- ICT and software development are more recently emerging high-tech businesses which still have solid growth potential as current exporting activities are low.
- tourism presents an opportunity for the territory in diverse products (religious, language related tourism, nature, etc.) and markets (i.e. the international share of tourists remain low).

Agriculture and food-related industry

The province, which counts approximately 18 000 farms, is divided in three main agro-ecological regions: the north (mainly livestock and forestry), the centre (grains and cereals), and the east (where dairy production is concentrated). Estimates suggest that a large part of the production is on rented land (60%); therefore, land rental costs are a significant component of total costs (BCC, 2014). Moreover, rental contracts are in general short-term (1 year), which presents a challenge to encourage soil conservation.

GVC integration challenges are particularly prominent in the agricultural sector and sub-sectors. Overall, the agri-food sector remains strongly oriented towards raw commodity exports, particularly the cereal and oil seeds categories, which represent the largest share of its aggregate value. It has limited value-adding activity, with for instance, only a small fraction of soybeans being processed within the province rather than being exported as raw commodity. There is therefore potential for basic value-adding activities, such as primary processing and milling. Nevertheless, the agricultural sector has recorded relatively high performances thanks to high commodity prices, favourable agro-environmental conditions and the relatively high technological intensity of the sector. In comparative terms, production costs and yields are generally favourable for local producers, such as in the dairy sector, where they are considered the most favourable globally (BCC, 2014).

Currently, the agricultural sector suffers from price distortions in the domestic market and fall in commodity prices. In the past, high international prices of commodities, soybeans in particular, have pushed land rents up, and led to the neglect of sustainable crop rotation practices. The shift in crop patterns was exacerbated by domestic price distortion and export taxes that reduced profitability of some cereals (such as wheat).

In spite of the challenging macroeconomic context, the agricultural sector has remained competitive. The high productivity and competitiveness of the sector is the result of favourable agro-ecological conditions and a relatively high level of technological adoption in the farming sector, such as precision agriculture and the use of satellite imagery to monitor crop production.

Such innovation is supported by the National Institute of Agricultural Technology (INTA) and its centres. Various lines of research are pursued, including crop yield improvement for sorghum, peanuts, sunflower, forestry products, biofuel, harvest and post-harvest technology. Biotechnology is perceived as core component of the future agriculture system of the province. Current research and development includes improvements in the value chain of the "vegetal protein", primarily soybeans, as well as biofuel and biodiesel. Many farmers and decision-makers are aware that only a small fraction of their primary crops are processed within the province and that limited value-adding activities represent a major loss for the province. New technologies could also extend into the processing of raw commodities, with the aim of improve processing capacity, particularly for grains and cereals.

Infrastructure is also hindering the sector's competitiveness, as is the case of transport logistical bottlenecks and high costs. Basic utilities that are needed for primary processing of farm commodities are also lacking. The natural gas pipeline has only limited coverage, and the province needs this major infrastructure in order to reduce energy costs. The electrical distribution network is also weak and needs upgrading.

The energy issue could be partly solved by further boosting biofuels. The regulatory environment for energy, and particularly for biofuels where the national government controls prices and quotas, is discouraging investment. For example, small-scale projects to produce electricity from biofuels for individual consumption and to sell the excess to the grid did not flourish, due at least in part to a fixed price to incorporate electricity into the network. Regulations that do not shut out small producers could help promote greater innovation, in this case with respect to the production of electricity from biofuels, thereby supporting both the energy market and biofuel production.

Metal-mechanic manufacturing industry

The automotive and agricultural machinery industries have strong linkages with global markets and value chains. Countries importing cars from Córdoba include Brazil, which receives around 75% of total related production of this industry; other recipients consist in MERCOSUR countries and the Bolivarian Republic of Venezuela (Venezuela). The provincial agricultural machinery sector exports 84% of total national tractors and 64% of parts and pieces. The main destinations for these goods are also MERCOSUR countries.

The car industry in Córdoba is formed by large multinational enterprises and an important base of SMEs. Major international firms such as, Renault Argentina S.A., Volkswagen Argentina S.A., Fiat Auto Argentina S.A., and Iveco Argentina S.A., are established in the province. Also a large number of SMEs supply around 30% of intermediate goods and services to these companies. The production of agricultural machinery is concentrated in the south-east and formed by around 60 firms. Of these, four are leaders within the national market in their lines of products: Pauny, Agrometal, Mainero, and Metalfor.

Among the biggest challenges of the car industry is the shortage of medium-skilled workers faced by SMEs. In 2013, a research study conducted by the *Instituto de Investigaciones Económicas Bolsa de Comercio de Córdoba* (Institute of Economic Research of the Córdoba Stock Exchange) revealed that over 60% of Tier 1 and Tier 2 SMEs in the car value chain have trouble hiring personnel with the required skills (BCC, 2013). In order to bridge this gap, SMEs must organise their own in-house training courses, which requires human and financial resources that are difficult to access in the current national context.

In addition to the lack of skilled workers, noteworthy is the rise in compensation costs in the manufacturing sector. On that front, Argentina has recently surpassed major competitors in the region in terms of labour costs, such as Brazil or Mexico (USD 19 equivalent in 2012 in Argentina, compared to around USD 11 for Brazil and USD 6 for Mexico for the same reference year). Moreover, over the last few years, estimates of the US Bureau of Labor Statistics suggest that Argentina has surpassed costs in Eastern Europe, East Asia (excluding Japan) and even European countries such as Portugal. That increase in compensation costs suggests that the metal-mechanic manufacturing industry in Córdoba should upgrade in the value chain to keep competitive. Data on GVCs in Argentina show that manufacturing exports incorporate a low share of service components. That trend is also observed at provincial level. Activities developed by provincial firms mainly consist in assembling or supplying intermediate goods to larger firms, and little effort is put on higher added-value activities, such as product development, marketing services or R&D. The manufacturing industry sector also has room to diversify beyond the automotive industry and its traditional exporting

destinations, as witnessed during the downturn of car demand in Brazil when SMEs supplying the car industry started to supply petroleum and mining products to other Argentinian provinces.

Information and communication technologies

The ICT sector has rapidly emerged in Córdoba, recording a 16% value-added growth rate between 2013 and 2014. It sector is relatively small – with estimates from the *Cluster Córdoba Technology* suggesting approximately 200 firms related to ICT, and mainly located in the city of Córdoba – but could play a strategic role for the development of the province by extending to other geographic parts.

The main stimulus for the development of a local ICT industry was provided by the arrival in Córdoba of large companies, such as HP and Motorola in the 1990s. The provincial assets included a relatively well educated labour force, and being host to several universities with a multitude of academic programmes, technical and advanced skills, including in mathematics and computer sciences.

The ICT industry has organised itself into associations and formal networks. The most prominent one is the ICT roundtable (*Mesa sectorial TIC*), which brings together key stakeholders, including academic institutions, public institutions, SMEs and multinationals and NGOs. SMEs have also created associations to represent their interest in a more articulated and visible way. These associations are called "clusters" even when they tend to be essentially sectoral chambers. *Cluster Córdoba Technology,* for instance, was established by SMEs 15 years ago primarily as a response to the arrival of large enterprises in the local market and the need to get organised accordingly. However, whereas the cluster cooperates closely with academic institutions, it has not evolved towards including large multinationals and public sector representatives.

Academic institutions are well represented in these groupings, which also seek to boost higher education in the ICT field. Currently, ICT programmes are facing some challenges in terms of student enrolment and experiencing a high dropout rate, largely driven by a strong demand for basic ICTs skills (instead of highly educated individuals). Students in the second or third year of an ICT programme have ample opportunities to be recruited without completing the programme. This is believed to contribute to a high level of "informality" in the sector. Indeed, a large number of individuals without a formal academic or professional ICT degree work without registering in the competent professional associations certifying the quality of workers in the sector. This also shows the disconnection between the demand of companies (technical and operational basic ICT skills) and the curricula of universities (prioritising longer term and more comprehensive training).

The lack of official and reliable information on the ICT sector limits the understanding of current trends. There is no study/survey on ICTs that covers the entire geographical area of the province and supplies data on the sector's output, employment, exports, imports, wages, business demography, etc. Nonetheless, a study conducted by the *Instituto de Investigaciones Economica/Bolsa de Comercio de Córdoba* (BCC, 2014) suggests ICTs generate approximately 5 000 jobs in the city of Córdoba and represents 3.75% of the city's GDP in terms of the value of sales. Approximately 40% of ICT businesses are estimated to operate only on the domestic market (with no export reported). Financial capacity, price competition and organisational capacity are indicated as the main limiting factors to exporting. With respect to financing, most businesses are

reporting limitations, particularly for long-term financing (over one year), and approximately 40% are estimated to use short term forms of self-financing (BCC, 2014).

Tourism

Córdoba has a tradition of being a national tourism destination. During the last decade, the tourism sector experienced robust growth (5.3% average annual growth between 1993 and 2013), and became an important source of employment with over 150 000 jobs related to tourism in the province (9.2% of the total number of jobs in 2014) (DGEyC, 2016). These economic trends have been accompanied by a change in visitors' demands. The province has transitioned from seasonal tourists, e.g. tourists visiting the province for summer vacation, to a product-based tourist.

The main player in Córdoba's tourism sector is the Córdoba Tourism Agency (*Agencia Córdoba Turismo*). This public-private entity created by the provincial government gathers public representatives, chambers of commerce, hotels and travel agencies. It is the articulating body to design tourism policies in Córdoba and its public-private nature offers more flexibility than a traditional ministry, as well as closer ties with the private sector in order to implement policies and programmes.

Tourism policies have aimed to diversify the industry shifting from the traditional summer package to other forms of tourism. There has been a focus on the north, north-western and southern part of the province in terms of future strategic development, and a strategy to establish "sustainable tourism" with new kinds of tourism to reduce the effect of seasonality (e.g. wine route, local festivities, events, linguistic, cultural, etc.). More than 67 products currently exists with new opportunities are being explored from the *Cura Brochero* (first Saint in Argentina) for religious tourism. The model of development has been more focused on circuit rather than place (e.g. wine road, gastronomic road, etc.) and targets households travelling three to four days several times a year. The main categories of provincial tourism are:

- **Cultural and Religious Tourism:** The province has a diverse cultural offer: i) the Jesuit missions (Colón, Santa María, Totoral and Ischilín) were declared heritage of humanity by UNESCO and attracting thousands of national and international tourists; ii) the arqueological site of Cerro Colorado offers visitors the possibility to learn more about the pre-Hispanic Córdoba; iii) urban tourism has become more important in the past years and is related to architecture, historic centres and expositions; iv) local and traditional festivities have also expanded to include contemporary events (rock festivals, *cuartetos*, presentations by international artists, etc.).
- **Linguistic Tourism**: The number of international students that chose the City of Córdoba as a destination to learn Spanish increased from 2051 in 2007 to 4448 in 2013. What makes Córdoba a hub for this type of tourism is being a medium-sized city where it is easy to settle and cheaper than bigger cities in Argentina (for example, Buenos Aires), it is well-known for its universities (5 universities work hand-by-hand with the Tourism Agency to offer Spanish language courses), the lively nightlife, and also the proximity to nature sites (less than 45 minutes).
- **Natural Tourism:** Visitors can enjoy the protected areas of the province, in particular Cerro Colorado, Quebrada del Condorito-Pampa de Achala, Chancaní, Mar Chiquita, Salinas Grandes.

- **Adventure Tourism:** The natural amenities of the province also offer opportunities to practice adventure sports such as i) aerial activities; ii) sailing; iii) scuba diving; iv) hiking; v) long-distance biking; vi) climbing; or, vii) cave exploration.
- **Rural Tourism:** Primarily related to gastronomic routes of provincial traditional products (cold meats and cheese, goatling, sweets) as well as the wine route.
- **Sport Tourism:** Particularly linked to golf, hunting, and fishing in lakes, reservoirs and lagoons. Moreover, every year the World Rally Championship runs through the province and gathers a great number of national and international fans.

The provincial tourism industry is primarily oriented toward the domestic market. Even though the tourism activity reaches local (45%), national (45%) and international (10%) tourists, it is mostly driven by provincial and neighbouring provinces. Although, there is potential for an international tourist market, its integration in the tourism GVCs could only be a long-term objective; while in the short term, the consolidation of tourism clusters and local value chain represent a more realistic goal.

Connectivity and access to finance have been limiting factors to develop tourism further. Roads not paved and in bad state of repair have limited the potential of remote areas in the provincial north and north-west. The limited international destinations from the provincial airport also somewhat limits international tourism, though the recently re-established direct flight from Córdoba to Madrid will likely upscale the contribution to tourism GVCs and attract more European tourists. In the field of tourism, as for industry and services, Córdoba's SMEs have been critical players.

A focus on value chains could help understand how to upgrade and sustain Córdoba's economic base. For tourism value chains, Christian et al. (2011) identify various types of upgrades. The first and most basic type is entry into the value chain. One of the main policy issues arising from value chain analysis in a trade context is how to encourage the participation of SMEs in supply chains, since SMEs have proven to be among the most successful creators of jobs. A second type of upgrading is through the "tour operator segment", which is indicated as the strongest example of functional upgrading in the tourism industry. This occurs when tourist operators take on increasingly complex operations. Other examples to upgrade are adding one or more tourism type(s) such as events, which is a form of product upgrading in the industry, or adopting IT business functions (for instance, marketing). Congresses and events attracted 770 397 visitors in 2014 (over three times more than in 2011). Since 2008, Córdoba has been part of the International Congress and Convention Association (ICCA) - a global community and knowledge hub for the international association meetings industry. In 2015, Córdoba was ranked 139 out of 373 in ICCA's ranking (i.e. number of meetings per city), sharing position with cities such as Los Angeles or Lille and in a better ranking than cities like Brasilia or Las Vegas.

Enabling policies for regional competitiveness

After a history of successful development, many regions find themselves under threat when their development model begins to fail, or slow down. In this sense, Córdoba shares similarities in terms of its economic structure with OECD industrial regions that succeeded in overcoming this challenge, such as Basque Country, or Bergamo. These regions have evolved and updating their productive system to remain competitive

(Box 2.3). For instance, Italian regions highly specialised in textiles have pursued high-tech and high-knowledge content production to face competition from China. Regions formerly dependent on traditional automotive or naval industries have also reconfigured their socio-economic profile in the light of global competition (e.g. Basque Country).

Box 2.3. **Success stories of OECD industrial regions**

The **Basque Country** in Spain is regarded as a regional success in which a traditional industrial manufacturing area was repackaged as an attractive and dynamic destination. The "Guggenheim" effect, building on the construction of the new art museum, redefined the image of Bilbao, boosting regional commerce and services. This was only a first step, since industrial activity remains a major source of employment in generating wealth for the region. It also provides a reserve of expertise in industrial production and the organisation of economic activity.

The Basque Country also identified an apparent "missing link": its research base. It recently began prioritising a series of governmental actions to strengthen the regional research base and its human capital. Regional industrial production is being retooled to keep pace with changing paradigms, to take advantage of the opportunities offered by the global knowledge economy, and improve the region's standard of living. Certain assets of the Basque Country have helped to shape the search for the new frontier. Its history of manufacturing and production suggests development of research capacities and investment in the generation of new knowledge. The inward orientation of certain aspects of the regional innovation system calls for selectively improving international collaboration and linkages for innovation, as well as investing in the training, attraction and retention of skilled workers.

The Basque Government is fully committed to support the productive transformation of the region, overcoming two major challenges: i) maintain the share of manufacturing industry in the Basque economy to ensure the industrial character of the region in the future, and ii) increase its technology intensity moving forward to higher value-added activities with higher potential for the Basque Country. This commitment has been reflected in the context of all competitiveness policies designed and put into practice recently:

- *Design of the Smart Specialisation Strategy "RIS3"*: Advanced manufacturing, along with energy and biosciences, have been selected as a cross-cutting priority to various sectors in which the region has strong expertise and capacities.
- *Revamping of the Cluster Policy*: Cluster organisations as key players for the implementation of RIS3, in the aggregation of capacities around the priorities and in the engagement of key stakeholders.
- *Renewing of the Basque Scientific, Technological and Innovation Network*: This primarily seeks to define a new interrelationship model within the agents and their global context aligned with Basque "RIS3" domains.
- *Re-balancing R&D financing mechanisms*: Through connecting instruments to foster the manufacturing industry to business R&D activities. Special focus is being placed on experimental development, demonstration projects and industrial scale-up.

Bergamo, Italy has historically been a high performing region. Manufacturing has remained essential for Bergamo's economy defying the increase in services to the economy, which is a common trend across OECD countries. Bergamo's SME-based manufacturing sector remains strong. Manufacturing continues to account for more than one-third of the province's economic activity: metal products, machinery and equipment, rubber and plastic, textiles, and electrical equipment, together account for 51.8% of manufacturing employment. This manufacturing sector remains significant because it has shifted to higher value activities. Employment has markedly shifted from traditionally strong sectors like textiles and clothing, repair and installation of machinery, towards production of machinery and equipment, rubber and plastics and chemicals. This change has contributed to increase technological intensity within the manufacturing sector, which has been shifting from medium- and low-tech manufacturing activities towards medium-high tech.

The manufacturing sector has performed highly. The vast majority of firms remain small and medium-sized enterprises, with Bergamo amongst the highest concentrations of small firms in OECD regions. These firms draw on shared networks and ties to grow and innovate. Labour productivity surpasses that of most of its European peers and other OECD regions with similar industrial profiles. Against the backdrop of weak domestic demand, Bergamo's export growth rate was 6% per year in the period from 2000-07 and 3% for 2008-11. Exports in recent years have shifted from sales within Europe to world markets.

Box 2.3. **Success stories of OECD industrial regions** (*cont.*)

Tampere, Finland, has a tradition of innovation and change throughout its history. Its manufacturing heyday in the 1960s moved towards a university-driven knowledge economy, becoming a Nokia-led global ICT hub from 1990s to early 2010s. Nokia became a key part of the Finnish national innovation system contributing to a significant share of national GDP growth and exports, and received in return significant public support for R&D and labour force training. This important player in the region shaped its innovation system, which structured around mechanical engineering and ICT cluster areas.

After the global financial crisis in 2008, the ICT sector has had to face lower demand and competitive pressures, leading to declining investment and employment in the sector. The decline of Nokia and its related industries has highlighted the need for Tampere to develop a new innovation policy, encouraging a move away from the previous cluster-based emphasis on sectoral specialisation towards a focus on cross-cutting platforms that support more open innovation processes. For roughly five years, it has been clear that the region's innovation system needs review.

Tampere has now moved away from a sector specific innovation strategy to more cross-sectoral innovation to improve the exchange of expertise, and by contributing to the development of more adaptive and flexible innovation. Tampere's approach to promote co-operation with universities has proved successful, particularly in terms of skilled human resource attraction and retention. Its new Open/Smart/Connected (OSC) strategy has led to the development of open innovation platforms, such as Demola, and fostered a culture of entrepreneurship, enabling the university researchers and students with different areas of expertise to form a cross-sectoral innovation policy.

Source: OECD (2011), *Regions and Innovation Policy*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264097803-en; Contribution from the peer reviewer of the Basque Country (Spain), Cristina Oyón; OECD (forthcoming, 2016b), *Resilient Cities,* OECD Publishing, Paris.

Córdoba has potential to look at these success stories and find its own path to reconfigure the provincial economy. The province has a strong medium-low and medium-high technology industrial base (metal mechanics and ICTs), relatively high knowledge absorptive capacities, including a significant share of the labour force with tertiary education and the highest share of employment of any group in manufacturing.

Córdoba's strong tradition of private associations and universities will help the region achieve the development of the four sectors in a synergetic fashion. The large number of private sectoral and professional associations in Córdoba has tight links with the public sector. The design of public policies and programmes are often discussed with the private sector and universities through clusters and councils fostering a high degree of collaboration amongst stakeholders to jointly support growth in these areas, which are not only key to economic and industrial growth, but also essential to territorial development in the entire province.

While traditional sectors in Córdoba (agriculture, food industry and metal mechanics) have kept the province in a privileged situation in Argentina and internationally, the high dependency on commodities and the automotive industry challenges the province's competitiveness. Córdoba's model of development has focused on further linking these sectors to global markets and/or global value chains. The latter has made the provincial economy highly reliant on commodities, or slightly processed products from these, and low-medium value added activities in the car and agricultural machinery industries. The fall down of prices in international commodities prices and low growth perspectives of Brazil and China do require considering whether an adjustment of the approach may be needed.

The recent shift towards more market-friendly framework conditions at macroeconomic level does trigger opportunities. Tariffs and fees to exports or

administrative procedures at the borders are decided at the federal level. Besides increasing gross exports, this can help Córdoba broaden its base of trading partners and products, for example by strengthening ties with MERCOSUR or other Latin America countries.

Catching up with new trends of regional development policies

Córdoba should establish regional policies that promote modernisation when developing its competitiveness strategy, building on a more cross-sectoral approach and placing the government as a facilitator of the enabling conditions for economic growth. Such features would encompass, for instance, i) incentives for building networks, improving co-ordination, and promoting awareness; ii) less reliance on state aids and subsidies; iii) refurbishing strategic industrial policy by shifting away from sector-based strategies towards cross-sectoral technologies and activities. Other countries that have used this approach have seen a shift in industrial policy closer to innovation policies, due to the perceived links between technological development and structural change in the economy (OECD, forthcoming, 2016a). One element of the emergence of such a new industrial policy would be smart specialisation (Box 2.4).

Box 2.4. **Principles of the EU's smart specialisation framework and OECD perspectives**

The main principles of the EU's smart specialisation framework can be summarised as follows:

- *Concentration* of public investments in R&D and knowledge on particular activities is crucial for regions/countries that are not leaders in any of the major science or technology domains.
- Smart specialisation relies on an *entrepreneurial process* of discovery that can reveal domains of economic activity where a country or region excels or has the potential to excel in the future.
- Specialised *diversification*: Specialisation in selected activities that provide comparative advantage based on differentiation of their operations and products in global markets.
- The specific properties of *general purpose technologies* (GPTs) underlie the logic of smart specialisation. Invention of a GPT extends the frontier of invention possibilities for the whole economy, while the "co-invention of applications" changes the production function of a particular sector.
- Smart specialisation strategies are interlinked through complementary activities at *horizontal* level and require horizontal policy co-ordination.
- *Structural change* is a driver of economic growth. Smart specialisation aims to accelerate structural change by encouraging the transformation of economic activities from a structural perspective.

What distinguishes smart specialisation from traditional industry and innovation policies is mainly the process defined as "entrepreneurial discovery" – an interactive process in which market forces and the private sector are discovering and producing information about new activities and the government assesses the outcomes and empowers those actors most capable of realising the potential (Hausmann and Rodrick, 2003). As a result, smart specialisation strategies are much more bottom-up than traditional industrial policies.

The OECD identifies the following key policy messages on smart specialisation:

- Policies for entrepreneurial discovery: The smart specialisation approach calls for an "entrepreneurial selection" of market opportunities (e.g. to minimise failures and to avoid ill-informed policy decisions). While successful companies will constitute the new specialisation of the country/region (self-discovery), the role for policy is to develop a *flexible strategy* focusing on measurable intermediate goals, identifying bottlenecks and market failures and ensuring feed-back into policy learning processes. The approach includes incentives to strengthen entrepreneurship and encourage agglomeration.

Box 2.4. **Principles of the EU's smart specialisation framework and OECD perspectives** (*cont.*)

- Promoting General Purpose Technology platforms and networks: Given the range of applications of general purpose technologies, *technology platforms* involving public and private actors but also standards settings organisation can help increase productivity in existing sectors and help identify sectors in which to concentrate resources.
- Diagnostic and indicator based tools and infrastructure: Smart specialisation requires regions and countries to maintain an infrastructure and *indicator base* to monitor and evaluate performance and policies.
- Strategic governance for smart specialisation: Good *governance* and the development of *local capabilities* are key to identifying local strengths; aligning policy actions, building critical mass, developing a vision and implementing a sound strategy.
- Openness to other regions: The specialisation strategy of regions should take into account that other regions are also involved in knowledge creating activities and that duplication might lead to lower effectiveness and finally failure. Hence, co-operation with other regions with complementary capabilities and strategies is important.

Source: OECD (2016f), OECD Territorial Reviews: Peru 2016, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264262904-en; Hausmann, R., & Rodrik, D. (2003). Economic development as self-discovery. Journal of development Economics, 72(2), 603-633. www.nber.org/papers/w8952.pdf.

The Smart Specialisation Framework coincides with the logic behind the Economic Complexity Index: it is not easy to enhance competitiveness through a narrow set of decisions focused on sectoral policies. Countries tend to enhance their performance by increasing the number of activities they can successfully engage in and by moving towards activities that are more complex and add more value. Within that context, the benefits of a policy that creates an environment where a greater diversity of productive activities can thrive and, in particular, activities that are relatively more complex (Hausmann et al., 2015).

It is therefore imperative for the province to design a competitiveness strategy that aims to identify key strengths for the province, diversifies partners and products, seeks complementarities among sectors, and focuses on enabling factors for economic growth and inclusion, e.g. infrastructure, private sector activity, education and innovation.

The province's four strategic sectors face common cross-cutting bottlenecks and would all benefit from more robust enabling policies. The ICT and metal-mechanic sectors encounter difficulties in financing as well as finding skilled labour force; an important share of the comparative advantage of the agri-food sector, metal-mechanic industry and tourism is lost by the lack of quality infrastructure, such as roads, trains, and energy supply or water services; and all sectors could do better in terms of innovation. Moreover, greater cross-sectoral complementarities could also benefit other economic sectors (e.g. biotechnology) provided the four following issues are tackled properly.

1. **Infrastructure** – Poor infrastructure is considered by public and private actors among the top bottlenecks to Córdoba's competitiveness. Inadequate transport and energy infrastructure drive up production costs and hinder the capacity of firms to integrate in value chain activities nationally and internationally. Over 20% of provincial roads are unpaved, and a number of arterial roads lack capacity (Cámara Argentina de la Construcción, 2012). Natural gas provision for

productive activities is ranked as insufficient by nine departments. Access to sewage systems is little over 38.3% (La Voz, 2015) for the entire province, and housing is not meeting the increasing urban population demands, which un the medium and long-term could have an impact on the attractiveness of the province (COPEC and IERAL, 2012).

2. **Private sector activity** – Economic indicators in the province show that private activity has slowed down over the five past years. This is particularly critical for SMEs, which often do not have the resources to finance its activities. SMEs are 97% of Córdoba's business sector and therefore the essential backbone of economic development of the province. Furthermore, SMEs play a substantial role in spreading the benefits of GVCs by distributing output of MNEs to the provincial economy and by transferring technology to local firms.
3. **Education** – Among private and public actors, Córdoba's tertiary education is considered a comparative advantage to attract business, investment and human capital and to boost productivity. However, technical education and secondary education limit the productivity of firms as they struggle to find workers with the technical skills for their activities, in particular for the manufacturing sectors. Continuously updating and enlarging technical education to meet private sector demands, improving quality of secondary education and reaping the full benefits of the innovation capacity embedded in its tertiary education are critical to tackle high unemployment in the province, to promote inclusion and to enhance productivity of firms.
4. **Innovation** – Córdoba's innovative capacity is diverse and rich, both in the academic research community as well as within the private sector. However, benefits from innovation are estimated at lower than expected levels. Additional investment both in terms of effort and resources could bring numerous benefits and potentially be the path forward for the province's future competitiveness.

Past reflections on Córdoba's regional policy were aligned with the four enabling policies identified in this chapter. For instance, COPEC (*Consejo para la Planificación Estratégica de Córdoba*) designed in 2015, based on a consultative process, a Strategic Plan for the Integrated Development of Córdoba (*Plan Estratégico para el Desarrollo Integral de Córdoba – PEDICor*). Four priorities were identified which were ranked in order of importance: *i)* Physical capital, *ii)* Human capital, *iii)* Economic activity, *iv)* Social capital (COPEC, 2015c). In particular, two of these dimensions are very much in line with the bottlenecks detailed in this chapter, namely physical capital (housing, public works such as roads and connectivity, and public utilities such as gas, water, light and sewage systems), and human capital (health, environment and education).

Infrastructure

Actors from all sectors recognise that a serious infrastructure deficit hinders competitiveness by impacting economic performance as well as social inclusion. In March 2015, the first progress report of PEDICor by COPEC, mapped survey responses by public officials, by department in terms of infrastructure priorities for regional development (Table 2.1). In all, 36 individual interviews were conducted with 22 provincial legislators representing different departments of the province, and with 14 regional community presidents.[3] The only department that had no representation in the interviews, neither by a legislator nor by a president of the regional community, was the Capital department where the city of Córdoba is located.

Table 2.1. **Infrastructure priorities for regional development by department**

	Housing	Roads	Water Supply	Sewage	Electricity	Natural gas
Capital	NA	NA	NA	NA	NA	NA
Calamuchita				X		
Colón	X					
Cruz del Eje		X				
Pr. Roque Sáenz Peña		X				X
General Roca	X					X
General San Martín			X			
Ischilín						
Juarez celman	X	X				
Marcos Juárez	X					
Minas	X	X			X	
Pocho		X				
Punilla		X	X			
Río Cuarto	X					
Río Primero	X					X
Río Seco	X				X	
Rio Segundo	X	X				
San Alberto		X			X	X
San Javier	X	X				X
San Justo	X	X				X
Santa Maria	X					
Sobremonte	X	X				X
Tercero Arriba	X					X
Totoral	X					
Tulumba						X
Unión	X					

Source: COPEC (2015a), Plan Estratégico para el Desarrollo Integral de Córdoba: Primer Informe de Avance Marzo 2015, www.copec.org/?wpdmpro=pedicor-primer-informe-de-avance-autor-copec.

From the survey energy, transport, housing, and basic services are seen as pressing issues for development in many departments. In particular, transport costs and limited access to cheap energy are claimed to have a more direct impact on the productivity especially of food, agriculture and tourism sectors. Housing and basic services such as sewage systems and broadband have a direct impact on the population's well-being.

Infrastructure is a shared responsibility across levels of government in Argentina where, depending on the infrastructure type, the province has construction and/or operation and maintenance competences (Table 2.2). Bridging the infrastructure gap, therefore, cannot be done in isolation; it requires co-ordination across federal, provincial, and local authorities.

The province has been delaying major infrastructural projects due to budget constraints. In the last decade, the political make-up of Córdoba resulted in policy and fiscal implications across levels of government. Political tensions affected the provincial government's ability to negotiate with national level counterparts, particularly with respect to fiscal transfers, public investment, policy implementation, and co-ordination.

This also contributed to the infrastructure investment backlog, especially when joint financing with the federal government was required. Consequently, the province has been losing comparative advantages in several economic sectors, particularly due to transport costs for grains, poor connectivity for tourism, and lack of natural gas to process products.

Table 2.2. **Infrastructure competences across levels of government**

Area / Competence			Federal	Provincial	Local
Transport	Primary Network		X		
	Secondary Network			X	X
	Airports		X		
Energy	Electricity	Generation	X	X	
		Transportation	X	X	
		Distribution		X	X
	Gas	Generation	X		
		Transportation	X	X	
		Distribution		X	X
Communications	Post		X		
	Telephones		X		
	Internet services		X	X	
Water and Sanitation	Water			X	X
	Sewage				X
Housing	Social housing			X	

Source: Based on responses from the Local Team to the OECD questionnaire.

Córdoba's financing capacity, although relatively high, is not sufficient to close the infrastructure gap, and requires financing support from the federal administration and/or capital markets. The province enjoys a high degree of fiscal autonomy with approximately 40% of Córdoba's revenues in the 2014 exercise being generated from provincial taxes (see Chapter 3). This has helped the province adopt a prudent fiscal stance, while still undertaking some strategic investments. However, to get closer to OECD standards, several infrastructure investments need to be carried out, which requires considering a range of options and sources including the province's borrowing capacity in the external markets.

With the new federal administration, a number of infrastructural initiatives have recently been re-ignited (e.g. expansion of natural gas pipeline network). The federal administration has also lifted the ban on borrowing from financial markets. This shift, together with the signed hold-outs deal in February 2016 is a positive signal that has resulted in access to international capital markets. Right after the signature of the agreement Argentina started in April 2016 to issue bonds for value of USD 16 500, which were allocated in the market at lower interest rate than expected due to great expectations of buyers (La Tercera, 2016). This was the first bond issue of the country after 15 years of debt default. This holds particular promises as the province has low debt and strong borrowing capacity after years of prudent fiscal policy (MECON, 2016).

The province currently lacks a comprehensive infrastructure plan that sets objectives, assesses costs and benefits, and defines priorities based on sound criteria. Infrastructure is developed without a provincial-wide vision to account for trade-offs. At present, such

medium- and long-term planning can only be found at sectoral level, as in the cases of energy, with the five year Energy Plan under the leadership of the Ministry of Water, Environment and Public Services (*Ministerio de Agua, Ambiente y Servicios Públicos*) with the provincial Council for Energy Policy and the Provincial Energy Enterprise of Córdoba (Box 2.5). Some planning for road infrastructure is underway at the Ministry of Housing, Architecture and Roadwork (*Ministerio de Vivienda, Arquitectura y Obras Viales*), which is expected to result in a Strategic Road Plan of Infrastructure for Regional Development [2016 – 2030] that should be aligned with the federal Strategic Territorial Plan for Bicentennial Argentina 1816-2016 (*Plan Estratégico Territorial Argentina del Bicentenarion 1816-2016*).

Box 2.5. **Energy Plan of Córdoba**

Córdoba has an Energy Plan which was developed by the Ministry of Water, Environment and Public Services in conjunction with the provincial Council for Energy Policy (*Consejo asesor de la politica energética*) and the Provincial Energy Enterprise of Córdoba (EPEC). The 5-year Plan is designed around structural measures to increase the supply of electricity and non-structural measures to enhance efficiency. The former includes finalising ongoing works on gas pipelines and supporting the development of alternative energy, for instance through biofuels, solar power and wind. The latter focuses on managing the demand via an awareness raising campaign to promote a more efficient use of electricity among consumers, and an education programme teaching school children how to save energy. EPEC, with support of the provincial government, will self-finance the projects based on taxes and tariffs.

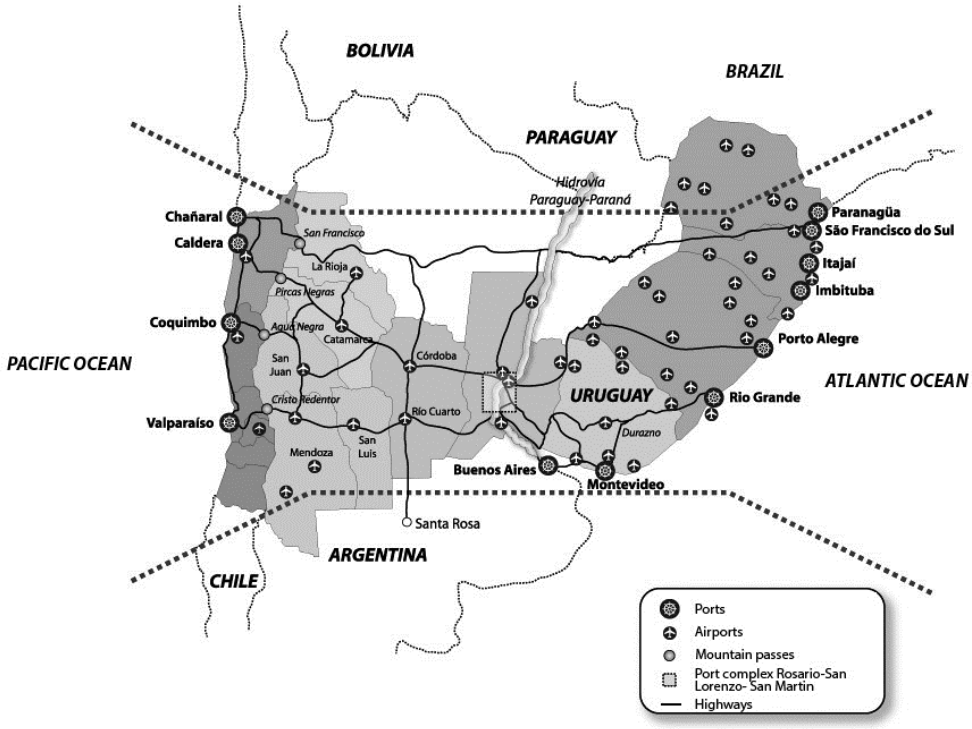
Source: EPEC (2015), "Empresa Provincial de Energía de Córdoba: Contrato Programa 2015 – 2019", https://prezi.com/7mwsfcufuflu/contrato-programa-2015-2019-agosto-2015/.

To make the most of the new resources that the national and international context could bring, and to benefit from the strategic position of Córdoba, will require: i) analysing and building consensus on the province's infrastructure gaps; ii) assessing the cost and impact of investment; and, iii) prioritising projects with sound criteria. The province has urgent short-term needs that might be overshadowing medium- and long-term planning. However, infrastructure delivery requires high investments and entails long-term effects. The following sections attempt to depict major gaps that would require further consideration at provincial level.

Transport

The quality and efficiency of transport infrastructure is central to competitiveness, in particular for a province with large land mass and trade exposed economy. Córdoba enjoys a strategic location for its contribution to GVCs: it is crossed by the Central Bi-oceanic Railway Corridor (*Corredor Bioceánico Central*), which connects Porto Alegre (Brazil) with the port of Coquimbo (Chile) and crosses through Chile, Argentina, Uruguay and Brazil, connecting the Atlantic and Pacific (Figure 2.4). The Central Bi-oceanic Corridor has the potential to drive economic and social development by fostering big urban agglomerations, regional trade, and the physical integration of different international regions. Internal infrastructure to benefit from this strategic and high-trade-density corridor is central for Córdoba's role in MERCOSUR countries and Latin America and to further integrate in GVCs (BCC, 2007).

Figure 2.4. **The Bi-oceanic Central Corridor**



Source: Map adapted from BCC (2007), "El balance de la economía argentina 2007", Bolsa de Comercio de Córdoba, Instituto de Investigaciones Económica, http://www.bolsacba.com.ar/balances.php.

In many Latin American countries, including Argentina, the biggest infrastructure gap is in the transport sector, where the costs per container are among the highest in the world. Aggregate logistics costs in the Latin America and Caribbean region represent between 18 and 35% of a product's value, compared to around 8% in OECD countries (OECD/CAF/ECLAC, 2013). The heavy reliance on road transport in the region as opposed to more efficient modes (e.g. railway for crop freight), also reduces options for co-modal transport and increases logistics costs by up to 57% (OECD/CAF/ECLAC, 2013). Córdoba, like other LAC countries, is highly dependent on road transportation, which limits provincial competitiveness and GVCs integration.

The province, however, has the potential to access national and international markets using diverse transportation means, such as i) ground transportation for the national or MERCOSUR/LAC market (road or railway); ii) air (international markets for high value-added products); iii) multimodal transport that combines ground and maritime transportation (MERCOSUR countries or other international markets such as Asia or Europe) (COPEC and IERAL, 2012).

Railway infrastructure is mainly used for commodities freight and has little capacity to transport containers. Provincial railways do not reach neighbouring countries even if they lead to the important maritime terminals of Rosario and Buenos Aires (Box 2.6).

The overall state of Córdoba's primary road network is below average. National highways in Córdoba are reported to be in poor condition and do not have the sufficient capacity to meet traffic demands (COPEC, 2015b). Considering 2010 data, approximately

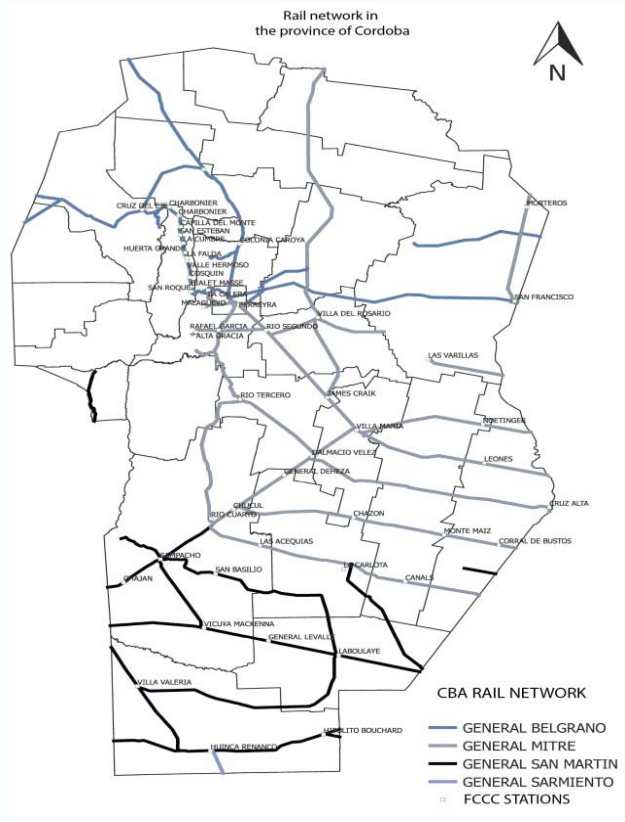
29% of the roads in the province are in a good state and 14% in medium, compared to national average of 48% and 29%, respectively (Figure 2.5). Therefore, over 57% of the primary network in reported to be in a bad state of repair (Figure 2.6), which leaves Córdoba as the province with the second largest value for this indicator. Moreover, in some cases, connectivity is poor and the province cannot absorb the existing freight demand, which results in less secure and more congested roads. For instance, routes from Córdoba to Jesus Maria and San Francisco, or the route between Rio Cuarto and San Francisco only have one lane in each direction, which is insufficient to absorb the existing traffic (COPEC, 2015a).

Box 2.6. **Railway infrastructure for freight in Córdoba**

Railways play an important role in the delivery of agricultural commodities Córdoba. The weak containerisation capacity, however, limits multimodal transport of other products, e.g. refrigerated containers of milk. Córdoba transports around 3.84 million tonnes per year by rail mainly to the ports located of Santa Fe. Approximately 85% are grains or first processed products such as flour or oil, and only 300 000 tonnes are containerised. Four railway lines cut across the province:

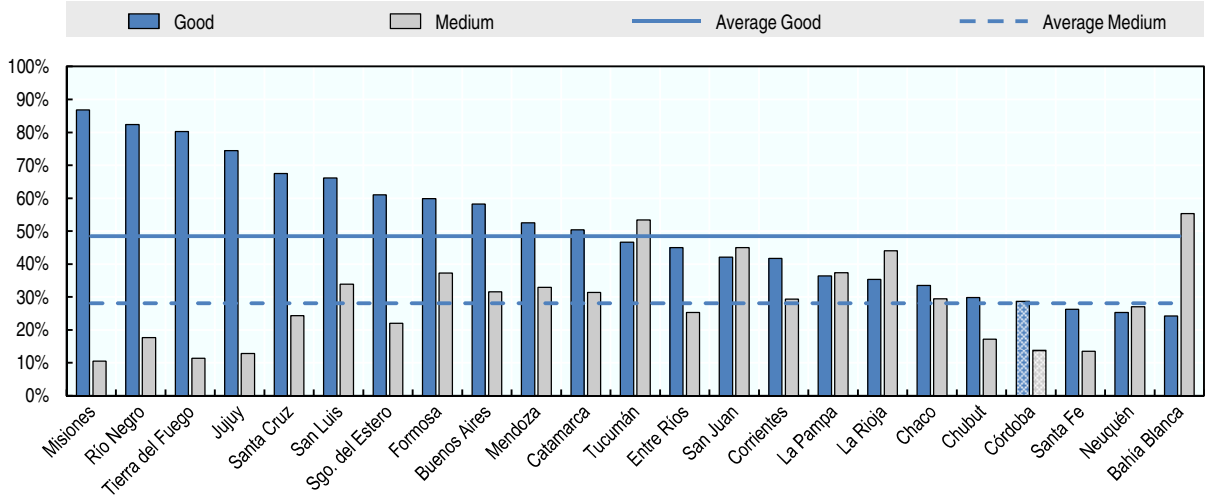
- **General Belgrano,** operated by *Belgrano Cargas S.A*., expands over 7 347 km crossing through Salta, Tucuman, Chaco, Catamarca, San Juan, Mendoza and the northern part of Córdoba and leading to Santa Fe, Rosario and the north of Buenos Aires. It transports mainly commodities and food-industry sub-products.
- **General Bartolomé Mitre**, operated by the company *Nuevo Central Argentino*, covers the centre and east of the province. It connects Córdoba, Río Cuarto and other municipalities in the central-east of Córdoba, Tucumán and Santiago del Estero with the ports of Santa Fe, Rosario and the north of Buenos Aires. Transports all types of freight including containers.
- **General Sarmiento**, operated by *América Latina Logística Central*, the 5 254 km connect San Juan, Mendoza, San Rafael, San Luis, Vicuña Mackenna, Adelia María, Junín y Rufino with Buenos Aires and the port of Rosario. This railway line is not equipped to transport containers.
- **General San Martín**, operated by *Ferro Expreso Pampeano S.A.*, covers the southern part of the province; ithas a length of 5 094 km and connects municipalities from Córdoba, La Pampa and the west of Buenos Aires with the ports of Rosario and Bahia Blanca. It mainly transports commodities and processed products from the food industry (e.g. oil, flour), and does not have capacity to transport containers.

Box 2.6. **Railway infrastructure for freight in Córdoba** (*cont.*)



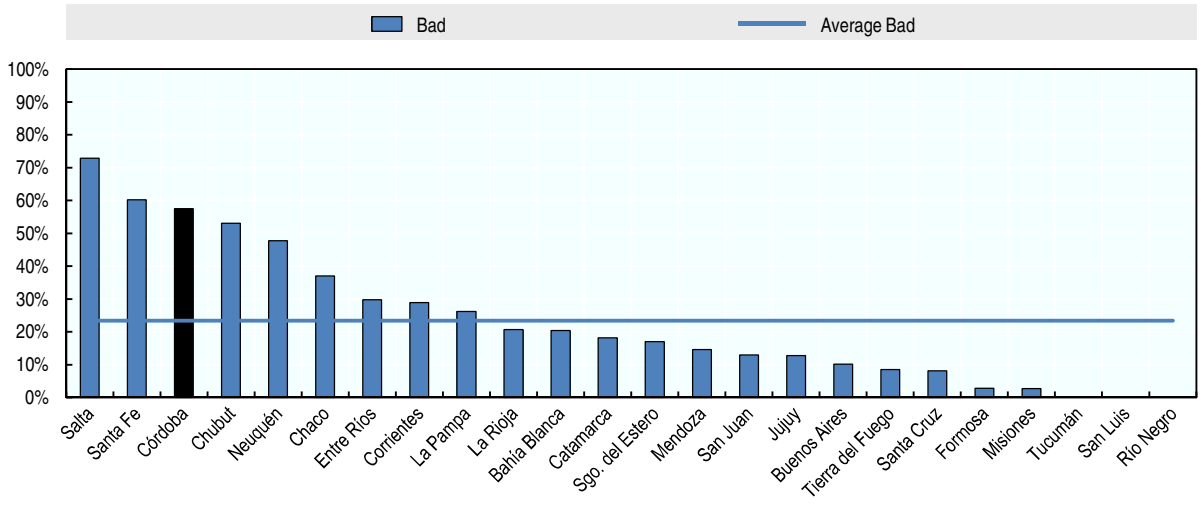
Source: COPEC (2015a), "Infraestructura para la Internacionalización de la provincia de Córdoba: Condiciones estructurales para el desarrollo de las Relaciones Internacionales de Córdoba", http://docplayer.es/11573429-Infraestructura-para-la-internacionalizacion-de-la-provincia-de-cordoba.html.

Figure 2.5. **Primary road network in good and medium state per province (%), 2010**



Source: Graph adapted from COPEC and IERAL (2012), "Inserción de Córdoba en el Mundo: Infraestructura económica y de servicios compatible con la estrategia comercial externa", www.ieral.org/images_db/noticias_archivos/2200-Inserci%C3%B3n%20de%20C%C3%B3rdoba%20en%20el%20Mundo.pdf.

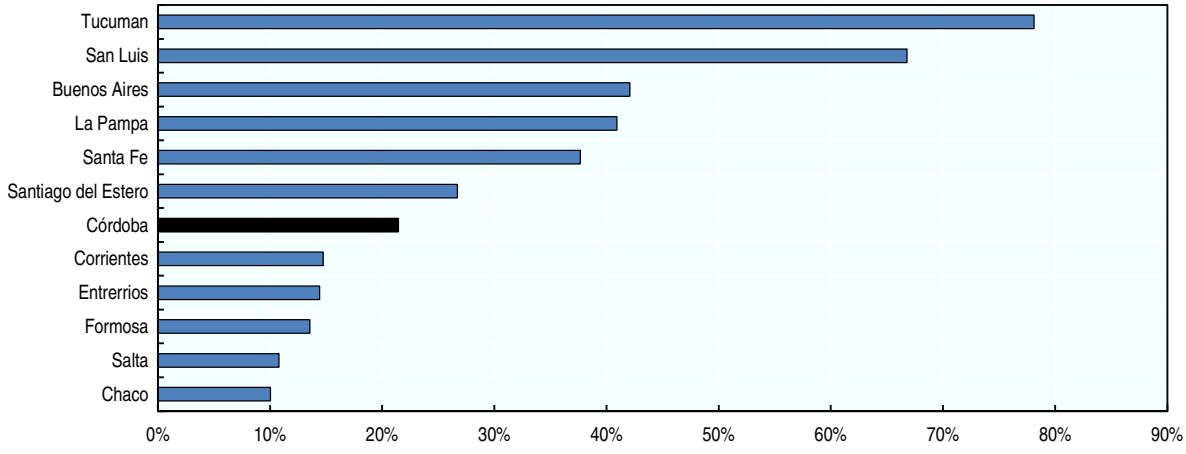
Figure 2.6. **Percentage of the primary network in bad state per province (2010)**



Source: Graph adapted from COPEC and IERAL (2012), "Inserción de Córdoba en el Mundo: Infraestructura económica y de servicios compatible con la estrategia comercial externa", www.ieral.org/images_db/noticias_archivos/2200-Inserci%C3%B3n%20de%20C%C3%B3rdoba%20en%20el%20Mundo.pdf.

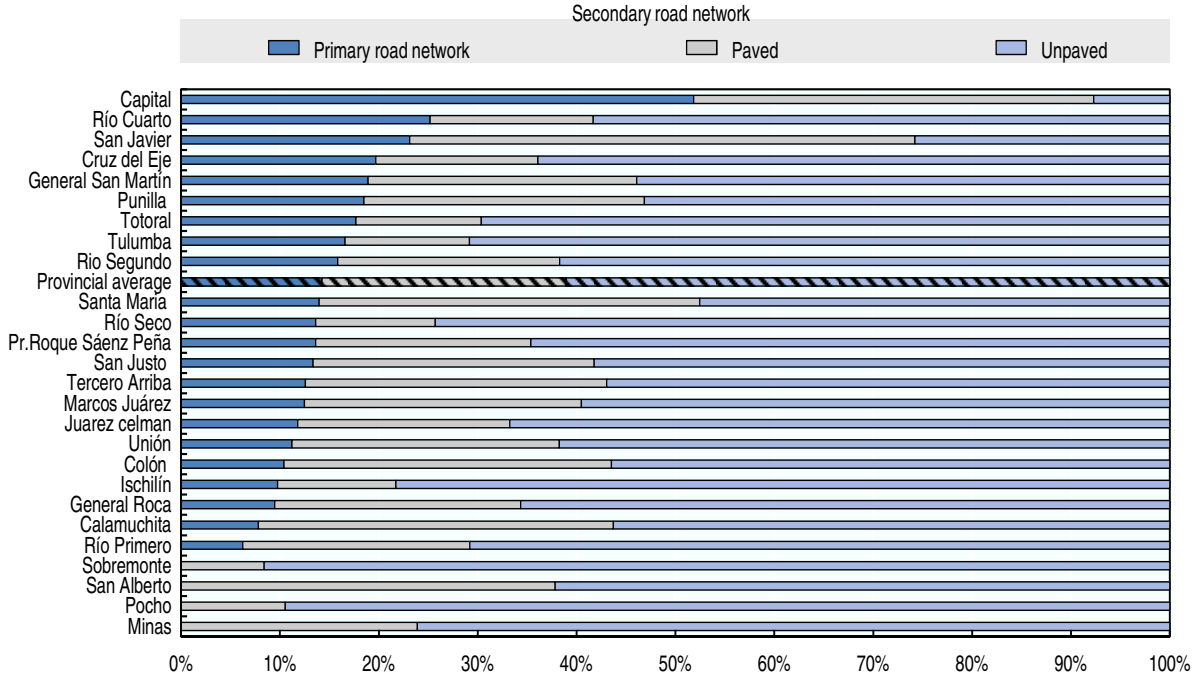
SMEs comprise 96.7% of Córdoba's business sector, and are generally the most affected by logistics and transport costs. In Latin America, domestic logistics costs can add up to more than 42% of total sales for SMEs, compared to 15-18% for large firms (Guasch, 2011). SME trade is hindered by poor-quality secondary and tertiary roads and a lack of access to ICT, and within these small food producers are the most impacted (OECD/CAF/ECLAC, 2013). The *Cámara Argentina de la Construcción* (Chamber of Commerce of Argentina) (2012) reviewed the road network in 12 provinces where agriculture generates a high volume of grain transport. These 12 provinces accommodate 138 724 km of secondary roads (representing 71% of the country's total provincial road network), with only 32% of secondary roads paved on average. Córdoba's share of paved secondary infrastructure is well below that already low figure (21%) (Figure 2.7).

Figure 2.7. **Paved roads in selected Argentinian agricultural provinces**



Source: Graph adapted from Cámara Argentina de la Construcción (2012), "Plan de inversión en infraestructura vial provincial a 10 años para el transporte de granos: plan de agrorutas", www.camarco.org.ar/File/GetPublicFile?id=1063.

Figure 2.8. **Percentage of roads paved by department**



Note: National refers to the primary road network (federal competence), and paved and un-paved relates to the secondary network (provincial competence).

Source: Government of the Province of Cordoba (2009), Ministry of Housing, Architecture and Road Works, "Paved and Unpaved roads", data provided in Background Report.

The primary road network (national competence) does not extend across all departments; hence the secondary network (provincial competence) plays an important role in connecting more remote departments. This is particularly important when the provincial network is not paved. The majority of unpaved roads cross the province from the north to the south, and are located in departments in the provincial west (Figure 2.8). The latter results in bad connectivity of these departments with primary roads and hence limits the development of productive activities there, such as tourism for example.

Improving connectivity and logistics through better road infrastructure in the northern and western parts of the province could increase competitiveness by facilitating market access, raising small farmers' income, and boosting tourism, particularly around Mar Chiquita salty lake.

Energy

Energy infrastructure that provides reliable and sufficient access to electricity and natural gas is a key factor for productivity and the development of regions. Firms in all industrial sectors pay special attention to accessibility to energy when planning the settlement in, or enlargement of, a region. Failure to provide access to these services can result in a loss of attractiveness of the province for industrial development. It may also deter firms from investing resources to expand production or delay investment until services are available.

Argentina experiences electricity supply shortfalls, especially in the summer when the use of air conditioning is high. Mirroring the national situation, electricity supply in Córdoba faces significant challenges. Supply has increased 188% between 1990 and 2008, while during the same period of time the installed power only increased by 10% (COPEC, 2015b). Increasing demand without an increase of installed power capacity will inevitably lead the province towards more power cuts and loss of productivity (COPEC and IERAL, 2012).

Córdoba is the only province where electricity is vertically integrated between generation, transportation and distribution. This allows designing strategies at all levels, from generation of energy to demand management measures, to manage risks of shortfalls, or to promote the diversification of the energy matrix. However, managing risks in the electricity generation process is not as relevant in Argentina because electricity is sold to the major electricity market and then bought by transporting and distributing firms. The latter implies that even if a province generates its own electricity this cannot be sold directly to provincial users.

The energy transportation and distribution systems have a crucial role in determining the production capacity that companies in the province will be able to install for their activities. The energy supply varies across the province, which has an influence on where companies decide to settle. EPEC (*Empresa Provincial de Electricidad de Córdoba*) is in charge of the generation, while distribution can be undertaken by EPEC, local co-operatives or the user, who can directly buy electricity from the system and pay a fee for distribution (COPEC and IERAL, 2012).

Another area of energy infrastructure that directly influences the productivity of provincial enterprises is natural gas. Córdoba does not produce natural gas but supplies gas produced in Argentina and neighbouring countries. This gas arrives to the province through the national network of gas pipelines: i) the northern gas pipeline supplies gas from the north basin and Plurinational State of Bolivia (Bolivia), and ii) the western gas pipeline which supplies from the Neuquén basin. The province suffers from shortages, particularly for longer periods over the winter. This has resulted in disruption and cuts in supply to large industrial consumers as a result of insufficient production of natural gas in the basins that feed the pipelines, as well as to insufficient capacity of the transport pipelines. Projects are underway to increase the provincial transportation network's capacity as well as territorial coverage.

Household access to natural gas in Córdoba (50.7%) is slightly higher than in Santa Fe (48.2%) but below national average (56.1%) with disparities among provincial departments (INDEC, 2010). The lack of gas infrastructure for households and industrial parks is a limiting factor in the socio-economic development of Tulumba, Rio Primero, San Justo, and Sobremonte. Households in Tercero Arriba and Marcos Juarez have high access to natural gas, but industrial parks located in these departments are not fully operational due to insufficient gas distribution infrastructure (COPEC, 2015a).

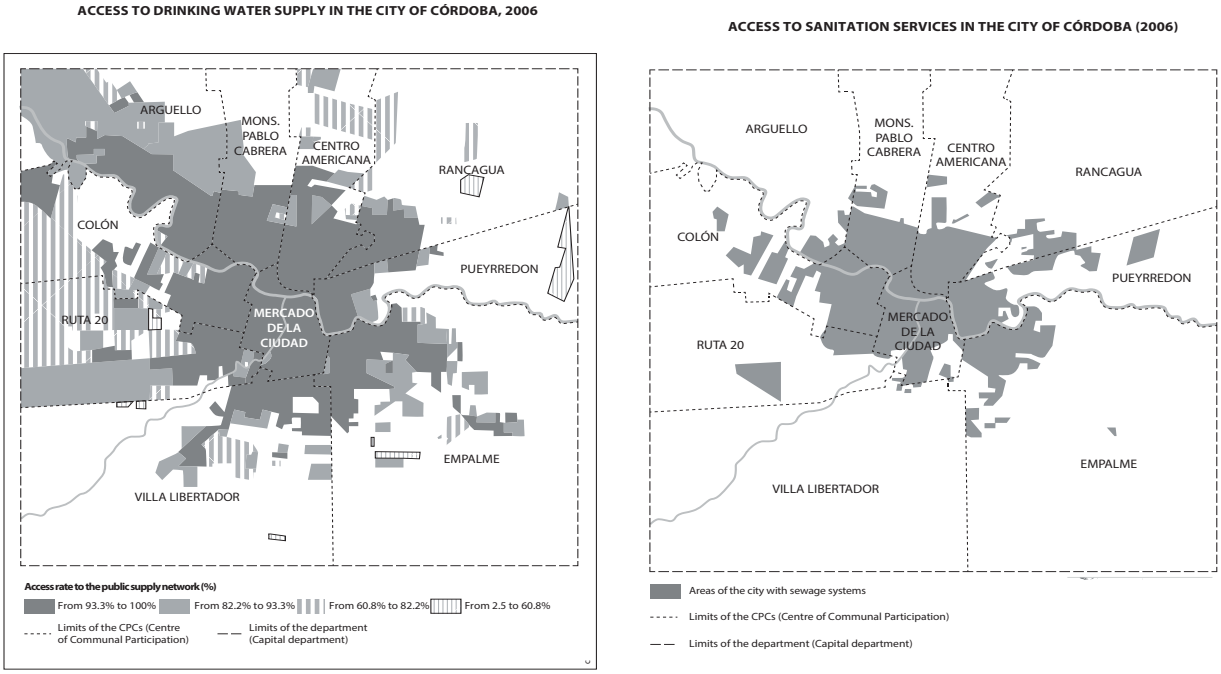
Water and sanitation infrastructure

Water and sanitation infrastructure can also accentuate inequalities and jeopardise the province's attractiveness as a place to live or invest in the long run. Córdoba's ability to deliver quality public services in this area is particularly hindered by issues of scale and the lack of a "functional" approach to pool resources and capacities needed to cover the large sunk investment costs in the water sector. The metropolitan area of Greater Córdoba is highly fragmented (see Chapter 3) with limited incentives for municipalities to work

together in view of operating and financing water-related infrastructure. During the renegotiation of concession contracts with the private sector following the 2001 crisis, the topic of water and sanitation was subject to multiple debates and tensions between the municipality of Córdoba (in charge of sanitation) and the province of Córdoba (with prerogatives over drinking water). While drinking water was concessionned to the private sector in 1997 (first to the French company Suez, then to the Cordobese company Roggio e Hijos since 2007), sanitation has always been the prerogative of the municipality. Already in 2006, a significant difference between the drinking water coverage and the sanitation coverage was noteworthy as Figure 2.9 shows (Akhmouch, 2009). Ten years later, the divide among the two sub-sectors remains prominent as Figures 2.10 and 2.11 show.

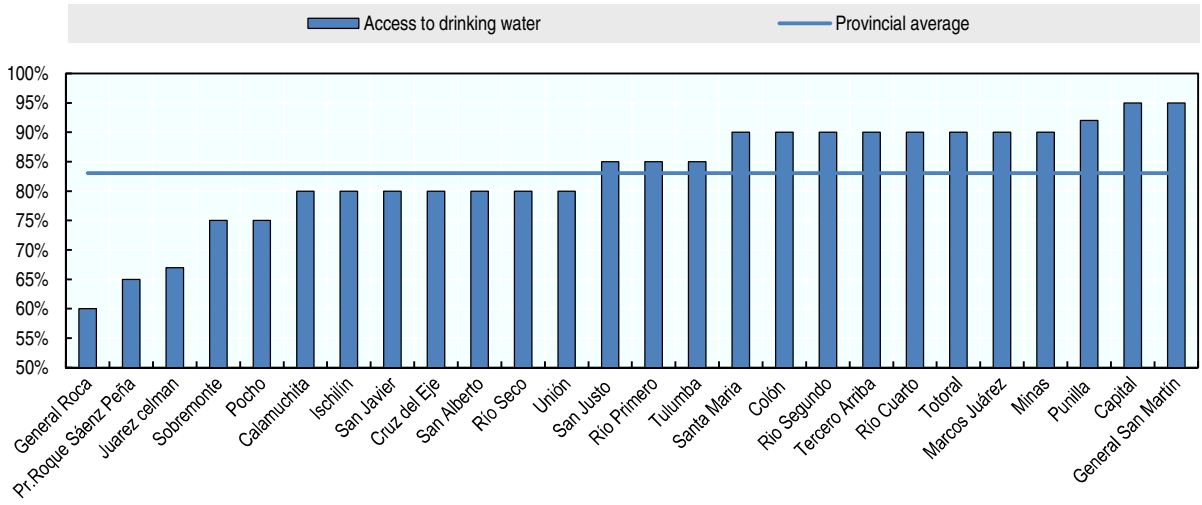
There are disparities in terms of access to water services across the province, in particular in sparsely populated departments in the north and south (e.g. General Roca, Pr. Roque Sáenz Peña, Juarez Celman, Sobremonte, or Pocho) where the coverage is lower (Figure 2.10). The 2008 "Water for Everyone" Programme (*Agua para Todos*), helped improve the situation in municipalities located in the north-west and in small localities and settlements even though the objective of the programme (100% access) was not achieved. One of the reasons is that the programme prioritised access over quality. In the absence of proper planning and ex ante environmental and technical studies, some of the wells constructed in that context have never been operational.

Figure 2.9. **Geographical coverage of drinking water and sanitation services, 2006**



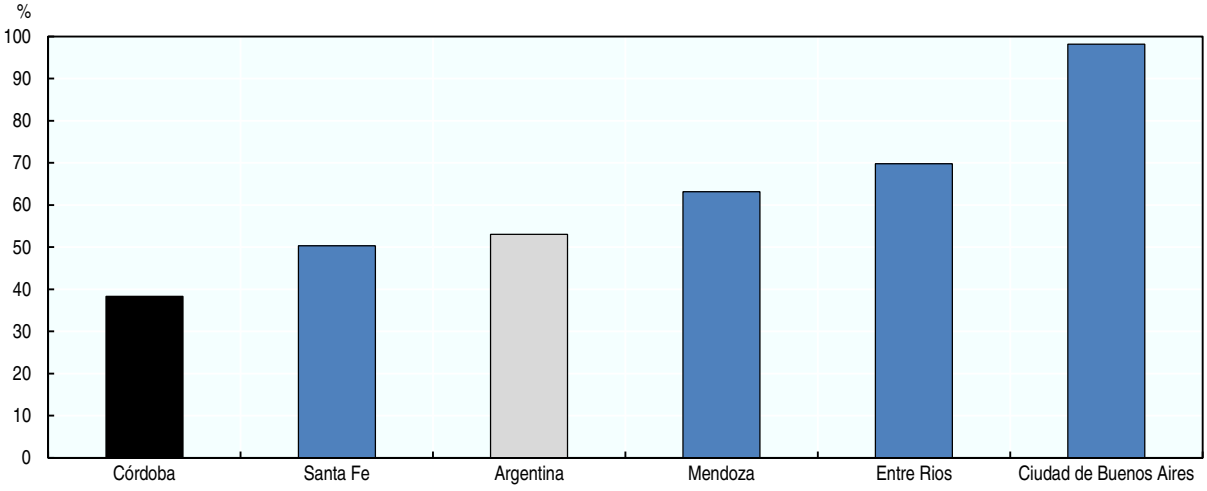
Source: Akhmouch, A. (2009), « De l'utilité politique de l'accusation de 'pillage' : le cas des multinationales de l'eau en Argentine, l'exemple de Córdoba », *Herodote n°134*, revue de geographie et de geopolitique, pp. 194-217.

Figure 2.10. **Access to drinking water by department (2009)**



Source: Government of the Province of Cordoba (2009), Ministry of Public Works, Secretariat of Public Works. Access to drinking water, data provided in Background Report.

Figure 2.11. **Access to sewage systems in selected Argentinian provinces (%) (2010)**



Source: INDEC (2010), "National Census of Population, Households and Properties (2010)", Instituto Nacional de Estadística y Censos de Argentina.

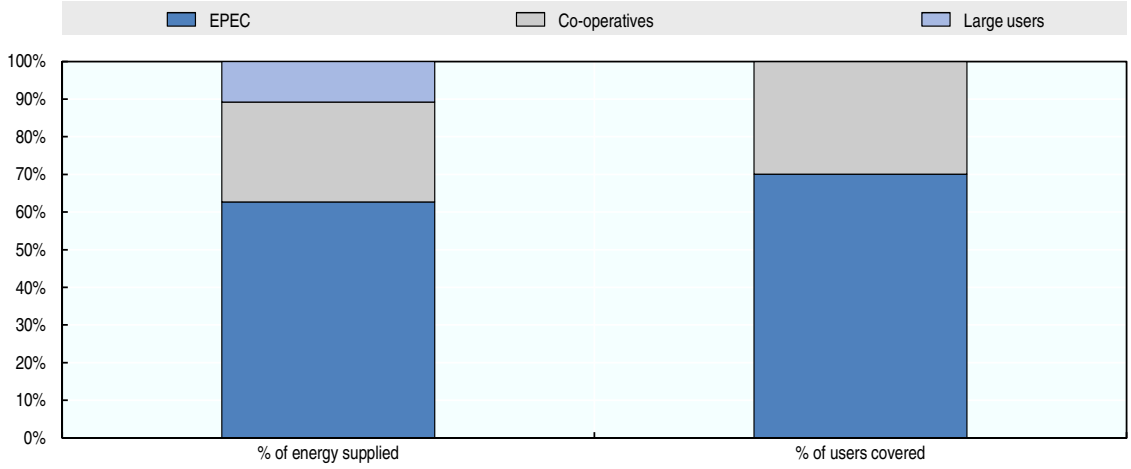
Córdoba lags much behind other provinces in terms of connection to sewage systems. Only 38% households in the province of Córdoba are connected to a sewage system, whereas the national average is 53% and in Santa Fe it is 50% (Figure 2.11). The city of Córdoba, 2nd major agglomeration of the country, only has a coverage of 52% (Akhmouch, 2009), which is among the lowest in Latin America and somewhat overestimated given the importance of illegal connections. The wastewater treatment plant of Bajo Grande has largely exceeded its capacity and Córdoba's streets are regularly flooded, which generates serious health and hygiene risks for the population.

A fragmented service delivery

Over 300 cooperatives supply water and electricity in the province of Córdoba in addition to the main utilities (Aguas Cordobesas, EPEC etc.), which poses regulatory challenges, raises equity issues and can discourage investment. While co-operative provide a community-based response in sparsely populated and/or remote areas, they raise two particular challenges. First, the dispersion of services complicates access to finance to finance costly infrastructure. Second, there are over 200 prices for electricity in the province, as co-operatives are not always entering into service agreements with the government (Figure 2.12). Such a fragmentation of tariff setting does not create a favourable environment makes it difficult to calculate the real price of electricity and therefore the potential benefits of investment. It also generates unfair competition amongst firms. A fund for energy was set up by the previous provincial administration to subsidise differences in the electricity bill to potential investors in the province.

Customers supplied by cooperatives cannot benefit from provincial subsidies, such as social tariffs established by the Ministry of Social Development (*Ministerio de Desarrollo Social*) (Box 2.7), to which they would normally be eligible. This can result in inequitable pricing or missed opportunities for poor communities where co-operatives are responsible for delivery. It is up to the co-operative to meet the pricing offered by the government, as the regulatory agency ERSeP is only competent to regulate tariffs of services delivered by provincial public companies and private concessions.

Figure 2.12. **Percentage of electricity supply and user coverage by type of service provider**



Source: adapted from COPEC and IERAL (2012), "Inserción de Córdoba en el Mundo: Infraestructura económica y de servicios compatible con la estrategia comercial externa", www.ieral.org/images_db/noticias_archivos/2200-Inserci%C3%B3n%20de%20C%C3%B3rdoba%20en%20el%20Mundo.pdf.

Box 2.7. **The social tariff programme in Córdoba**

The *Programa Tarifa Solidaria* assists less favoured families in the province of Córdoba by providing them with benefits and exemptions in electricity and water bills and in income-tax. Social tariffs are given through signed contracts between the provincial government and service providers (*Aguas Cordobesas*, EPEC and EcoGas). Over 102 000 families receive this needs-based subsidy in some way, which is renewed on a three-month basis upon proof of necessity. During the last three years the programme has expanded to also reach retirement homes, neighbourhood centres and non-profit organisations that work with people in social exclusion.

Source: Ministry of Social Development (2016), "Ministerio de Desarrollo Social: Tarifa Solidaria", Government of the Province of Córdoba, www.cba.gov.ar/tarifa-solidaria/ (accessed on 8 April 2016).

Transforming a bottleneck into an opportunity

The provincial government will have to address infrastructure gaps in the short, medium and long term to enhance better access to markets (potentially GVCs), improve productivity thanks to lower transport and energy production costs, to improve attractiveness for human capital by the provision of better municipal services such as drinking water supply and sanitation, to raise standards of living and foster inclusion by providing better housing infrastructure, and to boost innovation by increasing access to new technologies.

The reasons for Córdoba's infrastructure backlog are manifold, but mostly related to governance and financing bottlenecks. Public investment is a shared responsibility across levels of government and therefore depends on effective federal-provincial co-operation, which has not always materialised in the past. For instance, the provincial government had to invest funds in maintaining and operating roads of national competence, i.e. from the primary network, due to the lack of investment from the federal government. Moreover, many of these infrastructure areas are capital intensive and require large sunk investments, which could not be undertaken at times of tight fiscal consolidation and deadlocks on intergovernmental fiscal transfers. However, there have been promising signs since the new administration took office, as the federal government financed up to 33% of investments in the provincial gas pipeline network. The latter together with Argentina's return to capital markets, should yield a larger flux of resources towards infrastructure investment in the province. The *OECD Council Recommendation of the Council on Effective Public Investment across Levels of Government* (OECD, 2014a, Box 2.8) sets a number of standards to ensure that public investment meets its intended goals.

Box 2.8. **OECD Recommendation: Effective public investment across levels of government**

The OECD Instrument groups 12 principles under three pillars: co-ordination, capacities and framework conditions.

Pillar 1: Co-ordinate across governments and policy areas

1. Invest using an integrated strategy tailored to different places
2. Adopt effective co-ordination instruments across levels of government
3. Co-ordinate across subnational governments to invest at the relevant scale

Pillar 2: Strengthen capacities and promote policy learning across levels of government

4. Assess upfront long term impacts and risks
5. Encourage stakeholder involvement throughout investment cycle
6. Mobilise private actors and financing institutions
7. Reinforce the expertise of public officials and institutions
8. Focus on results and promote learning

Pillar 3: Ensure sound framework conditions at all levels of government

9. Develop a fiscal framework adapted to the objectives pursued

Box 2.8. **OECD Recommendation: Effective public investment across levels of government** (*cont.*)

10. Require sound, transparent financial management
11. Promote transparency and strategic use of procurement
12. Strive for quality and consistency in regulatory systems across levels of government

Source: OECD (2014a), Recommendation of the Council on Effective Public Investment Across Levels of Government, www.oecd.org/regional/regional-policy/Principles-Public-Investment.pdf.

Córdoba's challenges for infrastructure investment go beyond financing and are similar to those faced by other subnational governments in the OECD area. A survey conducted in 2015 by the OECD and the EU Committee of the Regions (CoR) reported that the challenge faced by OECD regions include aspects of the investment cycle. Three quarters of subnational governments signalled strategic planning for infrastructure investment strategies as the most pressing challenge at subnational level (OECD/CoR, 2015). A compounding factor for Córdoba is that the province does not have a comprehensive infrastructure development strategy or master plan that sets short-, medium- and long-term goals, seeks policy complementarities (e.g. roads, rail, gas network, water, etc.), assesses costs and benefits, defines priorities based on sound criteria and is supported by data. Such a strategy would require alignment with national infrastructure policies and co-ordination with local authorities during both the design and implementation phases. Co-ordinating the transfer of funds, geographical reach, prioritisation criteria, or even the design of specific projects are some of the actions that would be required across levels of governments to bridge the infrastructure gap in the province. The master plan should also engage with stakeholders from public and private sectors, including universities and research centres, NGOs and civil society at large. This would enable decision makers to acquire better knowledge on the benefits and costs of projects, avoid unnecessary litigation costs, and ease the implementation process. New South Wales' (Australia) state infrastructure strategy is an example at the regional level that the province could pull from to develop its own infrastructure development strategy (Box 2.9).

Box 2.9. **New South Wales regional infrastructure strategy**

New South Wales (NSW), Australia, has developed *The State Infrastructure Strategy 2012–2032*. The Strategy focuses on the strategic investments and reforms considered by the state agency (Infrastructure NSW) as the more impactful on the regional economy and well-being over the coming next 20 years. The core values to develop the strategy were:

- priorities for action: focus on what will have the greatest impact in the shortest timeframe
- investments should support NWS's strengths as a first priority, rather than seeking new forms of economic growth
- priority investments to benefit the greatest number of people
- shift from major projects to incremental projects that can yield substantial benefits and address critical pitch points
- maximise the use of existing assets before investing in new ones

Box 2.9. **New South Wales regional infrastructure strategy** (*cont.*)

- ensure projects of all scales, big and small
- establish a solid pipeline of projects.

The strategy comprises recommendations for investment in projects, but also for policy reforms to improve infrastructure planning, procurement and delivery.

Source: New South Wales (2012), "Frist things first: The state infrastructure strategy 2012 - 2032", Infrastructure New South Wales, www.infrastructure.nsw.gov.au/pdfs/SIS_Report_Complete_Print.pdf

Aligning the objectives of the infrastructure development strategy with other policies such as education, social inclusion or innovation policies can spur the benefits of public investments. For instance, developing an energy policy tied to innovation and industrial policies can foster the emergence of high-tech firms in energy processes. The latter could be a good opportunity for Córdoba to boost its ICT sector and pursue this market niche. The Energy Strategy for the Basque Country 2020 (3E2020) is a good example of how to go beyond pure production of hard assets (i.e. infrastructure) to also reach the regional business sector and research communities (Box 2.10).

Box 2.10. **EnergiBasque: Energy policies for the development strategy in Basque Country**

The action lines of the Energy Strategy for the Basque Country 2020 (3E2020) are divided into three different areas: energy consuming sectors, energy markets and supply, and technological and industrial development. Guidelines for these areas are:

- energy consuming sectors: oriented to reducing consumption levels, using alternative sources of supply, or using demand management to optimise the existing supply
- energy markets and supply: geared towards improving supply security and quality (less shortages and better energy), cost competitiveness and sustainable energy sources
- technological and industrial development: address energy and environmental challenges through technological development, inter-business co-operation and identification of new business opportunities.

EnergiBasque's approach is based on using energy policies as a magnet element for innovative projects. It therefore constitutes a new and differentiated priority area of action within the 3E2020 Strategy and represents an additional contribution to sustainable energy development. The Energibasque strategy seeks to consolidate a competitive network of science-technology agents and companies within the energy industry. It defines and develops actions for the Basque Government to reach the following objectives:

- consolidate Basque business-generating companies as technological reference points in their respective energy areas, creating a magnet effect throughout the value chain that focuses on high value-added products
- develop business activities in new emerging energy areas, in which both industry and the science-technology agents already have a solid technological base that can act as a launch pad
- start from the investments made under the 3E2020, to generate new energy opportunities and markets that can be harnessed by the Basque business world.

This strategy is backed by an ambitious vision "to turn the Basque Country into an international knowledge pole and a reference for industrial development in the energy industry".

Source: Contribution from peer reviewer of the Basque Country (Spain), Cristina Oyón.

Complementarities across transport, water services or housing infrastructure should be sought. The ICT sector could play an important role in the infrastructure development strategy when building new railway lines or renewing existing lines given the technology components for both its hard (e.g. rail tracks, electric systems guiding the wagons) and soft assets when operating the infrastructure (e.g. software control systems). Additionally, the metal-mechanic sector could also benefit from the construction of new wagons for the trains. In the water sector, the introduction of smart systems for the delivery of water services could improve efficiency and foster better demand management, which would contribute to minimise investment needs in water-related infrastructure.

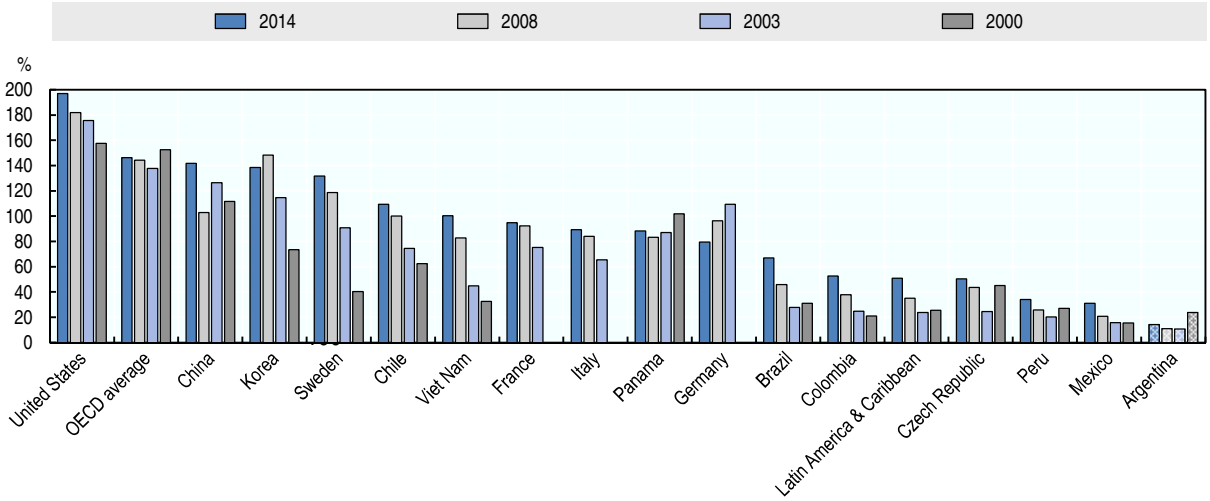
Córdoba has the potential to transform a structural bottleneck in its provincial economy into an opportunity for economic development and inclusion, yielding benefits from more robust infrastructure on multiple fronts:

- Achieving the highest value-for-money of investment through prioritisation of projects, standards, objective and sound criteria. Projects could be spread over the short, medium and long term thus ensuring that what is most needed comes first
- Developing existing, emerging and unrealised economic sectors through synergies among the private sector and the academic and research community; high-tech innovation; and new international markets opportunities.

Access to financing for the private sector

Since 2000, credit to the private sector as a percentage of GDP has grown in general terms in Latin America (from 25% to 51%), except in Argentina (OECD/CAF/ECLAC, 2013). While in Brazil, Colombia, Chile, Peru and Mexico, credit has grown by more than 10 percentage points of GDP, in Argentina it has fallen from 24% to 14% as a percentage of GDP. This is a result of the 2001 Argentinian crisis and the international crisis of 2007/2008. Despite a swift recovery (from 11% in 2008 to 14.3% in 2012), credit has not returned to the pre-crisis levels of the 1990s, remaining lower than 20% of GDP in 2012 (Figure 2.13).

Figure 2.13. **Credit to the private sector as percentage of GDP**



Note: For France, Italy and Germany no 2000 data is available.

Source: Adapted from OECD/CAF/ECLAC (2013), *Latin American Economic Outlook 2014, Logistics and Competitiveness for Development*, OECD Publishing, Paris, http://dx.doi.org/10.1787/leo-2014-en.

Although it might take some time for the macroeconomic indicators to settle down, recent economic measures by the new federal administration should ease access to credit to the private sector in the country. The latter should alleviate SMEs which are often the most affected by the lack of financial resources. Without credit, SMEs can neither expand nor undertake strategic investments to increase production or enhance productivity, for instance, through employee training, by acquiring new and more efficient equipment, or by developing ICTs. The lack of financial resources can also limit SMEs' export capacity as it is difficult to take risks without a financial cushion backing up the firm in case investments fail. Under such a complex situation, the role of the provincial government to facilitate certain services and support SMEs becomes crucial.

Foreign direct investment (FDI) levels are considered lower than they could or should be in Córdoba. The ranking of *America Economia*'s "best cities to do business in America" has raised the province's position from the 39th place in 2015 to 33rd in 2016, making Córdoba the second best city in Argentina to do business. The province is still far behind cities like Valparaiso (10th in 2016), Monterrey (15th), or Belo Horizonte (24th). Challenges hindering the provincial economy's performance related to its *Economic Framework and Dynamism,* which has an impact on its capacity to attract investments. Opening up the province to international markets could raise FDI levels in the country. Similarly, tax incentives would encourage investment by large corporations.

Attracting multinational enterprises (MNEs) is the necessary condition to drive economic development through external financial flows. However, benefitting from spillovers requires a regional development approach. The globalisation of value chains and the transformation of industrial structures present an opportunity for SMEs to participate in global production processes. Economic globalisation increasingly involves FDI by MNEs whose importance is linked to their strength in providing equity financing as well as a range of knowledge-based assets, such as management skills and intellectual property (OECD, 2007a). The question to be addressed by policy makers in emerging markets is how to mobilise FDI to support transfers of know-how and technology from multinational corporations to local SMEs. This requires place-based approaches, which rely on the right policy environment to support the formation of business linkages (OECD, 2009).

Players and approach

Some of the policies needed to improve access to credit are beyond the control of provincial policies. The macroeconomic context and related federal policies have a major bearing in determining availability of financial resources for provincial stakeholders. Over the last years, the limited access to international financial markets and the need to finance the national fiscal deficit have resulted in restrictions or crowding out of credit to the private sector. Removing the main obstacles to the access of financial services for businesses relies heavily on the desire to design and implement new market-friendly macroeconomic policies, which depends primarily on the federal Ministry of Economy and Finance (*Ministerio de Hacienda y Finanzas*).

However, beyond federal policies, a number of actions can be undertaken by provincial actors to support access to finance. The key players include the Ministry of Financing and Investment (*Ministerio de Inversión y Financiamiento*); Córdoba's Public-Private Agency for Investment and Financing (*Agencia Córdoba de Inversión y Financiamiento Sociedad de Economía Mixta ACIF SEM)*; the Ministry of Industry,

Commerce and Mining (*Ministerio de Industria, Comercio y Minería*); and BANCOR, the provincial public bank (*Banco de la Provincia de Córdoba*):

- The newly created *Ministry for Investment and Financing* has an explicit mandate to catalyse finance and credit from public or private, national or international institutions; to monitor provincial public debt; to co-ordinate and manage relations with national and international monetary and financial institutions; and to promote investment in the province (Provincial Government, 2016a).
- Córdoba's Agency for Investment and Financing is responsible for planning, managing, co-ordinating, implementing, monitoring and evaluating any national or international programme or project related with financing, subsidies and/or technical assistance (Provincial Government, 2016b).
- The *Ministry of Industry, Commerce and Mining* designs policies aiming to stimulate entrepreneurial activity and increase competitiveness of micro, small and medium enterprises. Its predecessor was also responsible for co-ordinating with financial institutions plans for local industries.
- BANCOR[4] supports the development of economic sectors, SMEs and citizens. The province of Córdoba co-ordinates programmes with BANCOR to ease access to finance for the SMEs sector and attract MNEs to the province. BANCOR offers programmes to finance strategic investments for SMEs in certain sectors, such as agriculture (acquire agricultural machinery), energy (alternative energy systems), tourism (ICT improvements), dairy (increase human capital). It also offers services to support export activity by these firms and it has provided fiscal incentives and subsidised labour or infrastructure to MNEs willing to locate the province.

The ICT sector in Córdoba was boosted by an influx of FDI. Starting in 2001, it began to experience important growth due to the arrival of MNEs and the emergence of SMEs. Fiscal incentives and employment subsidies provided by the provincial government attracted MNEs investment (Box 2.11), which resulted in the establishment of leading companies such as Motorola (2001), Intel (2006), Gameloft (2007), EDS-Hewlett-Packard (2007), and Indra (2008). SMEs in the field of ICTs also enjoyed fiscal incentives through the national software promotion law offering an income tax break (60% of total income tax) and exemptions to the value-added tax.[5] These two combined policies resulted in the rapid development and growth of the ICT sector (Borrastero and Motta, 2011).

Box 2.11. **Fiscal incentives in Córdoba: Law 5319, Industry Promotion Regime**

This law was designed to spur industrial development in the province of Córdoba through fiscal benefits. Any individual owning an industrial business place whose characteristics fall into the following categories can benefit from the industry promotion regime:

- an individual or a legal entity with residence in the country and in compliance with the national laws
- registered in the Public Commerce Registry and in compliance with accounting requirements and other relative existing legal norms
- complying with the existing legal requirements that regulate the industrial sector in which it develops its activities, particularly fiscal, labour, industrial, social security, and hygiene and safety industrial standards.

Box 2.11. **Fiscal incentives in Córdoba: Law 5319, Industry Promotion Regime** (*cont.*)

Benefits include exemptions in:

- gross income tax
- property tax
- stamp tax.

The exact proportion rate of the benefit varies between 6 to 14 years depending on the type of industrial activity and whether it is a new or existing industry.

Source: Provincial Government (2016), "Régimen de Promoción Industrial", www.cba.gov.ar/regimen-de-promocion-industrial-ley-5319-texto-ordenado-por-ley-6230-y-8083/ (accessed on March 2016).

Other important factors played a determining role in ICT MNEs investment in the province. In particular, Córdoba has a pool of high skilled human capital from provincial universities, industrial parks with facilities to develop activities, and an attractive geographical location and scale. In this sense, Córdoba ranks second in terms of percentage of university population (9%), just behind CABA (see Figure 2.17), there are fifteen industrial parks in the province, and Córdoba lies at a strategic central position in MERCOSUR – as highlighted in the previous section in Figure 2.4.

Despite the presence of a number of MNEs in Córdoba (ICT, car industry, etc.), new companies are hesitant to enter the market and existing companies may not be investing as much as they could. In addition to the macroeconomic context of the past decade, other factors hindered the setting of MNEs in the province. They include, for instance, the lack of potential robust regional development strategy that can be appealing to investors and newcomers, and insufficient infrastructure.

A rather simple way to create a business friendly environment would be to develop an investor roadmap that outlines the administrative steps MNEs should follow to settle in the province. Such a roadmap should also help promote the province's comparative advantages in a more compelling fashion, e.g. emphasising the favourable fiscal conditions, subsidies, hard and soft assets. The roadmap could serve as a presentation card for potential investors.

Attracting FDIs and benefitting from spillovers

Attracting investments is not sufficient to ensure that benefits are spread out across local economies (Kimura & Todo, 2010). Developing economies have increasingly established technology parks and free trade zones (FTZ) to connect to high-technology GVCs. Technology parks may help to address – on a limited scale – the infrastructure challenges that these countries face. FTZs offer exemptions from import and export duties on goods that are exported again. OECD work on GVCs highlights the case of Viet Nam and Costa Rica, which have been very successful in attracting investments, with however smaller benefits than expected (Box 2.12). Thus, countries and regions need to pay attention to the distortionary barriers for the integration of firms operating outside of the FTZs and that do not have access to tariff-free intermediates.

Box 2.12. **Successful cases in attracting FDIs, but not in benefitting from spillovers**

Viet Nam developed the Saigon Hi-Tech Park (SHTP) in 2002, which has been quite successful in integrating the country in knowledge-intensive GVCs. The SHTP has been effective in attracting foreign companies, stimulating economic activity, including employment, and integrating Viet Nam in GVCs. There is some debate, however, about the extent to which SHTP has helped shift Viet Nam's industrial structure towards higher-value-added and skill-intensive sectors. Many tenant companies continue to concentrate on lower value activities (even in higher-technology industries).

Costa Rica developed an efficient and supportive FDI policy framework in 1982 when it established a dedicated Investment Promotion Agency (CINDE) to provide services to investors. It also established a FTZ with fiscal incentives for companies investing in the country, including fiscal credits for non-traditional exports. FDI flows responded well and have come to play a critical role in the economy. Costa Rica's FDI stock is currently 37% of GDP, second only to Chile in Latin America. While Costa Rica has been very successful in fostering growth by attracting FDI, the challenge today is upgrading in the (domestic) value chain and to translate its integration in GVCs into domestic value added. However, the country suffers from a low level of market "thickness" which hampers the formation of linkages between local firms and foreign GVC leaders in knowledge-intensive sectors. There is a shortage of appropriate domestic suppliers, but also of professionals with the required technical qualifications, particularly at PhD level. This small internal market combined with relatively low investments in R&D (around 0.4% of GDP) limit the development of domestic technological capabilities.

Source: OECD (2013c), *Interconnected Economies: Benefiting from Global Value Chains*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264189560-en.

Evidence of positive effects of engaging in GVCs is strongest regarding backward linkages with local suppliers who are well-positioned to receive support in the form of technical assistance and training. This helps ensure quality standards and upgrade productive capacities. Ensuring MNEs stay in the region beyond the incentives period and linking them to local value chains should be priorities. For this, it is essential that local enterprises provide the quality intermediate supplies that MNEs require to develop their products at expected quality. Training programmes in SMEs are therefore necessary to ensure human capital have the required skills to develop such inputs (Box 2.13). Technology diffusion from MNEs to SMEs can also contribute to raise productivity of local firms and raise the quality of intermediate goods and services.

Box 2.13. **SMEs training consortia in Korea: Increasing linkages through human capital**

The Korean government provides training grants to enterprises from the employment insurance fund (EIF), under the Vocational Ability Development Programme (VADP). The EIF is funded through a payroll tax on enterprises. The VADP provides subsidies to firms that: i) conduct in-plant training; ii) assign workers to paid education or training leave; and iii) provide offsite training courses. It also helps employees pursue education and training – including training for older workers – and provides tuition loans. One of the main drawbacks of the VADP is that the prime beneficiaries are large firms; small and micro enterprises benefit much less from it (although they also pay smaller contributions).

Given the low response of smaller enterprises for grant applications, the Korean government is supporting training consortia that involve large enterprises (including multinationals) in organising training for SMEs. The initiative provides an interesting and innovative example of how to tackle low training participation among SMEs.

Box 2.13. **SMEs training consortia in Korea: Increasing linkages through human capital** (*cont.*)

Under this system, training institutions of large enterprises pooled resources to create a joint training centre to improve human capital in their networks of suppliers, distributors and subcontractors. This collaboration benefits all partners by increasing the efficiency and quality of training, streamlining the training programmes of partner enterprises, encouraging employees of partner enterprises to participate in training, and ultimately improving product quality. Moreover, training consortia organised by multinational enterprises or technologically advanced domestic firms may facilitate technology spillovers. The VADP supports this by providing subsidies to the consortia as well as to partner enterprises, using the training facilities.

Two training consortia established by Samsung Heavy Industries and Volvo are good examples of this initiative. Facing shortages of skilled labour and inadequate product quality among partner enterprises, Samsung Heavy Industries created a joint training facility for its partners. The pilot project began in 2001 by developing and delivering training programmes and materials that reflected the skill demand of partner enterprises. In 2002, 92% of Samsung's partner enterprises participated in the training programme, and 98% of participating individuals completed their courses. The Volvo consortium also pooled training resources to improve the skill level of suppliers and subcontractors. This scheme benefitted not only Volvo, by raising the quality of inputs from its suppliers, but also the partner companies (mostly SMEs), by improving their productive efficiency.

Korea adopted a "train-or-pay" scheme in 1976-94, but decided to move towards the new EIF-based scheme, given the low enrolment in training. The train-or-pay scheme initially had some success, but the percentage of eligible firms utilising its financial incentives fell from two-thirds in 1977-80 to less than one-fifth in 1991-93.

Source: Adapted from OECD (2016a), *Territorial Review of Bergamo*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264195028-en.

A Credit Guarantee Scheme for the province of Córdoba

In 2011, the Industrial Union of Córdoba (*Unión Industrial de Córdoba, UIC)*,[6] and the *Córdoba Stock Exchange (Bolsa de Comercio de Córdoba, BCC*), in co-ordination with the Ministry of Industry, Commerce and Mining, launched a proposal to create the first Credit Guarantee Scheme (CGS) based in the province of Córdoba (Box 2.14). The CGS was named Guarantees of the Centre CGS (*Avales del Centro SGR)*, and the Association of Argentinian Cooperatives (*Asociación de Cooperativas Argentinas*) and *Bancor* joined as Protecting Shareholders. After a five-year standby, the new federal administration approved the creation of the CGS in 2016. The project now seeks to engage more shareholders and raise more funds (in current Argentinian pesos the fund is expected to increase from the initial 60 million in 2011 to 100-150 million).

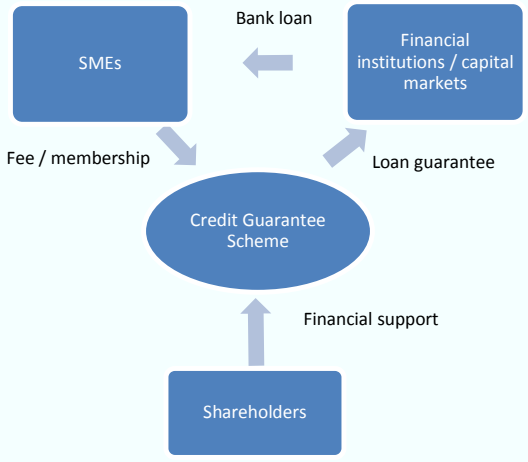
The government of Córdoba, in co-operation with private and financial actors, has a role to play to ensure the success of the CGS. Even in developed countries, the knowledge of modern financial instruments tends to be low, and such level of financial awareness is even lower in developing and emerging markets (OECD, 2009). Tackling financial illiteracy is key to improving access to finance for individual consumers or firms. It also leads to more efficient and stable financial markets while reducing the asymmetry of information between consumers and their financial service providers (Box 2.15). It may also help build trust of individuals and firms when dealing with financial institutions, which can lead to better and more efficient co-operation between the business and financial sectors. Last but not least, higher financial awareness can also potentially

reduce informality as firms are more willing to access financing and hold clear accounts for it to happen.

Box 2.14. **Corporate Credit Guarantee Schemes**

CGSs are used widely across OECD economies as important tools to ease financial constraints for SMEs and start-ups. These firms are typically limited in their capacity to access credit because of under collateralisation, limited credit history and, often, lack of expertise to produce sophisticated financial statements. Because of the information asymmetry that exists between the firm and the potential lender, the lender attributes a high risk of default to the borrower. In the absence of adequate collateral, this eventually results in a partial or negative response to the credit demand. The credit guarantee mechanism is a commonly used risk transfer instrument to overcome these constraints. The loan guarantee implies that, should the SME default, the CGS will reimburse a pre-defined share of the outstanding loan. In other terms, by reducing the loss suffered by the financial institution in the case of default, CGSs reduce the lender's credit risk. Depending on the ownership and management of the CGS, there are several types of CGS (public, private-public, and private) across OECD countries.

Standard Operation Framework of Corporate Credit Guarantee Schemes



In Córdoba, the CGS initiative is private and characterised by the direct participation of the private sector, SMEs organisations and banks in the funding and management of the scheme. Córdoba's CGS has similar features to other private CGSs in the OECD area: these schemes are integrated by two types of members, i.e. Participating shareholders and Protecting shareholders. For the case of Córdoba, the Association of Argentinian Cooperatives and Bancor will be acting as Protecting shareholders, and Participating shareholders will be all those that benefit from the CGS when operational. The specific requirements to meet as Protecting or Participating shareholders in Argentina are stated in the Federal Government Bill No. 24.467:

- Participating shareholders: private micro, small or medium firms that are eligible to enjoy the benefits of a CGS. The capital of each of these cannot be more than 5% of the total capital of the CGS.
- Protecting shareholders: firms, financial institutions, or individuals that contribute with funds to the CGS, but cannot benefit from the guarantee. Altogether, protecting shareholders cannot own more than 50% of the total CGS fund. Protecting Shareholders receive fiscal incentives of 100% of the total amount with which it has contributed to the scheme.

Source: OECD (2012), SME and Entrepreneurship Financing: The Role of Credit Guarantee Schemes and Mutual Guarantee. Societies in supporting finance for small and medium-sized enterprises, Centre for Entrepreneurship, SMEs and Local Development,http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=CFE/SME(2012)1/FINAL&docLanguage=En; and, Federal Government (1995), "Law 24.467: Law of Small and Medium Enterprises", www.econ.uba.ar/servicios/cepymece/24467.htm.

The province should consider launching a programme to tackle financial illiteracy among individuals and firms, which could build on existing private association networks and the provincial education system. Particularly, it should also be targeted to the smaller type of SMEs, also known as micro firms, where shortage and capacity gaps in terms of human capital are prominent.

Box 2.15. **Improving the quality of financial demand: Financial literacy and entrepreneur skills**

Financial education and entrepreneurial skills can improve access to finance for SMEs by developing the skills and knowledge of the borrower on how to optimally manage the borrowed funds. Upgrading skills should be considered as an incremental measure for quality loans, when properly combined with other instruments.

Banks should improve the skills of their credit officers, make them more aware of the needs and characteristics of SMEs and enable them to provide balanced advice on existing financial products and solutions. Action should be taken to improve financial literacy across the population, introducing the subject as part of the education curriculum; potential and active entrepreneurs should also receive training in financial planning, cash flow management and basic finance.

Source: OECD/WEF (2011), Competitiveness and Private Sector Development: Eastern Europe and South Caucasus 2011: Competitiveness Outlook, OECD and the World Economic Forum, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264112322-en.

Providing individuals with the necessary skills is also essential to promote an "entrepreneur culture" among the population. Specific institutions exist in OECD countries to help foster this type of environment and provide guidance on the different soft and hard approaches that will bring such a change (Box 2.16). Córdoba is well placed, given its high quality university system, to support a business incubator to stimulate exchange and innovation, as well as to attract investors. The creation of such a centre would require the support of the provincial and national government.

Box 2.16. **The Brandenburg Institute for Entrepreneurship and SMEs**

The Brandenburg Institute for Entrepreneurship and SMEs (BIEM) is the entrepreneurship institute of the regional development agency in the German state of Brandenburg and of nine public higher education institutions (HEIs). BIEM was founded in 2006 to reinforce, complement and co-ordinate the entrepreneurship support activities offered by Brandenburg's HEI by pooling resources and enhancing collaboration. BIEM helps achieve the critical mass necessary to realise projects with wide-ranging impacts.

BIEM's annual budget is EUR 100 000, financed by European Structural Funds, the Brandenburg Länder Ministry of Economics and other project-related revenues (e.g. fees for service). The institute has eight employees, with additional projects and personnel in partner organisations. BIEM activities include entrepreneurship education, start-up support, entrepreneurship research and networking with business support organisations and other universities. It focuses on the expansion and better integration of entrepreneurship education into the curricula, including innovative teaching methods, broad communication of activities, and an expansion of co-operation beyond BIEM's core partners (e.g. by involving university staff and external experts, agencies and companies). Partnering HEIs benefit from the growing numbers of students participating in entrepreneurship education activities and an increase in the number and variety of courses available for their students. Higher education institutions have established

Box 2.16. **The Brandenburg Institute for Entrepreneurship and SMEs** (*cont.*)

"entrepreneurship location managers/animators" (Standortmanager), who act as "one-stop" interlocutors for would-be entrepreneurs. This structure helps build stronger links between the universities' internal and external support services, and integrate entrepreneurship education and start-up support services.Other projects include: "Entrepreneurship ACs" that evaluate entrepreneurial potential and learning needs before launching a start-up and match them with mentoring; the "Team Competency Lab", which focuses on team-building and coaching at the Brandenburg Technical University Cottbus, and the "GO: Incubator" at the University of Potsdam.

In 2009, BIEM generated 370 initial consultations for would-be entrepreneurs. In addition, 203 were referred to external business support structures and 86 business start-ups were supported. The key element for the institute's success is the multidimensional co-operation between all the HEIs and their external partners, the involvement of the HEIs in regional leadership and a phased approach to entrepreneurship.

Source: OECD (2013c), OECD Territorial Reviews: Antofagasta, Chile 2013, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264203914-en.

Information and data are also key assets for the successful implementation of the provincial Credit Guarantee Schemes (CGS). Up-to-date and accurate statistical information is essential to tailor policies to the needs of SMEs. Argentina has multiple definitions of SMEs. Some institutions use a specific number of employees as threshold; others use the firm's turnover. This lack of harmonisation creates confusion, fatigue and frustrations when firms apply to public programmes, as they may qualify or not depending on the definition used. A same definition of SMEs should be used for policy making and statistical data collection. Asymmetry of information between SMEs and financial institutions could also be tackled. This could be achieved by improving the quality of financial information provided by the companies, adopting improved accounting standards based on international best practices, assisting SMEs in applying and conforming to those standards, and developing credit bureaus and other forms of credit monitoring. Such measures can contribute to building a relationship between banks and SMEs based on trust and can also reduce loan assessment and loan monitoring costs (OECD/WEF, 2011).

The role of the CGS could be further enhanced by opening up access to bank credit for innovative and high-growth companies with considerable intangible assets but that lack tangible assets. This could be done by properly capitalising them to ensure that they remain operational over the medium term, refining the credit analysis and project evaluation processes, and strengthening their governance and supervision (OECD/WEF, 2011). There are no publicly owned CGSs in Córdoba; but the Partial Credit Guarantee Fund (FOGAPE) in Chile, which has been successful facilitating credit to SMEs, could serve as a good example if the province moves forward with the creation of a public CGS (Box 2.17).

Argentina's recent return to the financial markets provides opportunities to diversify the financial products offered by CGSs. It is also expected to bring an inflow of investments to the country that would benefit big firms and SMEs. CGSs play a fundamental role in guaranteeing access to capital markets for SMEs. Since their entry to the financial markets in 2003, Deferred-Payment Cheques (*Cheques de Pago Diferido*, CPD) have been an important financing tool in Argentina for SMEs. This instrument is very appealing for investment funds due to the liquidity associated to them; growth in this market is expected by foreign investors.

Box 2.17. **Chile's Guarantee Fund for Small Business (FOGAPE)**

The Partial Credit Guarantee Fund (FOGAPE) in Chile is administrated by a governmental agency. In 2004 FOGAPE had a total equity of USD 52 million. The number of guaranteed loans has risen from 200 in 1998 to approximately 34 221 in 2004. In 2004, the total number of loans covered by the guarantee fund was USD 472 million and an average coverage ratio of 65%. The registration fee ranges from 1-2% depending on the borrower's default history.

FOGAPE's success is due to many factors, including:

- A dedicated regulatory entity: Superintendency of Banks and Financial Institutions (*Superintendencia de Bancos e Instituciones Financieras*)
- Transparency and fairness – for example guarantees are allocated to financial institutions through a sealed bid auction
- An intensive public promotional campaign launched by the government to explain the utility of the programme. Additionally, training programmes were provided to commercial banks to acclimate them with FOGAPE and its policies; lastly financial institutions were invited to participate in FOGAPE's committees.

Larraín and Quiroz (2006) investigated the impact of the fund and their findings indicate that FOGAPE achieved to raise the levels of credit and also create economic value. FOGAPE appears to have contributed to an increase in the volume of credit by 40% (customers of FOGAPE are 14% more likely to get a loan than non-customers) and an increase by 6% of the turnover of beneficiary companies. Nevertheless, it is important to note that the study only looked at loans made in larger cities; and there are still doubts about the impact of FOGAPE in rural areas.

Source: Larraín, C. y Quiroz, J.; Estudio para el fondo de garantía de pequeños empresarios, Banco del Estado. Ed. Mimeo. March 2006; and Llisterri. J. et al. (2006), "Sistemas De Garantía De Crédito En América Latina", Banco Interamericano de Desarrollo, Washington DC., www.iadb.org/wmsfiles/products/publications/documents/1442279.pdf.

The potential existence of a provincial CGS, together with the association of the *Bolsa de Comercio de Córdoba* to the MAV (*Mercado Argentino de Valores*), opens a window of opportunity for SMEs. Since the new capital market law reorganised the system, MAV is a dedicated market for SMEs and regulates financial instruments for these enterprises. Thus, the existence of a provincial CGS that can be supported in the MAV through the provincial *Bolsa de Comercio* will put Córdoba's enterprises in a strong position to improve access to financial markets.

Alternative Financing Instruments for SMEs

CGSs are one of the most widespread financial tools for SMEs to access banking loans and capital markets. There are other financial instruments which the province may wish to explore (Table 2.3) but that require a national authority counterpart and private sector actors. Private equity financing includes a broad range of instruments, whereby private enterprises can obtain funds from private sources in exchange for an ownership stake of the firm (OECD, 2009). Venture capital is a type of private equity instrument targeted at new and early stage companies (see Table 2.4). Private equity firms are usually structured as a limited partnership of, for instance, pension funds, insurance companies, hedge funds, or wealthy individuals. These instruments usually target firms in high technology industries, such as biotechnology and ITC. An "angel investor" is another example, i.e. capital in exchange of equity through an individual or informal structure (e.g. a family) that provides the financial resources. These investors usually seek

companies in pre-seed or seed stage, as the availability of capital is not as large as in venture capital firms. The value-added of "angel investors" is, besides the financing, the provision of skills to the entrepreneur.

Table 2.3. **Mapping of alternative financing instruments for SMEs**

Low Risk/ Return	Low Risk/ Return	Medium Risk/ Return	High Risk/ Return
Asset-Based Finance	Alternative Debt	"Hybrid" Instruments	Equity Instruments
Factoring Purchase Order Finance Warehouse Receipts Leasing	Corporate Bonds Securitised Debt Covered Bonds Private Placements Crowdfunding (debt)	Subordinated Loans and Bonds Silent Participations Participating Loans Profit Participation Rights Convertible Bonds Bonds with Warrants Mezzanine Finance	Private Equity Venture Capital Business Angels Specialised Platforms for Public Listing of SMEs Crowdfunding (equity)

Source: Table adapted from OECD (2015b), *New Approaches to SME and Entrepreneurship Financing: Broadening the Range of Instruments*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264240957-en.

Table 2.4. **Venture Capital by stage**

Stages	Definition
Pre-seed/Seed	Financing provided to research, assess and develop an initial concept before a business has reached the start-up phase
Start-up/ Other early stage	Financing for product development and initial marketing. Companies have not sold their product commercially and are in the process of being set up
Later stage venture	Financing for the expansion of an operating company

Source: Table adapted from OECD (2015b), *New Approaches to SME and Entrepreneurship Financing: Broadening the Range of Instruments*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264240957-en.

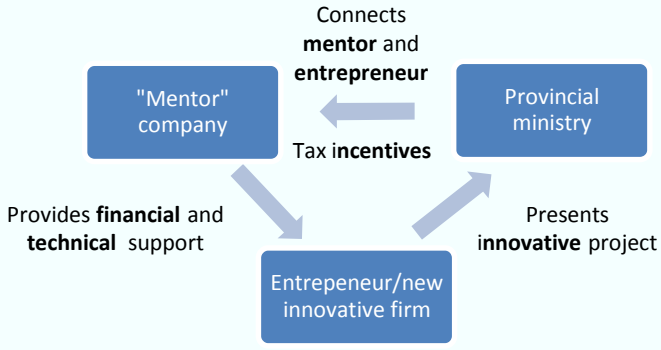
A good practice and promising experience in the province of Cordoba is *Emprende INNdustria*. The programme matches an entrepreneur firm with a "mentor" company that supports the former by helping financially and providing management and technical capacity. In return, "mentor" companies benefit from fiscal incentives through tax exemptions (Box 2.18). *Emprende INNdustria* could be the first step for the province towards the implementation of private equity instruments, such as "venture capital" or "angel investor".

The province could consider providing fiscal incentives to private equity investors to encourage investments in risk capital, e.g. income tax exemptions (individuals and firms) (Box 2.19). Control mechanisms become a key part when implementing these types of instruments.

Box 2.18. **Emprende INNdustria**

The provincial Ministry of Industry, Commerce and Mining created *Emprende INNdustria* in December 2014, which pairs an entrepreneur with a "mentor" company through the provincial Ministry. The "Mentor" company supports the entrepreneur by financing him/her, as well as knowledge transfer on management, technical capacity and other services. In exchange, the provincial Ministry provides tax exemptions of 125% of the amount financed to the entrepreneur.

Emprende INNdustria framework



This programme provides companies with up to USD 360 000 in capital, disbursed over two years with instalments of USD 240 000 the first year and USD 120 000 the second year.

Source: Provincial Government (2016), "Emprende Inndustria Córdoba", www.cba.gov.ar/emprende-inndustria-Córdoba/ (accessed on 2 March 2016).

Córdoba should identify and use all accessible financing tools that are available as well as engage with national authorities and financial institutions outside the province to stimulate the financial market in Córdoba. There are examples in OECD countries where national agencies support investment in certain sectors; in France, a recent initiative was launched to attract investment in the tourism sector (Box 2.20), which can be inspiring for the provincial Ministry for Investment and Financing to support growth of SMEs.

Box 2.19. **Public instruments to promote equity financing**

The **United Kingdom** has some of the best fiscal incentives for angel investors in the world. Through two different schemes the British government offers fiscal incentives for private equity investors, particularly fit for pre-seed, seed, and start-up capital.

- The Seed Enterprise Investment Scheme (SEIS) was launched in April 2012 for investors to invest up to GBP 100 thousand in qualifying investments per annum and benefit from 50% income tax relief, and 50% capital gains tax relief if they reinvest those gains using SEIS. Loss relief is also applicable. SEIS qualifying companies must meet two criteria: less than two years trading and no prior capital rose under Enterprises Investment Schemes.
- Under the Enterprise Investment Scheme (EIS), investors can invest up to GBP 1 million in qualifying investments per annum and benefit from 30% income tax relief. Capital gains can be deferred. Typically, EIS eligible companies have been trading for longer than SEIS companies and have already raised a round of finance.

Box 2.19. **Public instruments to promote equity financing** (*cont.*)

Start-Up Chile is a programme created by the Chilean government in 2010 that seeks to attract early-stage, high-potential entrepreneurs to develop their start-ups using Chile as a platform to go global. The objective of this programme is to position Chile as the innovation and entrepreneurship hub of Latin America. Start-Up Chile receives in between 200–250 companies a year, and has had extraordinary results. Since the programme started: capital raised has reached 6.4 times the money invested by the Chilean Government, 1 500+ jobs have been created in Chile, and the valuation of start-ups has reached USD 425 million.

Applicants can access three distinct programmes based on the stage of the start-up:

- The S Factory: Pre-acceleration programme for start-ups in early concept stage focusing on female founders. Selected companies receive Chilean pesos (CLP) 10 million (around USD 14 000) equity free and 3 month acceleration.
- Seed: Acceleration programme for start-ups with a functional product and early validation. Selected companies receive CLP 20 million (around USD 30 000) equity free and 6 month acceleration.
- Scale: Follow-on fund for top performing start-ups. Selected companies receive CLP 60 million (around USD 86 000) equity free with the condition that they incorporate and open operations in Chile.

In all programmes one of the start-up founders has to settle in Chile and pay back to the Chilean society through a social impact programme that aims to promote innovation and entrepreneurship. In addition to grants and co-working space, Start-Up Chile offers an acceleration programme with training, networking events, and technical workshops that foster knowledge exchange on how to develop start-ups.

Source: Angels in the City (2016), "Research & Policy", Investing in London's entrepreneurship and growth, www.angelsinthecity.org.uk/research-and-policy/ (accessed on 13 May 2016); and, Start-Up Chile (2016), "Start-Up Chile", http://startupchile.org/ (accessed on 13 May 2016).

Box 2.20. **Mobilising investment for tourism development in France**

In October 2015, France implemented a new integrated initiative led by the Public Investment Bank *(Banque publique d'investisement, Bpifrance*) whose ambition is to mobilise nearly EUR 1 billion over the next five years to support the tourism economy, with three main targets: 1) accommodation; 2) equipment and infrastructure; and 3) businesses.

This new platform for investment is dedicated to the development of the tourism sector in France and is composed of three main actions, with distinct investment aims and targets:

1. **Investment for accommodation** – The creation of a real estate fund (*Foncière de Paris*), open to investors, aims to support capacity improvement and quality accommodation in tourism destinations. The fund will primarily invest in physical infrastructure for the construction or the renovation of hotels and tourist residences in destinations with a strong potential for development. A fundraising strategy will be launched targeting institutional investors with a target of EUR 500 million, with the *BPI* participating in the initial investment.
2. **Investment for equipment and infrastructure** – *Caisse des Dépôts* capital will be mobilised for investment in tourism infrastructure facilities (marinas, exhibition centres, spas, cultural tourism attractions etc.) in all types of territories/destinations, including for accommodation that would not be targeted by the real estate fund. The funding is close to EUR 400 million and investment should involve private co-investors in each case.

Box 2.20. **Mobilising investment for tourism development in France** (*cont.*)

3. **Investment for tourism SMEs** – A capital development fund (*France Tourism Investment*) has been created by Bpifrance for tourism SMEs, with a proportion of investments earmarked to financing innovation and e-tourism. This fund will be open to third party contributors. The fundraising expected is between EUR 80 million and EUR 100 million with a commitment of Bpifrance for EUR 50 million.

Source: OECD (2016c), OECD Tourism Trends and Policies 2016, OECD Publishing, Paris, http://dx.doi.org/10.1787/tour-2016-en; Bpifrance (2016), "Investissement: un nouveau fonds dédié aux entreprises du tourisme", www.bpifrance.fr/Actualites/A-la-une/Investissement-un-nouveau-fonds-dedie-aux-entreprises-du-tourisme-20060 (accessed on 20 September 2016).

Education

Broad access to quality education and training is essential for social cohesion and labour productivity. High levels of educational attainment and more equal access to education for children from all backgrounds lead to a more skilled and productive workforce, producing a higher standard of goods and providing services more efficiently, which forms the basis for economic growth, rising living standards and lower income inequality. Successful entry into the labour market tends to rely on strong basic education in conjunction with relevant vocational education and training programmes for appropriate skill-match (G20, 2010).

A well-functioning education system should be effective in promoting inclusion and supplying skills to the private sector. Both policy goals are foreseen in the Provincial Education Law, which includes specific sections for the *right to education*, with a special emphasis on promoting inclusion and vocational education and training programmes, i.e. technical-professional education.[7] The latter is defined as the area of secondary and tertiary education responsible for training and educating the medium- and high-level technical labour force in specific occupational areas. It provides the necessary capacities, knowledge, skills, expertise, ethical principles and attitude to perform professionally.

Education is a decentralised competence

Education policy in Argentina underwent a radical change in 1993[8] when the federal government delegated all education services, except for tertiary education, to the provincial governments and the city of Buenos Aires. Until then, education had been a centralised competence. Subsequently, the provincial governments acquired competences for early (3-6 years old); primary (6-14 years old); secondary, including vocational education and technical training, (14-18 years old); and tertiary education (university level education). The first three (initial, primary, and secondary) are exclusively provincial responsibilities, whereas tertiary education is shared with the federal government. All universities of Cordoba, but one (*Universidad Provincial de Córdoba*) are either national public universities or private entities. Whereas the provincial university is funded with provincial resources, it is the federal government that funds national public universities. In this context, co-ordination becomes essential to ensure that education policies at the tertiary level correspond to the needs of the province.

The Federal Council for Education (*Consejo Federal de Educación*) was established by law in 2006[9] as a cross-jurisdictional body responsible for the design, agreement and co-ordination of national education policy, as well as the assurance of unity and coherence of education systems throughout the country. This body is formed by the

federal Minister for Education, Ministers for Education from each province and the city of Buenos Aires, and three representatives of the University Council (integrated by public and private university authorities from national and regional commissions). Following the agreements reached at the Federal Council for Education, Córdoba has been implementing a series of national-level education reforms in the past ten years. These reforms include, among others, a law fostering internships.[10] It also transposes several aspects from the National Education Law[11] such as the extension of the school day from four to six hours in the second cycle of primary education; the extension of the length to obtain a secondary degree from three to six or seven years for *A levels* and technical diplomas, respectively. Prior to this law a student did not have to pass the second cycle to obtain a secondary education diploma.

The INED (*Instituto Nacional de Educación Docente*) is the federal entity responsible for curricula design. A challenge faced by the province is that fast-changing sectors which have a predominant role in its productive matrix, such as computing/software Are dynamic and evolve fast. This is why attracting students to these fields requires curricula that adapt along with the development of new technologies. In that context, there may be room for the province to launch new programmes to adapt to territorial specificities and needs.

The provincial Ministry of Education (*Ministerio de Educación*) is responsible for designing education policies within its competences. In doing so, it is supported by the Provincial Council for Education Policy (*Consejo Provincial de Políticas Educativas*) and Provincial Technical Education and Employment Council (*Consejo Provincial de Educación Técnica y Trabajo*) (see Box 2.21).

Box 2.21. **Council for Education Policy and Council for Technical Education and Employment**

The **Provincial Council for Education Policy** is formed by representatives from the Ministries of Education and Science and Technology, universities, professional education associations, legislative and judicial powers, and students and parents' associations. The Council's main mandate is to assess and co-operate with the Ministry of Education in:

- proposing issues that are necessary for the design of education policies through analytical studies
- suggesting ways forward to enforce national and provincial education laws, and proposing relevant modifications to these
- seek co-ordination in the implementation of actions to reinforce inclusion, equity, and quality of education
- policy monitoring and evaluation
- proposal of alternatives to optimise resources dedicated to education policies.

The **Provincial Technical Education and Employment Council** co-ordinates between the relevant ministries, the different chambers of commerce and industry, and other private sector representatives in order to ensure training needs are established and met. The Council is composed of the Ministers of Education, Industry; Commerce and Work; Science and Technology; and Agriculture, Livestock and Food. It also has a representative from the university sector, private sector, workforce, intermediate associations, education professional groups/associations, provincial bodies representing students at the medium and high levels of private and public technical professional education, provincial bodies that represent fathers or mothers at the medium and high level of private and public technical-professional education, and entities representative of private education institutions. This body assesses the design and co-ordination of technical education and training policies to enhance professional technical training of children and adults. It also serves to strengthen the links with the productive structure of the province, including secondary and tertiary levels. It is responsible for monitoring the province's economic needs and ensuring priority areas are matched. Its specific functions include:

Box 2.21. **Council for Education Policy and Council for Technical Education and Employment** (*cont.*)

- promote comprehensive, reinforcing and sustainable policies for technical and professional education in the province of Córdoba
- establish consultation and co-operation mechanisms with society's groups (i.e. private sector associations, labour force associations, and intermediate associations) for the design and implementation of policies
- propose technical-professional training curricula and programmes, considering regional demands, and within the provincial competences
- define technical-professional training certificates
- promote completion and continuous learning among the youth and adults
- promote training and continuous updating of teachers' skills according to the advances in the productive sectors
- promote engagement and recognition of the province in national and international bodies in order to access alternative financing sources for technical-professional training.

Source: Government of the Province of Córdoba (2010), "Law 9870: Provincial Education Law", http://dges.cba.infd.edu.ar/sitio/upload/LEP_9870.pdf.

Education policy in Córdoba

The 1999 Pact for Quality Education generated a strong political impetus for improving education in Córdoba, particularly in terms of access and inclusion (Box 2.22). Since then, education policy has been seen as a top priority among all sectors and numerous efforts have been put in place to guarantee access to quality education. This has yielded many benefits in terms of access and inclusiveness. Securing access to education for all has been a longstanding objective in Córdoba. This has come with a strong investment over the last 15 years for quality school facilities, even in rural and remote areas. Since 1999, over 350 early education facilities have been opened up and around 500 new schools for primary education have been built. The Integral Assistance Program (*Programa de Asistencia Integral de Córdoba*, PAICOR) targets children in unfavourable socioeconomic environments while providing them with two meals per day during school hours and dental care - students need to attend school to qualify for the programme. It also promotes healthy nutrition habits among these children (Box 2.23). *Salas Cuna* is a new initiative launched in co-ordination with NGOs to expand the existing network of early education facilities, especially in areas where the most disfavoured sectors of society live.

While virtually all students complete primary education, completion levels at the secondary level are low in Córdoba and across the country. The quality of secondary education is under scrutiny by both the public and private sectors. School is mandatory in Argentina from four years old through secondary education. Secondary education is divided into two cycles: the basic cycle (three years long with a common curriculum for all) and the specialised cycle (three years long with different curricula for specific areas of knowledge and work; the specialised cycle for vocational and artistic training, however, lasts four years. Completion rates in secondary education are below 20% of the population between 15-59 years old in Córdoba, which is lower than the rates registered

in Buenos Aires and Santa Fe (Figure 2.14). Moreover, over 17% of the population (15-59 years old) attended secondary education but did not complete it; this rate is higher than in CABA, Buenos Aires or Santa Fe. The number NEET increased during 2004 and 2010 from 9% to 11% for youth between 14-17 years old, and from 9% to 15% for youth 18-24 years old (Llorente, 2014).

To increase secondary completion rates, tackle youth unemployment, and give a second chance to students at risk of social exclusion, several provincial programmes have been implemented. The Programme for Inclusion and Completion (*Programa de Inclusión y Terminalidad*) was designed and implemented in 2010 targeting 14-17 year olds. The programme's objective is to allow students to engage in school in a way more suited to their needs by letting students decide their own curricula (Box 2.23). The Secondary Education Attainment Programme for Young and Adults (*Finalización de Estudios Primarios y Secundarios para Jóvenes y Adultos [FinEs])* targets people over 18 years old who attended, but did not complete, secondary school The province is also using other tools, such as the First Step Programme (*Programa Primer Paso*, PPP), to help young people enter the provincial job market (Box 2.23).

Box 2.22. **Provincial pact for education in Córdoba**

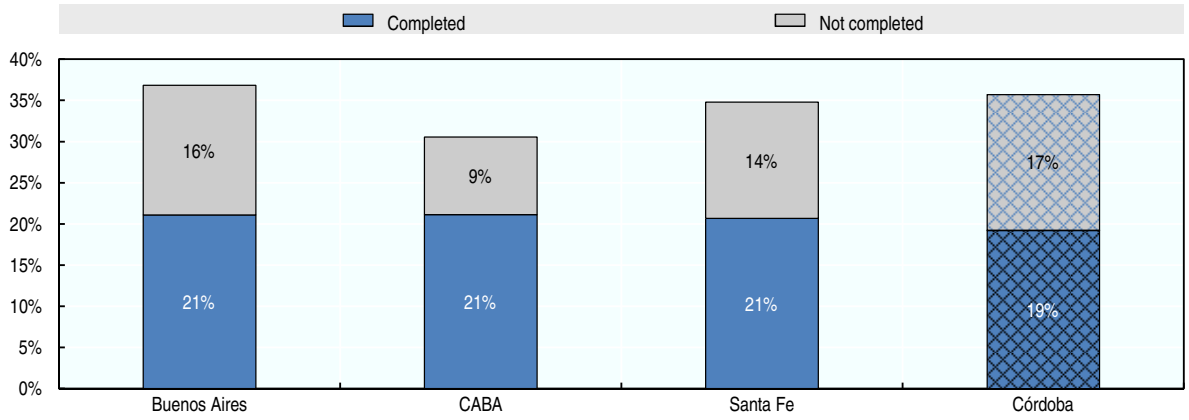
The Ramón B. Mestre administration (1995-1999) faced severe financial difficulties resulting in targeted budget cuts in education. This generated strong opposition from trade unions, professional associations and other political parties. In 1999, Jose Manuel de la Sota, newly elected governor, signed a Pact for Quality Education in Córdoba with the trade unions and professional associations of teachers. The pact laid down a set of commitments for both parts (provincial government and trade unions) and guidelines for education policies in the province:

- quality education as a policy targeting the less favourable society groups
- reinforce the hierarchy and professionalism of teachers
- establish regular evaluation systems of education quality
- match services to the education needs of society
- interact with stakeholders to improve budget expenditures in education; and
- establish a framework for dialogue, participation and agreements in education policy.

One of the most remarkable features of this Pact was the ability of the stakeholders (provincial government, trade unions, Ministry of Education and other groups) to reach agreement, despite opposing views; this provided for a turning point in Córdoba's educational system with collective action undertaken in a shared responsibility across public, private and non-profit sectors.

Source: Miranda, E. et al. (2003), "Políticas de Reforma del Sistema Educativo en los noventa", 1st Part, Edit. Brujas, Córdoba; and Torres, R. M. (2001). "Participación ciudadana y educación: Una mirada amplia y, 20 experiencias en América Latina", www.unesco.org/education/efa/partnership/oea_document.pdf.

Figure 2.14. **Secondary education completion rates among adults 15-59 years (2010)**



Note: The percentage of population with secondary education has been calculated with respect to total population among 15-59 years old.

Source: INDEC (2010), "National Census of Population, Households and Properties (2010)", Instituto Nacional de Estadística y Censos de Argentina.

The provincial Ministry of Education is trying to enhance the quality of secondary education. The efforts have focused on increasing the number of teacher training hours from 800 to 2 600, making it mandatory for student teachers to gain practical classroom experience in their first year of training, and including foreign languages or ICTs in curricula. Despite these efforts, there is still a significant challenge in attracting motivated teachers to low-income areas and remote locations.

There seems to be a fair level of awareness of the importance of matching skills to demand. There are programmes, such as PROFOCO, where the government and private sector work together to identify a skill and provide training to build capacity in this area. The private sector has also tried to bridge the gap between their workforce needs and the regional supply of skills by training its own personnel through technical education programmes (Box 2.24). However, these types of initiatives are considered by the private sector as a temporary solution that places the responsibility on the private sector, particularly SMEs, which may not be a sustainable way to match demand and supply.

Box 2.23. **Flagship educational programmes in Córdoba**

Programa de Asistencia Integral de Córdoba **(PAICOR)**: PAICOR was introduced in 1984 and is one of the most successful social policy initiatives in the province. It has received bipartisan support since its inception. The programme provides 458 973 daily meals in 3 782 schools to 247 000 children. Its primary objective is to contribute to inclusion, promote primary education attainment, and increase participation rates of students living in poverty or extreme poverty conditions. The programme provides children in need with two meals per day during school hours and dental care (students must attend school to qualify) and promotes healthy nutrition habits of this targeted population.

Programme for Inclusion and Completion (PIT): PIT provides for youth between 14 and 17 years old an opportunity to complete their secondary education. The programme allows flexibility in terms of curriculum and scheduling, i.e. course-based and not time based. If required, students receive extra support to better organise their time and design a curriculum that matches their needs. The programme has been launched for two consecutive cohorts (2010/2011) in 31 schools – 20 in the Capital Department and the rest in interior cities – which gathered the necessary institutional and organisational conditions to implement it.

Box 2.23. **Flagship educational programmes in Córdoba** (*cont.*)

First Step Programme (PPP): PPP ran from 1999 to 2007 and was reactivated in 2012. It targets 16-25 year olds looking for their first job. The participants identify a potential employer, and if selected for the programme, the government subsidises their salary for one year. After that, the employer can choose whether or not to convert the position to a regular contract. Results has been rather satisfactory with a post-one-year insertion rate of approximately 60%. Since 2011, over 60 000 youth have been employed through this initiative, which is active in 420 of the 427 municipalities of the province. An independent evaluation of the programme's effectiveness is currently underway, which will provide evidence to ratify or deny the success of the programme.

Source: Ministry of Public Administration (2016), "Ministerio de Gestión Pública - Secretaría del PAICOR", Government of the Province of Córdoba, https://paicor.cba.gov.ar/Home/institutional (accessed on 1 March 2016); Ministry of Education (2016), "Ministerio de Educación: Programa 14-17 Otra vez en la escuela", Government of the Province of Córdoba, www.cba.gov.ar/programa-14-17-otra-vez-en-la-escuela/ (accessed on 1 March 2016).

Box 2.24. **MNEs and SMEs training institutes and programmes**

The Technical Institute of the Renault Foundation (*Instituto Técnico, Fundación Renault*) or the Professional Training of Fiat Auto Argentina (*Formación Profesional de Fiat Auto Argentina*) are private sector institutes focused on technical education and training. Particularly, the Technical Institute of the Renault Foundation has a long tradition in the province and dates back to 1962 when at the time Renault was still part of *Industrias Kaiser Argentina*. The institute offers services in secondary, VET and professional training, These courses are focused on providing with a set of skills specific to the metal-mechanic sector which will enable students to enhance their technical competences and broaden their capabilities. Moreover, students have the opportunity to conduct internships and gain first-hand experience in Córdoba's Renault factory.

Prodismo Argentina is an SME in the metal-mechanic sector in Córdoba. This family company is a local supplier for MNEs located in the province, e.g. Renault, and also has exporting capacity. Prodismo launched technical training programmes, similar to those offered by Renault, to train qualified workers on metallic moulds and matrixes to ensure a steady flow of qualified workers.

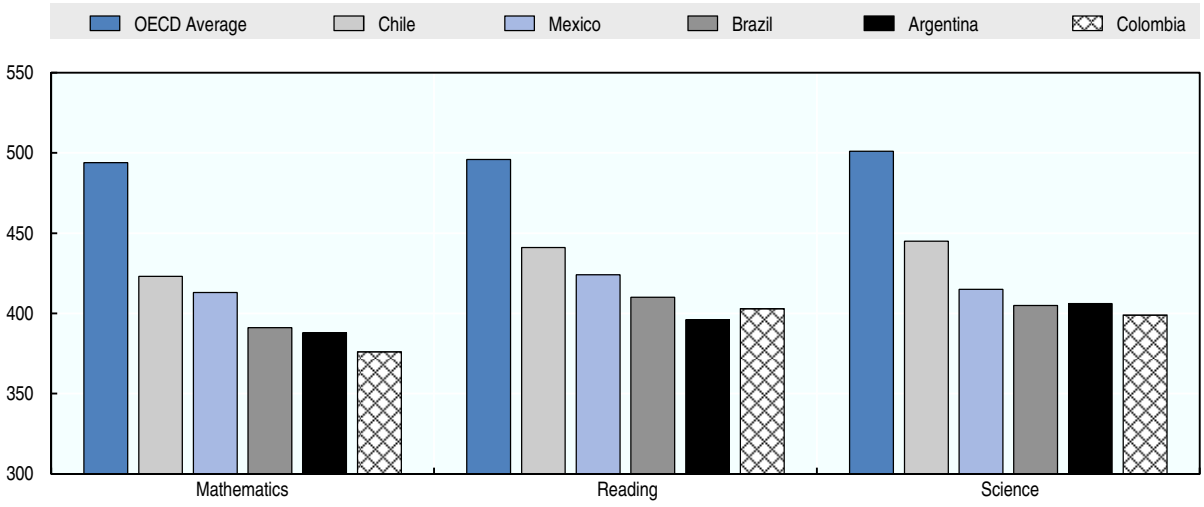
Source: Fundación de Renault (2016), Instituto Técnico - Fundación de Renault, http://itr.edu.ar/ (accessed on 15 November 2016) and local interview with Prodismo management.

Inclusiveness and quality of education

Significant investments together with the PAICOR programme have generated positive results at provincial level with almost 100% enrolment and attendance in primary school and null illiteracy rates. Since 2001, rates of non-attendance have diminished from 0.91% to 0.51% in 2010 (INDEC, 2010). The literacy rate is high in the province of Córdoba: 98.5% in 2010 with little difference between males and females (98.3% and 98.7%, respectively) (INDEC, 2010). Investing further in early childhood education will help reduce the gap generated by family environments early in life, and could also help to raise female labour force participation, all of which will enhance productivity.

While there has been progress with attendance and literacy rates, much remains to be done to improve the quality of education. The 2012 OECD PISA results ranked Argentina far below the OECD average in mathematics, reading, and science (Figure 2.15). The improvement reported in these areas since 2002 are considered to be statistically insignificant (OECD, 2014b), which means that there has been no measurable improvements since 2002 in Argentina's secondary education system.

Figure 2.15. **PISA results 2012, Latin America and the Caribbean selected countries**



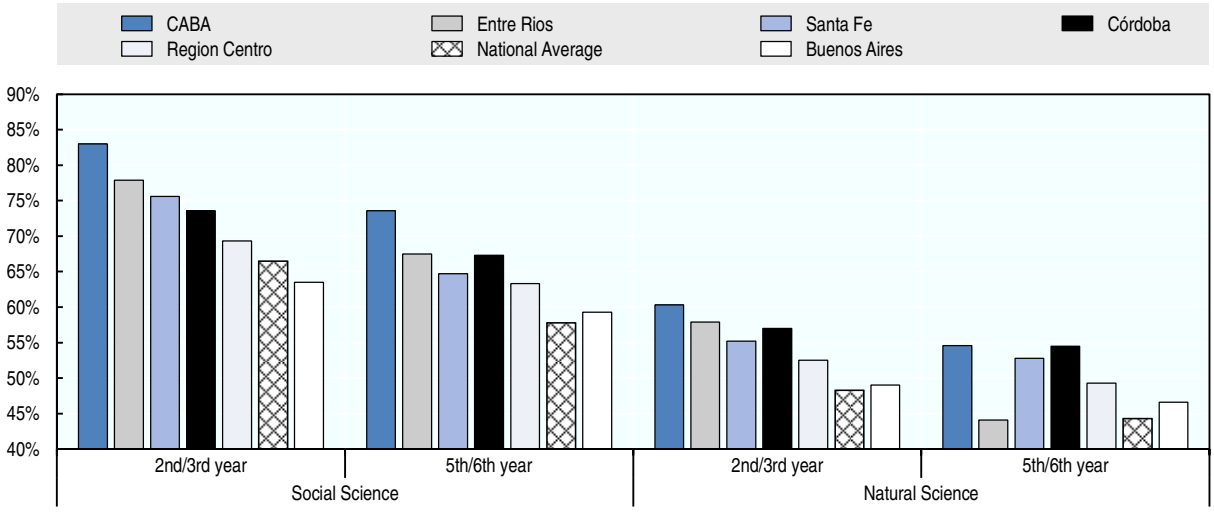
Source: OECD (2014a), *PISA 2012 Results: What Students Know and Can Do* (Volume I, Revised edition, February 2014): *Student Performance in Mathematics, Reading and Science*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264208780-en.

Results from the *Operativos Nacionales de Educación* (ONE), which is a study equivalent to PISA for Argentinian provinces, indicates that Córdoba's education quality was well-above the national average in 2008. However, results vary when compared to its direct national peers: Córdoba scores below Ciudad de Buenos Aires in all categories, on par with Entre Rios, and above Santa Fe in three out of four categories. It is also performing better than the province of Buenos Aires (Figure 2.16). The absence of indicators in the same knowledge areas and format for more recent years hinders the assessment and evaluation of the initiatives recently implemented at provincial level to improve quality of education (i.e. increasing training hours to teachers, updating curricula and enhancing on-site training).

Tertiary education is considered by both the private and public sectors to be a key competitiveness asset for Córdoba. Home to nine universities and attracting over 275 000 students, Córdoba's high level of education is a comparative advantage to attract business and investment. Also known as *"Córdoba la Docta"* the province has a long tradition of education, originating in 1613 with the creation of the National University of Córdoba by Jesuit missionaries. This was the first university in Argentina and the third in America. Córdoba's universities are considered a critical driver for growth, technology and innovation, not only for the quality of their education but also for their postgraduate studies that develop the research capacity of students.

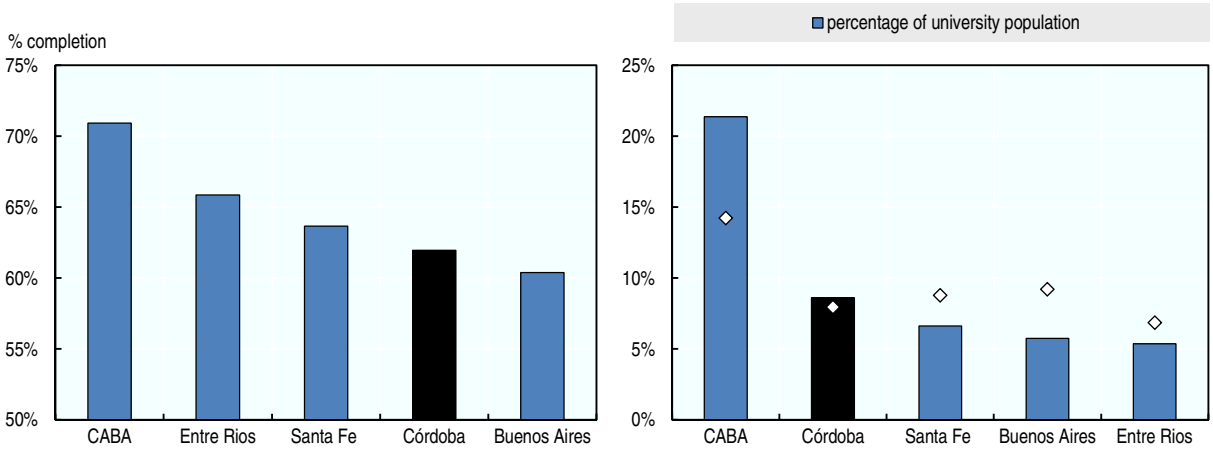
Completion rates and the percentage of post-graduate students with respect to university graduates show that there is further room for improvement. When compared with its national peers, Córdoba's university completion rate (62%) is below that of CABA (71%), Entre Rios (66%), and Santa Fe (64%). Moreover, the share of post-graduate students (8%) is just above Entre Rios (7%), and is well below CABA (14%), Santa Fe and the province of Buenos Aires (8% each) (Figure 2.17). Continued support is necessary to ensure high quality of the province's tertiary institutes.

Figure 2.16. **Quality of secondary education measured by the ONE study, 2007/08**



Source: DNIECE (2009), "Estudio Nacional de Evaluación/Ciencias Sociales/ Ciencias Naturales / Operativo Nacional de Evaluación /2007- etapa 2008", Ministerio de Educación de la Nación, Dirección Nacional de Información y evaluación de la Calidad Educativa (DNIECE), http://cippec.org/mapeal/wp-content/uploads/2014/06/2007-etapa-2008.pdf.

Figure 2.17. **Performance of tertiary level education in Argentinian selected provinces**



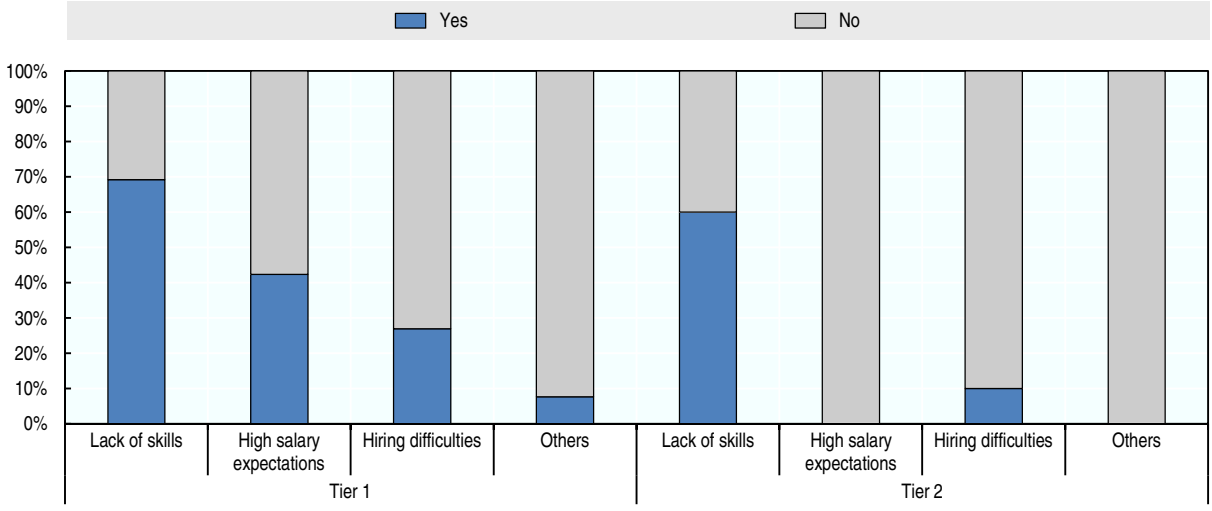
Note: The percentage of university population has been calculated with respect to total population among 15-59 years old.

Source: INDEC (2010), "National Census of Population, Households and Properties (2010)", Instituto Nacional de Estadística y Censos de Argentina.

Skill mismatch in some sectors, such as the metal-mechanic or ICTs, is a concern for provincial firms. In 2013, a research study conducted among SMEs in the car value chain by the *Instituto de Investigaciones Económicas* of the *Bolsa de Comercio de Córdoba* revealed that over 69% of Tier 1 firms and 63% of Tier 2 struggle to hire personnel with the required skills (Figure 2.18). Moreover, ICT firms have claimed that programmes like PROFOCO do not work because the training they provide becomes obsolete after 3-5 years. It is also argued that the current baccalaureate does not encourage technology-driven studies and that the curricula regulator (INED) is administratively burdensome.

Rezk et al. (2014) show that the number of students enrolling in science, technology, engineering, and mathematics (STEM) careers in public universities did not increase from 2002 to 2011, whereas private universities have seen an increase in enrolment for STEM disciplines. This implies that in the coming years, competitive sectors in Córdoba will not have enough graduates with the required skills. The same study shows that private schools have witnessed a rise in enrolment and graduates during the last decade. The hypothesis is that the increase of students in private tertiary education relates to the mismatch between the quality of secondary education and the requirements for tertiary public education. Namely, because the former is weak compared with the expectations from the latter and private universities show greater flexibility when it comes to design curricula and adapt to technological changes, which makes them more attractive in some cases.

Figure 2.18. **Skills mismatch in SMEs in the car industry value chain in Córdoba (2013)**



Source: BCC (2013), "Estudio para el desarrollo, fortalecimiento y modernización de la cadena de valor automotriz-autopartista de la Región centro de la República Argentina", Bolsa de Comercio de Córdoba, Instituto de Investigaciones Económicas, www.ccirr.com.ar/sitio/Descargar.aspx?i=1096&a=1.

Improving the quality of secondary education and VET

The previous and current administrations both realised that skills shortage was undermining the performance of provincial companies, thus having an impact on regional competitiveness. The General Directorate for Technical Education and Professional Training, a technical body inside the Ministry of Education, developed strategic guidelines setting the following objectives for Technical-Professional Education over 2016-17:

- reinforce inter- and intra-institutional transitions of education paths (i.e. between education levels and between education cycles)
- reinforce the student-focused approach to ensure its satisfactory education path as well as to strengthen its technical knowledge
- deepen and emphasise the use of evidence-based decisions (i.e. indicators on education attainment, enrolment, rate of repeat, drop-out rates, existing indices on quality of education)

- use a comprehensive approach when designing technical education and professional training policies.

Among these guidelines, there is a willingness to strengthen the role of Vocational Education and Training (VET), embedded inside the secondary education level. The technical branch of VET disappeared from Córdoba a decade ago due to budget cuts. It was recently re-established after requests from chambers of commerce, with the Unión Industrial de Córdoba (UIC) at the forefront, to identify industry needs and ensure a skills match. The strategic guidelines acknowledge the importance of VET for the province and call for continuous monitoring and revision to enhance the performance of this recently re-established level. The 1st cohort is expected to graduate in 2016, which will enable the province to identify and evaluate the gaps and room for improvement.

It could be very beneficial for Córdoba to compare and benchmark itself against systems with successful VET programmes. There are some examples of successful VET systems in OECD countries that could serve as good examples for Córdoba to introduce efficient structures and effective policies (Box 2.25). The recent re-establishment of VET in the province should be seen as an excellent opportunity to improve skill supply as well as to foster social inclusion. If well-designed and managed, VET could become a comparative advantage for the province in the medium and long term.

Box 2.25. **Successful OECD vocational education and training systems**

Vocational education and training (VET) programmes vary across OECD countries in how they are linked to workplace training and how they establish bridges with other pathways within the educational system. Vocational education and apprenticeships also play a crucial role as a tool to give a second chance to those who are more at risk of drop out and social exclusion.

In the **Netherlands**, the schooling system is characterised by a high degree of early streaming. However, the different learning routes – including vocational programmes – are structured in such a way that young people have the possibility to go up a step within the track they have chosen, and reach the equivalent of tertiary level education (ISCED 5 level). Possibilities for upstream transfers also exist between vocational and university education.

In **Australia**, initial and continuing education are jointly steered and provided with large flexibility to accommodate the specific needs of students of all ages. The system gives second chance opportunities to individuals who did not gain a first qualification or who want to upgrade their skills or change their career pathways.

In **Germany** access to university for VET graduates was formally enhanced in 2009, supported by government campaigns. Those with an advanced vocational qualification can have general access to higher education, and the holders of other vocational qualifications can have a subject-specific access to higher education. A range of measures have been piloted or rolled out nationally and locally such as advancement scholarships or bilateral credit transfer systems between individual vocational colleges and universities of applied science. Yet, implementation remains a challenge, as it crucially hinges upon the collaboration between individual institutions. In Germany, social partners are closely engaged in the development and updating of training plans for each qualification, which are formally issued by the thematically involved federal ministry (e.g. economy, health) in accordance with the Ministry of Education. Such training plans regulate the duration of the workplace training, describe the profile of the profession, and set out final exam requirements. Apprenticeship salaries are determined through collective wage negotiations. The chambers of commerce advise participating companies, register apprenticeship contracts, examine the suitability of training firms and trainers, and set up and grade final exams.

Box 2.25. **Successful OECD vocational education and training systems** (*cont.*)

In **Switzerland**, the involvement of professional organisations (trade and employer organisations and trade unions) in VET policy making is required by law. Professional organisations draft the core curricula and have the leading role in the examination process of both secondary and post-secondary programmes. The role of Swiss authorities (at Confederation level) is to approve the curricula and examination rules, supervise examinations and issue federal diplomas. When new federal diploma qualifications are approved, they are industry-led, but the federal authorities check that the proposed qualification has the support of the whole industry sector, not just some enterprises. This ensures that the whole industry sector can be engaged in the updating of the qualification in response to changes in technology or industry organisation.

Source: OECD (2015b), *OECD Skills Outlook 2015: Youth, Skills and Employability*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264234178-en.

The province of Cordoba lacks a formally designed medium- to long-term strategy for skills supply. Although it is critical to meet short-term demands, sustainable and continuous skill supply will depend on being ready for future demands. In this sense, there are several good practices across the OECD in skills forecasting techniques that could help Córdoba secure skills supply, or at least minimise shortage risks (Box 2.26). The latter must come inside a broader regional development strategy to align economic and industrial policies with educational ones. The design of such a strategy could be supported by the Provincial Council for Technical Education and Employment.

There is an increasing demand for STEM (science, technology, engineering, mathematics) students, not only in Córdoba and around the world. Multiple initiatives have been implemented to promote this branch of knowledge. Although applied at national level, these programmes could also be adapted for the province of Córdoba (Box 2.27). For instance, the province could adjust the design of its own curricula and, to the extent possible, inject some flexibility to tailor them to students' evolving needs. This would imply for instance updating curricula with the most recent technological developments, e.g. 5G networks and implications for smartphones. Co-operation between the Provincial government and the Córdoba Technology Cluster could enable the transition of professionals willing to change career from the ICT sector to teaching. This could strengthen the capacity of secondary education and VET and help update teaching methods. It could also create closer ties with the private sector, thus enabling an easier transition of students to the labour market. Programmes targeting female students could also uncover a pool for skills.

Whereas universities are traditionally not the main players in VET, in Córdoba the National University of Córdoba has implemented a programme to make up for the skills shortage. The courses are subject to a high demand with over 10 000 applications for 1 200 spots (Universidad Nacional de Córdoba, 2016). In that context, the Provincial University of Córdoba[12] could also help foster greater matching between needs of companies and university diplomas. This could help compensate for a lack of skills in certain areas that are not covered by public national universities and by private institutions, and where the provincial government has no competence. The provincial university could evolve into a leading technical centre. In that sense, the province could look to Centro Paulo Souza, São Paulo, as a model to develop a strong vocational programme either within the Provincial University of Córdoba and/or other secondary education and VET centres. The region of São Paolo is investing heavily in training and

logistics to create a fertile environment for new small and mid-sized companies to flourish (Box 2.28).

Box 2.26. **Skills forecasting in the OECD**

Occupational and educational forecasting has a long tradition in many OECD countries, including Australia, Canada, France, Germany, Italy, the Netherlands, the United Kingdom, the United States and, more recently, Finland, New Zealand and Israel. Forecasting is conducted by academic and government organisations, the private sector and increasingly at the multinational (e.g. European) level. Most forecasts rely on dynamic macroeconomic models and use a "top-down" approach to forecasting labour demand. Dynamic macroeconomic modelling has been labelled "best practice" in international skills forecasting, but there are limits to its effectiveness. These macroeconomic models require the specification of a large set of external parameters related to the development of the world economy, such as oil prices and exchange rates. A problem common to many of the reviewed forecasts is that it is difficult to forecast future migration and its skills composition.

In **England**, the UK Commission for Employment and Skills conducted a National Strategic Skills Audit in 2010, combining quantitative and qualitative methods in order to incorporate a broader "scenario-based" approach to assess future skills needs. The intention of the project was to provide insights to the government, employers, individuals and providers on England's strategic skills needs, reporting information on key issues and periodically updating the results. The project included three main instruments:

- Working futures: Consisted of quantitative forecasts of employment prospects for industries and occupations, qualification/level of diploma, gender and employment status for the United Kingdom, individual nations and English regions. It aims to provide a comprehensive picture of the labour market for 2020.
- Horizon scanning and scenario development: Identified key issues and changes taking place in the UK and globally that may affect employment and skills over the long term. It used a range of horizon-scanning techniques, including scenario development, and a series of interviews with key experts to debate scenarios for 2020.
- Targeted skills assessment reports: In-depth skills assessments conducted in key emerging sectors to enhance understanding of important developing areas of the economy, such as low-carbon industries, digital economies and advanced manufacturing.

Despite the different methodologies in forecasting, the results are often similar. In general, employment among low-skilled workers will decline, while employment among highly skilled workers is projected to increase. Some projections indicate a future excess supply of highly skilled workers in some fields. The trend is for employment to continue to shift from primary industries towards more service-based economies.

Employers, too, can be involved in forecasting skills needs, For example, In **Finland**, The Oivallus Project. Oivallus – literally "Insight" – was launched by the Confederation of Finnish Industries (EK) in 2008 and ran until December 2011. The project, financed by EK, the European Social Fund and the Finnish National Board of Education, focused on future competence needs of businesses. Representatives from companies, academics, teachers and other experts examined the underlying premise that working life in 2020 will be even more networked. Oivallus found that competence needs are changing because the ways of working are changing, as jobs are becoming less and less routine and fewer jobs can be done "by the book". The future working life resembles filmmaking: work is increasingly done on a project basis in collaboration with various contributors. There is also a tendency for tasks to become more variable. The ability to apply network skills is the foundation of future work, and network skills find their application in the ability to find, use and disseminate knowledge. A learning network can identify new opportunities and find solutions to problems, where the key to success is the ability of people with different competencies to work together. Working as a network, learning from one another and building on existing ideas are skills that require practice and that should be developed from early on throughout education.

Source: OECD (2015c), *Better Skills, Better Jobs, Better Lives: A Strategic Approach to Education and Skills Policies for the United Arab Emirates*, OECD Publishing, Paris, www.oecd.org/countries/unitedarabemirates/A-Strategic-Approach-to-Education-and%20Skills-Policies-for-the-United-Arab-Emirates.pdf.

Box 2.27. **STEM initiatives in EU countries**

In Europe, common policies, initiatives and programmes have been pursued to encourage STEM studies. However, the return on these efforts was minimal in the mid-2000s. Recent trends indicate more positive results yet data show that the share of STEM VET graduates at the tertiary level has decreased in most countries (Caprile et al., 2015).

European co-ordination and EU funded research has provided a collection of good practices. These studies show that a range of different initiatives to encourage students to enrol in STEM curricula are implemented throughout all the education stages, including initiatives developed at the primary school level, secondary school level, VET, higher education and also through active labour market policies. Transforming young people's attitudes toward science is a long-term project.

Three common approaches have been identified:

1. Developing effective and attractive STEM curricular and teaching methods

Portugal: In 2014, technology-focused higher education short courses were established by the Ministry of Higher Education in order to amplify the range of options offered by polytechnic schools. These courses have strong links to the labour market, and target graduates from upper-secondary vocational education as well as adults.

The Education Development Centre in **Lithuania** implemented the project: *Providing Wider Possibilities for Students aged 14-19 to Choose a Learning Pathway*. It involved a number of measures such as tailoring curricula to individuals; increasing the range of students' career options; designing the curricula to better match the demands of the labour market and developing students' professional competences.

2. Improved teacher and professional development

The **United Kingdom** rolled out the *Transition to Teaching Programme* targeting those with STEM qualifications at degree level, and wanting to change career to teach at the secondary school level in mathematics, science or information and ICT. Enhancement courses were offered to enable graduates to develop sufficient subject knowledge to teach secondary level pupils.

3. Guiding young people towards STEM careers

The **Belgian** project, the "world at your feet", aims at stimulating 16-18 year old students to choose scientific or technical studies at the university level. It specifically targets female students encouraging them pursue careers in civil engineering. This responds to an identified lack of qualified engineers in the regional labour market. This project attempts to make students aware of the job market by encouraging them to take part in web-quests whilst facilitating contact with professional engineers.

Source: Caprile, M. et al. (2015), "Encouraging STEM studies for the labour market", Directorate General for Internal Policies, European Union, www.europarl.europa.eu/RegData/etudes/STUD/2015/542199/IPOL_STU%282015%29542199_EN.pdf.

Box 2.28. **VET in the Centre Paula Souza, São Paolo**

Since 2004, state's investment in the São Paulo Technology Faculty (FATEC) and its headquarters, the Centro Paula Souza, has boosted the number of facilities throughout the state from 16 in 2004 to 63 in 2015 and also broadened the offer of courses to satisfy the market's needs.

The state also helped fund the centre's schools in two of the poorest suburbs in the city of São Paulo, Heliopolis and Paraisopolis, as well as to create the "Neither/Nor" initiative to give training opportunities to underprivileged and vulnerable groups. Youth were offered basic courses in tourism, culture, road safety and first aid, and given the opportunity to become "municipal co-ordinators" as State employees. Such progressive measures underpin a concerted effort to reach São Paulo's huge and varied demography.

Box 2.28. **VET in the Centre Paula Souza, São Paolo** (*cont.*)

The Centro Paula Souza's main goal is professional training, from basic training to secondary schools and higher education. Students must take exams prior to enrolling due to high demand. Examples of this flexibility are the 100 or 200 hour courses called "initial and continuous training", offered at the higher-education level. The centre has a high variety of degrees that span from training for construction workers to automation specialists. Courses are also offered at night to accommodate those that work during the day.

Source: The Guardian (2015), "Sao Paulo: Land of innovation", published online 18 May 2015, https://www.theguardian.com/the-report-company/2015/may/18/sao-paulo-land-of-innovation (accessed on 5 April 2016). The Guardian Newspaper: the content was commissioned by the Report Company, who takes sole responsibility for it.

Innovation

Innovation is crucial factor to competitiveness and progress. Translating scientific and technological advances into more productive economic activity requires new technologies and support to entrepreneurship and innovative approaches from the creation of goods to the delivery services. Economic growth occurs when market structures and regulation enable the expansion of more productive activities. Innovation, including formal research and development, however, remains the sine qua non condition of growth (OECD, 2007b).

A national and provincial area of action

The new Provincial Government has raised innovation in the political agenda through the creation of a dedicated Ministry of Science and Technology (*Ministerio de Ciencia y Tecnología*), which should be assigned a significant amount of resources in the 2017 budget according to provincial stakeholders. There is willingness in the province to complement this rise in the political agenda with an increase of budget for this Ministry.[13]

A bill is under preparation to create an Agency for Innovation and Entrepreneurship (*Agencia de Innovación y Emprendedorismo*), as a public-private institution to design the provincial strategy for Science and Technology across public, private and academic sectors. A fundamental role of the Agency will be to align provincial objectives with those laid down in the *Argentina 2020* National Plan for Science, Technology and Innovation (MinCyT, 2008). Its vision relies on the conviction that scientific and technological progress is key to boost productivity of the national economy and its engagement in the global network through enhancing existing activities, diversifying the productive matrix towards intensive knowledge-based activities and upgrading in global chain of knowledge and innovation. It is therefore a must for productive development based on innovation to gear towards a long-term sustainable social model, in the context of a globalised economy.

For innovation to support greater competitiveness in the province of Cordoba, co-ordination with the private sector, higher education institutions and research centres, as well as the provincial and national government are needed. A broad range of ministries, e.g. Ministry of Industry or Agriculture, should be engaged beyond the Ministry of Science and Technology to connect innovation activities from the real economy.

Córdoba's innovation capacity

Córdoba's innovation capacity is as diverse as its industrial mix. It is associated with the strong degree of entrepreneurialism in the public and private sectors in the province. The close relationship between the agents that make up the *quadruple helix* (government, education, industry and society) and the province's longstanding entrepreneurial culture are major strengths that brought diverse types of innovation in product, process, marketing or organisation (Box 2.29).

Box 2.29. **What is innovation?**

Innovation is a difficult concept to define that goes beyond research or science. The Oslo Manual identifies four types of innovation which are widely agreed by policy makers:

1. **Product innovation**: A good or service that is new or significantly improved. This includes significant improvements in technical specifications, components and materials, incorporated software, user friendliness and other functional characteristics.
2. **Process innovation**: A new or significantly improved production or delivery method. This includes significant changes in techniques, equipment and/or software.
3. **Marketing innovation**: Significant changes in product design or packaging, product placement, product promotion or pricing.
4. **Organisational innovation:** A new organisational method in the firm's business practices, workplace organisation or external relations.

The guiding principle is that innovation is more than simply an idea or invention, but involves implementing ideas and creating new goods, processes or practices. More broadly, innovation captures planned changes in a firm's activities geared towards improving a firm's performance. While the main focus in defining innovation is on firms, the concept is not limited to the private sector. Innovation in the public sector, e.g. service delivery or funding investments, is an important mechanism for efficacy and efficiency in the public sector. Similarly, changing labour market demands and migration flows require educational institutions to adapt and realign their services to keep pace with national and international developments.

Source: Adapted from OECD (2016a), Territorial Review of Bergamo, OECD Publishing, Paris, and based on OECD/Eurostat (2005), Oslo Manual: Guidelines for Collecting and Interpreting Innovation Data, 3rd Edition, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264013100-en.

The two most remarkable landmarks in Córdoba's *process innovation* were the development of a planting (*siembra directa*) and a crop conservation technique (*silo bolsa*). These have changed profoundly practices in the agricultural sector around the world. The former has enabled the expansion of production and increased efficiency in the traditional agricultural sector; the latter has enabled producers to store crops for longer periods of time, which contributed to better resilience vis-a-vis commodities market prices.

Another example of the innovation capacity of the province, associated with *organisational innovation*, is the Petroleum and Mining Cluster. Due to the downturn of car demand in Brazil, SMEs supplying the car industry with intermediate goods and services searched for another market in which to locate its products. While Córdoba had neither natural endowments nor capacity in petroleum, business and professional chambers were able to work closely with their members and the Ministry of Industry to find a market in another province and manufacture metallurgical products relevant to this industry. Not only did this help to offset lost revenue due to export barriers, but it also expanded Córdoba's products and market base through commercial links with other

provinces. Ultimately, the initial group of companies has evolved into a cluster with other sectors such as service providers (e.g. law, marketing firms, etc.) or firms from the plastic industry.

Universities in the province of Córdoba are an important part of the innovation system. They have fostered advances from the academic sector and research communities as well as the provincial productive matrix. For instance, the development of the biotechnology sector started with the Laboratory for Hemoderivates of the National University of Córdoba. In 1964, this research centre was created as a spin-off by students and researchers to respond to a social demand for plasmas. It is now a well-established and competitive social firm where revenues finance the activities of the laboratory. Since then, five other firms dedicated to biotechnology have emerged in what has become one of the most knowledge-intensive sectors of the province.

National and provincial public research entities and institutes also play a fundamental role in Córdoba's innovation system (Box 2.30). For instance, the National Institute of Agricultural Technology (*Instituto Nacional de Tecnología Agropecuaria*, INTA) works closely with the small producers and universities to promote innovation in diverse areas of the agricultural sector. INTA organises workshops in agricultural areas of the province to disseminate technological advances among small producers. These workshops are organised on site by INTA staff for producers. INTA also signed agreements with public and private universities to support graduate students willing to write a thesis in one of the institute's areas of research.

Box 2.30. **National and provincial public research entities, Córdoba**

The following research institutes have a crucial role in transferring scientific knowledge to local and regional producers or firms. It is among their mission to strengthen the ties with local actors within their networks and contribute to their development through technological transfers.

Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET): Founded in 1958, CONICET is one of the leading R&D centres in Córdoba and Argentina as a whole. It trains and develops the capacity of researchers as well as finances research and development activities. CONICET unites researchers from most areas of knowledge.

Comisión Nacional de Actividades Espaciales (CONAE): CONAE is a research entity depending on the national government in charge of conducting aerospatial research projects and activities. Its primary mission is to contribute to the implementation of the National Space Plan.

Centro de Excelencia de Productos y Procesos de Córdoba (CEPROCOR): CEPROCOR is a provincial autonomous research centre that provides laboratory services to public and private firms in a variety of areas such as agro-industry, water, biology, pharmaceutical, etc.

Instituto Nacional de Tecnología Agropecuaria (INTA): INTA is a decentralised national entity with financial and operation autarchy, accountable to the federal Ministry for Agro-industry (*Ministerio de Agroindustria*). Since 1956, it has been developing research and technological innovation activities within the territorial and regional value chains to enhance competitiveness and contribute to the sustainable rural development of the country.

Instituto Nacional de Tecnología Industrial (INTI): INTI is a decentralised national entity with financial and operation autarchy, accountable to the federal Ministry for Production (*Ministerio de Producción*). Its activities are divided into six main research areas: *i)* food industry; *ii)* quality, design, extension and development; *iii)* construction, materials and processes; *iv)* electronics and metrology; *v)* chemistry; and *vi)* natural resources and environment.

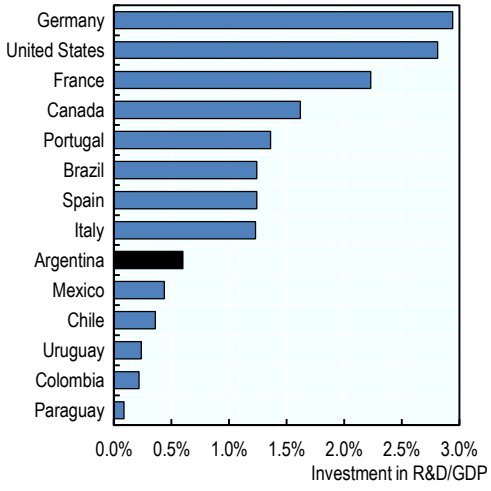
Source: OCTI (2011), "La Ciencia, la Tecnología y la Innovación de la Provincia de Córdoba", Observatorio de Ciencia, Tecnología e Innovación de la Provincia de Córdoba, Universidad Nacional de Córdoba, www.unc.edu.ar/investigacion/cienciaytecnologia/novedades-informacion-cyt/2011/junio/informe-octi-2011-publicacion.pdf.

Argentina and Córdoba's approach to innovation

Argentina is a leader in LAC in terms of investment in R&D activities, ranking just below Brazil, but behind most OECD countries (Figure 2.19). The level of investment in R&D experienced a compound annual increase in Argentina of 62% from 2004 to 2013 (Figure 2.20). The greatest part (79%) came from the public sector (government or universities), which is common in LAC compared to OECD economies (Figure 2.21). For instance, in Mexico is the share of public investment represents 63% (2013), in Brazil 57% and Colombia 58%. In contrast, OECD economies, such as the United States, Canada or Spain, recorded a public share of investment in R&D of 34%, 42% and 47%, respectively.

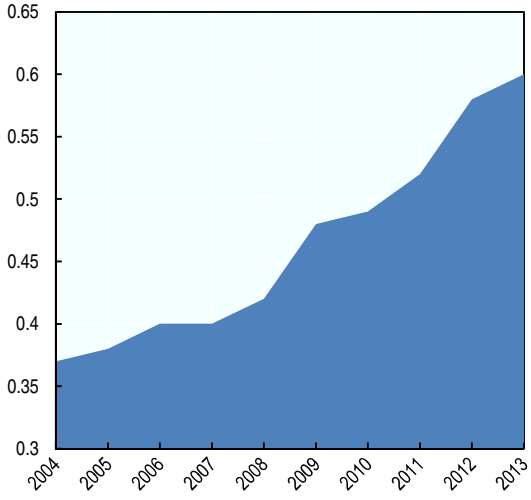
The use of R&D funds in Argentina is not targeted to the private sector either. Around 74% of the resources invested in R&D go to public institutions, either public universities or governmental entities (e.g. CONICET or INTA) (Figure 2.21. and 2.22). To ensure this investment provides a return beyond the public sector, there is a need for the national and provincial government to put in place mechanisms to disseminate the knowledge generated in public institutions. Hence, instruments to ensure the private sector can absorb knowledge produced in public entities become very relevant in order to drive technological advances and increase the productivity of firms.

Figure 2.19. **R&D investment/GDP in selected OECD and non-OECD countries (2013)**



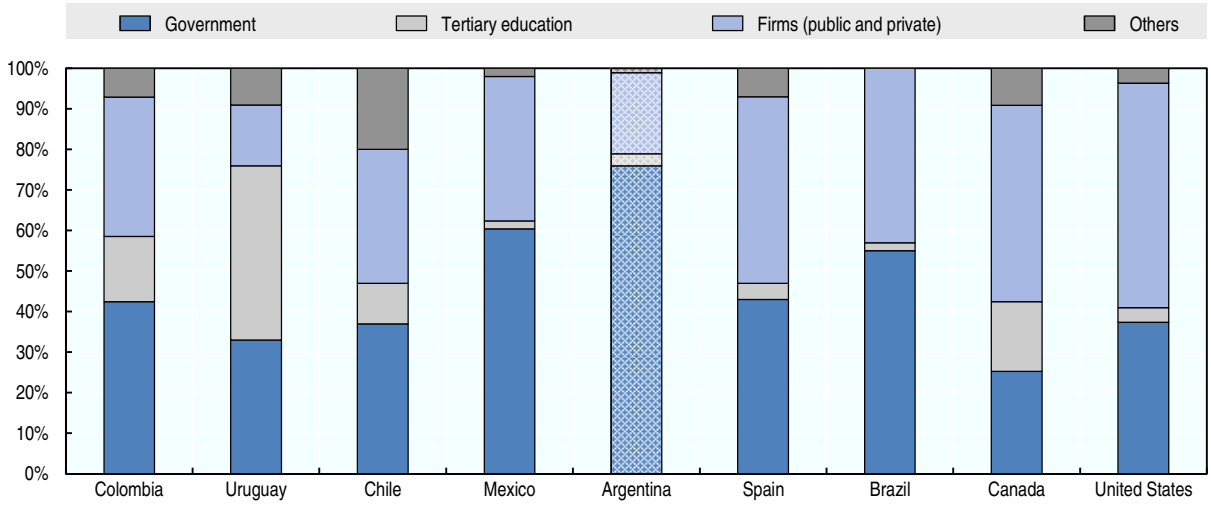
Source: MinCyT (2013), "Indicadores de Ciencia y Tecnología, Argentina 2013", Ministry of Science, Technology, and Innovative Production, Federal Government of Argentina, http://indicadorescti.mincyt.gob.ar/documentos/indicadores_2013.pdf.

Figure 2.20. **Trend of R&D investment/GDP in Argentina**



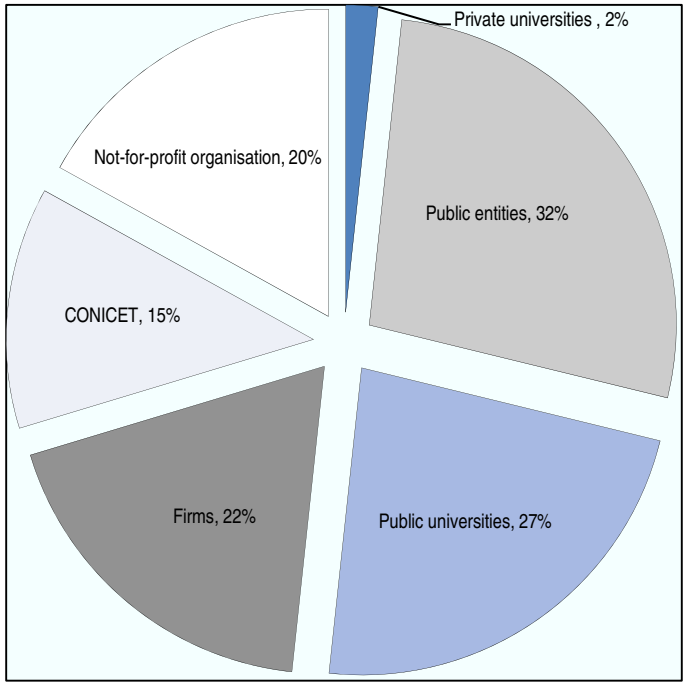
Source: MinCyT (2013), "Indicadores de Ciencia y Tecnología, Argentina 2013", Ministry of Science, Technology, and Innovative Production, Federal Government of Argentina, http://indicadorescti.mincyt.gob.ar/documentos/indicadores_2013.pdf.

Figure 2.21. **Percentage of investment in R&D by entities**



Source: MinCyT (2013), "Indicadores de Ciencia y Tecnología, Argentina 2013", Ministry of Science, Technology, and Innovative Production, Federal Government of Argentina, http://indicadorescti.mincyt.gob.ar/documentos/indicadores_2013.pdf.

Figure 2.22. **R&D investments distribution by sector in Argentina**



Source: MinCyT (2013), "Indicadores de Ciencia y Tecnología, Argentina 2013", Ministry of Science, Technology, and Innovative Production, Federal Government of Argentina, http://indicadorescti.mincyt.gob.ar/documentos/indicadores_2013.pdf.

Provincial firms can access federal and/or provincial public R&D funding programmes (Box 2.31). The implementation of both types of programmes at the provincial level is carried out by the Ministry of Science and Technology. These resources help companies access innovation and knowledge that is transferable through financial resources or partnerships agreements. This type of knowledge responds to assets such as software systems, more efficient processing machinery or marketing services.

Linking science and research with the productive sectors of the province is critical to ensuring that innovation drives economic growth and increases productivity. Research and scientific knowledge in its more abstract form is usually inaccessible to firms. The lack of incentives from the academic community to promote knowledge with practical applications does not unveil its innovation capacity. The Ministry of Science and Technology has a role to play to help transfer this knowledge to firms, building on some of the programmes implemented to bridge the gap between scientific knowledge and firm's needs (Box 2.32).

Box 2.31. **National and provincial public funding resources for innovation in Córdoba**

The **National Agency for Science and Technological Promotion** (ANPCyT) is a national entity dependent on the federal Ministry of Science, Technology and Productive Innovation. Its role is to promote financing of innovative projects. The agency manages four funds targeting a variety of actors from scientists to private businesses willing to improve its competitiveness through technological innovation.

- **Fund for Scientific and Technological Research (FonCyT)**: Projects with the objective of generating new scientific and technological knowledge
- **Argentinian Technological Fund (FONTAR)**: Projects directed to improve productivity of the private sector through technological innovation
- **Fund for Promoting the Software Industry (FONSOFT)**: Helps students graduate from ICTs bachelor degrees, promotes entrepreneurship and contributes to strengthen SMEs producing goods and services related to the ICT sector
- **Argentinian Sectoral Fund (FONARSEC)**: Projects and activities that seek to have a big impact and transference capacity to the productive sector.

Besides co-ordinating the implementation of national programmes in the province, the provincial Ministry of Innovation also dedicates an important part of its budget to finance programmes for provincial businesses:

- **Technological Fund of Córdoba (FONTEC):** Complements FONTAR through subsidies to businesses left out of national programmes
- **Córdoba Programme of Design (PRODIS):** Targets small and micro businesses with the objective to promote innovation in all areas of design related activities. It is funded by FONDIS
- **Technological Innovation plus Accessibility (I + A):** Finances innovative projects with the objective to develop products for disabled people
- **Technological Innovation plus Citizens Security (I + S):** Finances public and private institutions with innovative projects to promote and enhance citizens' security.

Source: MinCyT AGENCIA (2016), "Fondos de la Agencia Nacional de Promoción Científica y Tecnológica", www.agencia.mincyt.gob.ar/# (accessed on 28 April 2016).

Box 2.32. **Knowledge production programme, Córdoba**

The Knowledge Production Programme aims to strengthen the links between the industry and the research community to make scientific knowledge available and to foster new research groups.

Research Projects Demand and Opportunity-oriented (*Proyectos de Investigacion Orientados a la Demanda y a las Oportunidades*): This part of the programme seeks to understand or solve social and productive sector's challenges by promoting greater interaction between citizens and the research and scientific communities. The aim is to make resources from research centres available to regional communities, professional chambers, and non-governmental organisations through co-operative, interdisciplinary, pluri-professional and multi-organisational research. Different industrial groups identify problems and needs which are then communicated through an open announcement to the research community. Research communities must then propose projects that address these problems, and the best ones receive financial support from the province.

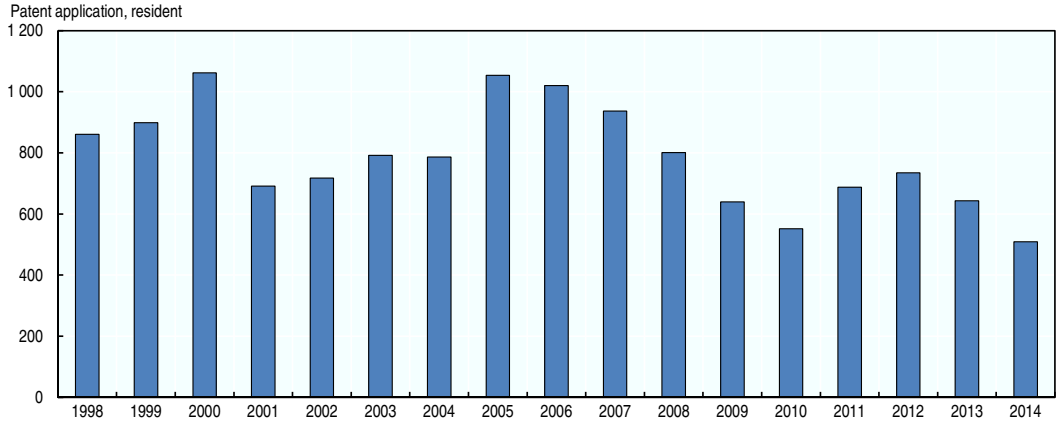
Projects of Recently Created Research Groups with Mentors (*Proyectos de Grupos de Reciente Formación con Tutores 2015*): These projects seek to promote new research groups that create knowledge and technological advances that are transferable to, or applicable, in the province. Introducing a mentor in the research group aims to accelerate the capacity building and learning process to broaden the quantity, quality and applicability of the research produced.

Source: Ministry of Science and Technology (2016), "Proyectos de Investigacion Orientados a la Demanda y a las Oportunidades y Proyectos de Grupos de Reciente Formación con Tutores 2015", Government of the Province of Córdoba, www.cba.gov.ar/reparticion/ministerio-de-ciencia-y-tecnologia/programascyt/ (accessed on 28 April 2016).

Reaping benefits from innovation

A decrease in patenting activity at the national level and levels of R&D personnel at the provincial level indicate that there is room to improve innovation performance as well as to uncover the hidden potential of innovation. Despite an increase in investment over GDP from 0.37% in 2004 to 0.60% in 2013 (Figure 2.20), the number of patents has been fluctuating in Argentina during the same years (Figure 2.23). Particularly noticeable is the decrease in the use of patents as a protecting instrument from 2005 onwards.

Figure 2.23. **Argentina patenting activity**

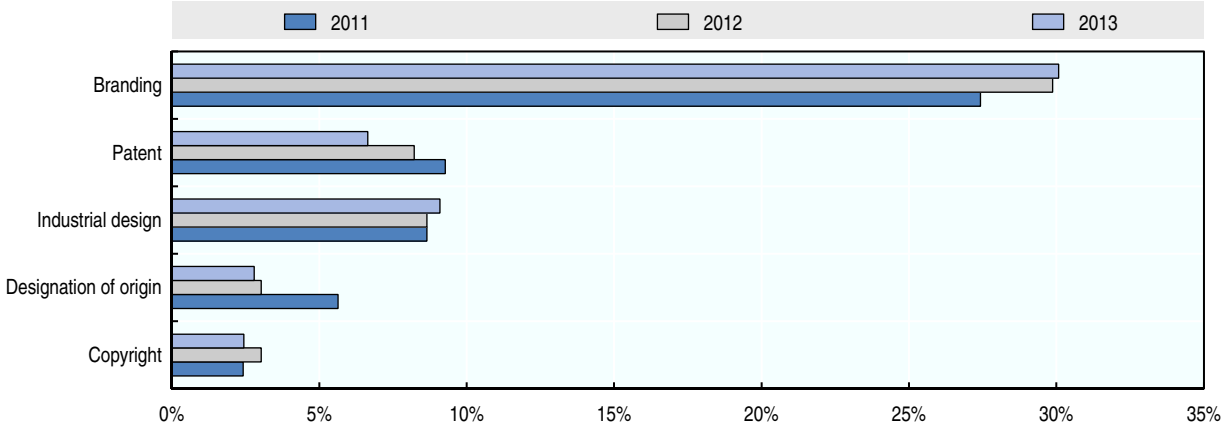


Note: Patent applications, residents. Patent applications are worldwide patent applications filed through the Patent Co-operation Treaty procedure or with a national patent office for exclusive rights for an invention – a product or process that provides a new way of doing something or offers a new technical solution to a problem. A patent provides protection for the invention to the owner of the patent for a limited period, generally 20 years. World Intellectual Property Organization (WIPO), WIPO Patent Report: Statistics on Worldwide Patent Activity.

Source: World Bank (2016), "Patent applications, residents", World Development Indicators (database), http://databank.worldbank.org/data/reports.aspx?source=2&series=IP.PAT.RESD&country (accessed on 13 April 2016).

Although there is no data on patenting activity in Córdoba, a survey conducted by the Provincial Statistical Office in Córdoba among 400+ firms of the industrial sector revealed a decrease of patenting activity from 9.9% to 6.6% between 2011 and 2013 (Figure 2.24). Patents are not the only instrument to protect outputs from innovation. However, from 2011 to 2013 total applications for other forms of protections, such as brands and industrial design, have increased (Figure 2.24).

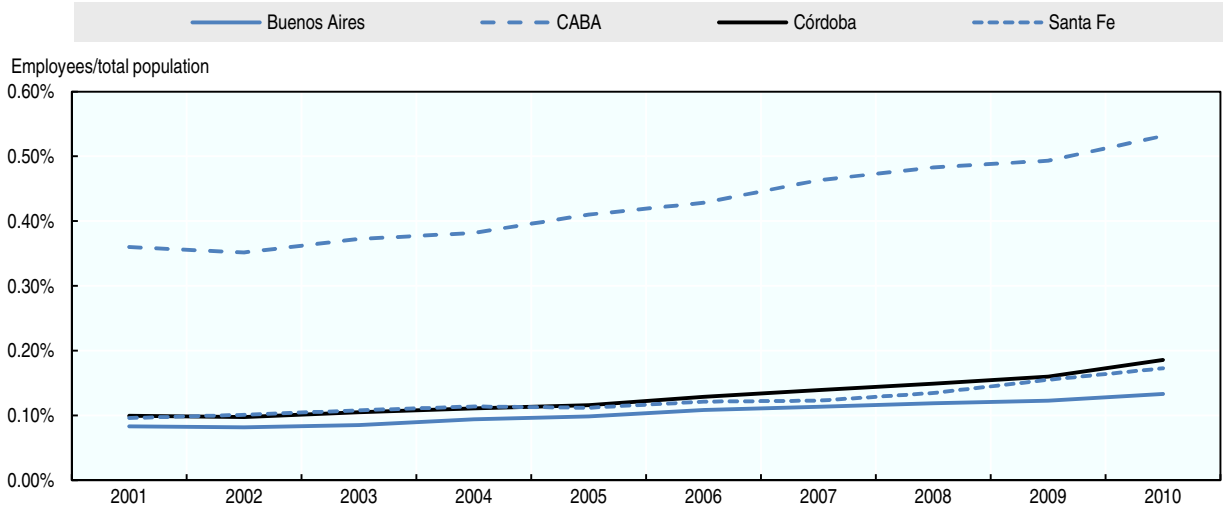
Figure 2.24. **Formal intellectual protection mechanisms in Córdoba, 2011-13**



Source: MECON (2015), "Fichas Provinciales", Ministerio de Economía y Finanzas Públicas, www.mecon.gov.ar/peconomica/basehome/fichas_provinciales.htm.

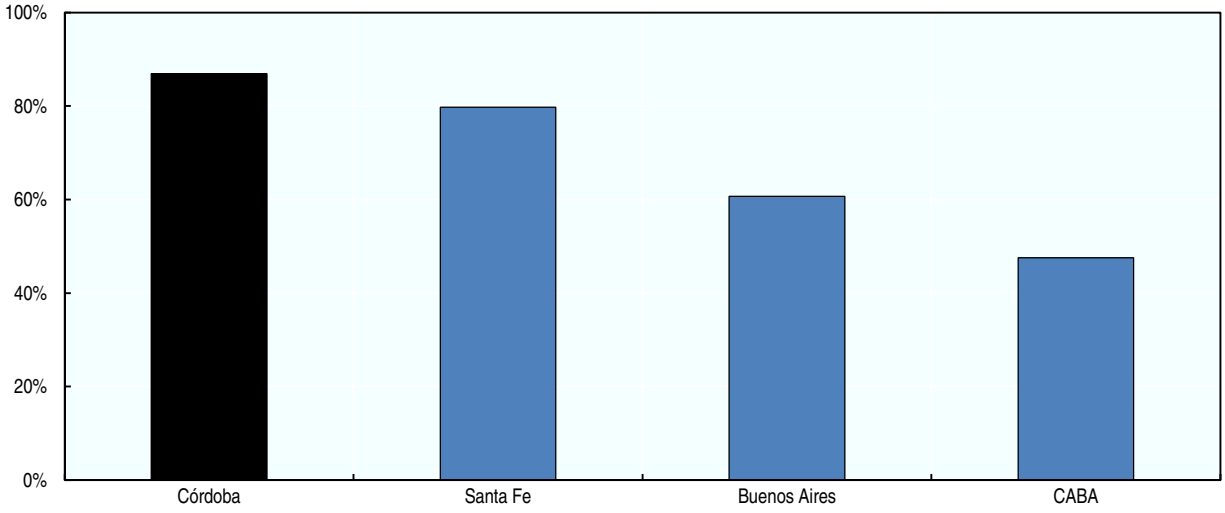
From 2001 to 2010, the number of personnel dedicated to R&D activities full-time in Argentina has increased by 92%. Buenos Aires, Ciudad de Buenos Aires (CABA), Córdoba and Santa Fe, represent around 70% of total R&D personnel in Argentina (MECON, 2015). During that same period, Córdoba increased its dedicated labour force for R&D activities by 87%, which is well above Buenos Aires and CABA, and over 7% more than the increase seen in Santa Fe (Figure 2.26).

Figure 2.25. **R&D personnel in selected Argentinian provinces**



Source: MECON (2015), "Fichas Provinciales", Ministerio de Economía y Finanzas Públicas, www.mecon.gov.ar/peconomica/basehome/fichas_provinciales.htm.

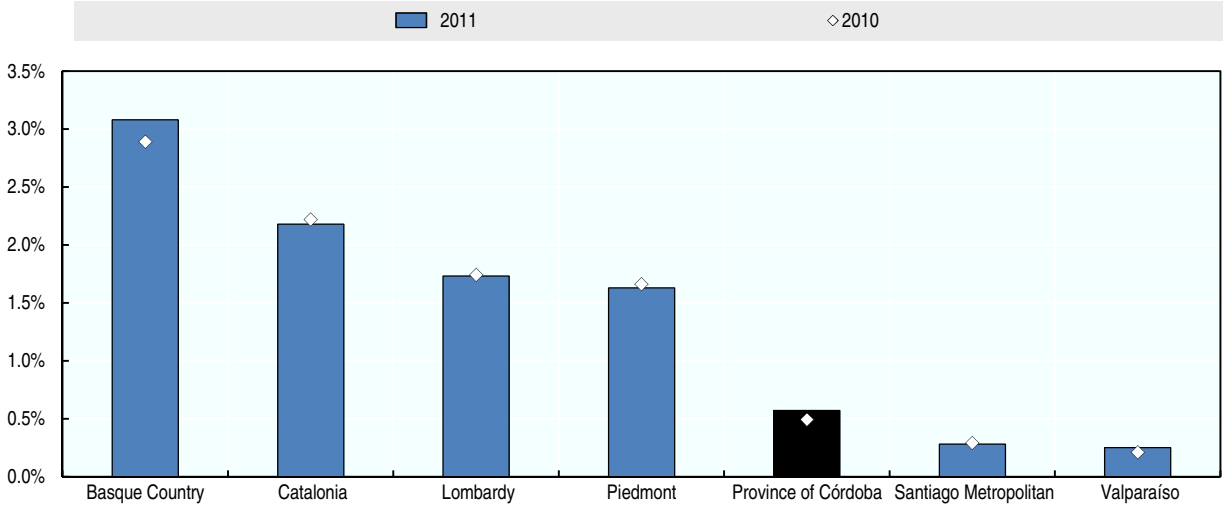
Figure 2.26. **Percentage growth of R&D personnel 2001-10**



Source: MECON (2015), "Fichas Provinciales", Ministerio de Economía y Finanzas Públicas, www.mecon.gov.ar/peconomica/basehome/fichas_provinciales.htm.

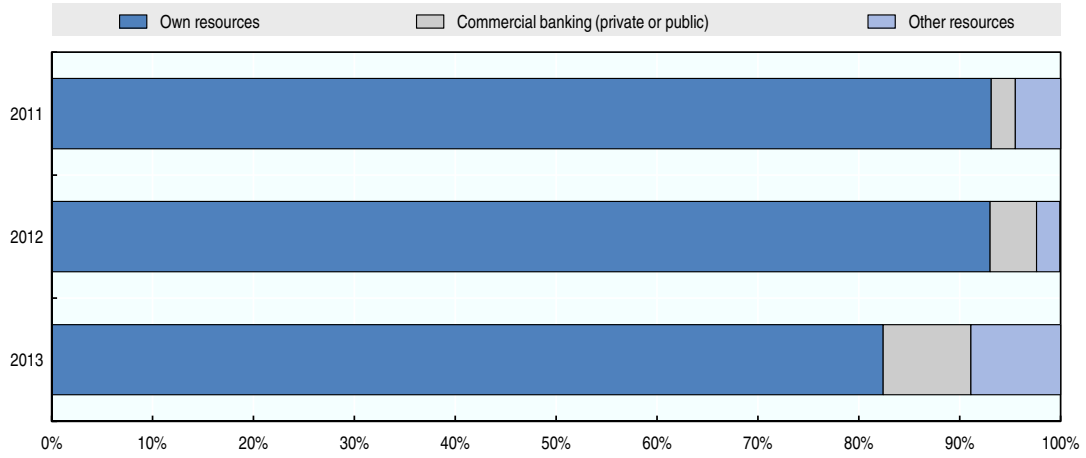
Despite leading performance in this area among national peers, Córdoba is still below industrial and innovative OECD TL2 regions[14] such as Catalonia, Basque Country, Lombardy or Piedmont (Figure 2.27). It does show, however, a larger share of R&D personnel than two top performing regions in Chile, Santiago and Valparaiso. Although there is no disaggregated data on investments in R&D personnel at subnational level, the higher investment in R&D in Argentina compared to Chile (measured as investment in R&D over GDP) shown in Figure 2.19 could be the reason behind this.

Figure 2.27. **Percentage of personnel in R&D with respect to total employment**



Source: MECON (2015), "Fichas Provinciales", Ministerio de Economía y Finanzas Públicas, www.mecon.gov.ar/peconomica/basehome/fichas_provinciales.htm; and OECD (2016d), "Innovation Indicators", Regions and Cities (database), http://stats.oecd.org/Index.aspx?datasetcode=REG_DEMO_TL2 (accessed on 6 April 2016).

Figure 2.28. **Source of finance for R&D activities of the industrial sector in Córdoba**



Source: DGEyC (2015), "Indicadores de las Actividades de Innovación, Investigación y Desarrollo (I+D) y de Medio Ambiente en empresas industriales. Provincia de Córdoba Años 2011-2013", Dirección General de Estadística y Censos, Gobierno de la Provincia de Córdoba, http://estadistica.cba.gov.ar/LinkClick.aspx?fileticket=iVV4ZYR13cE%3d&tabid=896&mid=3887&language=es-AR.

Although the level of public sources in R&D is high compared to private investments in Argentina, they accounted for less than 20% of the resources used by provincial companies to finance innovation activities in 2013 (Figure 2.28). A survey carried out by DGEyC on innovation in provincial industrial firms tried to disentangle some of the reasons behind the small use of public resources. One relates to the low level of awareness and use of financing programmes in the province among firms within the industrial sector (both national and provincial programmes) despite improvement in recent years (Table 2.5). The percentage of companies benefitting from national programmes is larger than those benefiting from provincial programmes (Table 2.5). More resources could be allocated through the provincial programmes to reach a greater number of firms, and conducts information campaigns to raise awareness on the existence of these programmes.

Table 2.5. **Financing innovation programmes among the provincial industrial sector**

(Percentage of surveyed firms)

	2011		2012		2013	
	Awareness	Benefitted	Awareness	Benefitted	Awareness	Benefitted
National Programmes:						
FONTAR	37.3	11.3	40.1	18.3	48.6	22.6
FONCYT	16.6	2.8	19.3	1.2	24.3	2.8
FONSOFT	14.9	7.8	17	2.7	20.4	4.5
Provincial Programmes:						
FONTEC	10.7	6.5	14.9	1.5	17.9	3.8
PRODIS	6.8	6.9	7.6	0	8.9	0
FONDIS	6.5	3.6	6.7	0	8.7	0
I + S	5.1	4.5	4.8	0	6.2	3.7
I + A	4.9	4.8	5	0	5.7	4

Source: DGEyC (2015), "Indicadores de las Actividades de Innovación, Investigación y Desarrollo (I+D) y de Medio Ambiente en empresas industriales. Provincia de Córdoba Años 2011-2013", Dirección General de Estadística y Censos, Gobierno de la Provincia de Córdoba, http://estadistica.cba.gov.ar/Inicio/tabid/38/language/esp/Default.aspx.

The low levels of patenting activity, R&D personnel as compared to OECD industrial innovative regions, and access to finance hinder the provincial innovative and entrepreneurial pursuits. It is not uncommon for products and processes introduced by Córdoba's enterprises to show up elsewhere with no protection of intellectual property. There are several factors claimed to be driving low patenting levels, most of which are linked to capacity:

- the patent-application process is administratively burdensome, not only in terms of paperwork but also logistically (the nearest patent institute is in Buenos Aires)
- it is costly – SMEs, the bulk of Córdoba's business sector, do not always have the know-how, staff or funds to patent their technology
- while there is capacity in all four innovation dimensions, the bulk of the capacity is reportedly in processes rather than products, which is much more difficult to patent.

The patent issue, however, is something that could be overcome in the medium term, but may require support by relevant ministries and/or other actors to address the administrative and financing dimensions. Such support could come through credit or micro-credit to address the cost dimension, or help in offsetting up-front costs payable through a percentage of royalties over a period of time, assuming the patented technology is successfully marketed.

Fostering innovation to keep-up pace of growth

Investments in innovation can be done through different policy instruments. The OECD has put together policy tools to implement regional innovation strategies. For industrial regions, such as Córdoba, this strategy consists on modernising productive activities to target value-added niches: "innovation ecosystem strategy".

The province first needs to recognise the relevance of transformation and identify transformation vectors such as attracting human capital; fostering productive use of regional traditions and knowledge; identifying potential partnerships in national strategies (OECD, 2011). Vectors of transformation are specific to each region and identifying them requires conjunct action between public, private and academic actors as well as the society. Córdoba should build on a strong university community as an asset to attract human capital; ensure that the traditional productive sectors can drive innovation; make the most of the national funding programmes; and facilitate the emergence of new industries from strong relation with universities (such as ICT or biotechnology).

The province has the competences to design and implement a variety of innovation policy instruments within a consistent and long-term regional innovation strategy. Some of these instruments have already been explored in the province:

- supporting science-industry linkages (e.g. personnel exchange and placement schemes, technology advisory services, technology diffusion) – efforts have been mainly oriented to implementing programmes (Box 2.30) that encourage the production of industry-oriented scientific knowledge.
- densification and internationalisation of regional production clusters – the Agency ProCórdoba promotes and supports provincial clusters and sectoral associations for internationalisation and to find new markets.

- regional public procurement oriented towards innovation – the online *Portal de Compras* is an initiative undertaken by the provincial government to modernise the public procurement process and which encourages firms to adapt to new technologies.
- regional agencies for innovation promotion, combining technology transfer with other services – time is needed to evaluate whether the newly established Secretary of Innovation is functioning well.

Córdoba should put more efforts on some of the initiatives. Science-industry linkages are only promoted through technology diffusion, but options could be explored in exchange of personnel initiatives (Box 2.25). The densification of cluster could go beyond the focus on SMEs to integrate MNEs in regional clusters to favour technology, research and knowledge transfers across SMEs. MNEs could benefit from increasing quality of products and processes in intermediate suppliers. Also efforts could be put in place to expand the use of the online *Portal de Compras,* the online procurement platform of the provincial government, and to cut red tape in public procurement bids to encourage provincial firms to invest on ICTs.

These efforts should be combined with the adoption of other instruments currently missing such as those promoting innovation start-ups. Incubators can encourage the creation of business angel networks, offer free mentoring schemes for entrepreneurs, provide fiscal incentives to regional seed and venture capital funds, or create a public seed capital fund. The province should also support the recruitment of young graduates, in particular with high level degrees such as PhDs, with skills and knowledge that can spur new ways of doing business in firms. Other instruments jointly implemented with the national government include technology transfer centres in relevant sectors (INTA is a good example of a successful national research centre in the province) and innovation vouchers for SMEs (Box 2.29) enabling provincial firms to purchase services from public knowledge providers with a view to introducing new products, processes or services in their business operations. It is important that these innovation instruments do not become a tool targeting few firms or individuals, but that the benefits spread and reach other actors. For instance, an instrument promoting state-of-the-art scientific research that is complemented with instruments to bridge the gap between scientific and turn-key knowledge, could greatly benefit from linkages to clusters. The research institution would promote the usage of new knowledge among the cluster's members thus reaching more members and enhancing the competitiveness of the cluster internationally.

The provincial innovation strategy should be aligned with and complement national tools and policies. A clear review of the provincial strengths and weaknesses in regional innovation is necessary before designing any strategy. Such a strategy should draw on a mix of R&D and non-R&D instruments to seek positive synergies through a packaged approach and to avoid negative trade-offs across different governance boundaries (e.g. ministries or domain-related agencies) and between levels of government. User-oriented programming and systemic analysis are used to tackle issues in a coherent manner.

Conclusion

Córdoba's industrial matrix has long related on four strategic sectors: agriculture and the food industry, car metal-mechanic manufacturing, ICTs, and tourism. This matrix has served the provincial economy well in the past but has now reached its limits in terms of delivering economic, social and environmental outcomes. Cordoba's commodity- and

export-driven economy, has essentially become reliant on a reduced number of trading partners, such as Brazil and China, and has been adversely affected by downturns in regional and international markets.

The province is now at a critical junction and needs to connect the dots between the key productive sectors to pave the way for a full-fledge regional development strategy. Córdoba needs to go beyond the sectoral and siloed approach of each of the four strategic sectors, to seek economic activities that arise from synergies and complementarities among such sectors. For instance, metal-mechanics is cross-cutting to other important sectors where Córdoba has developed strong expertise and capacities such as agro-machinery, cars, and also in petroleum machinery as a supplier to other provinces. The introduction of innovative processes could help upgrade activities (e.g. towards product development, marketing services). Agriculture and related industry have traditionally been high in terms of productivity and efficiency, and would benefit from greater innovation, such as in biotechnology. ICTs and software development have emerged more recently as high-tech businesses, and therefore still have solid growth potential as current exporting activities are rather low. Lastly, tourism presents massive development potential for the both domestic and international markets in diverse areas (religious, language-related tourism, nature, etc.).

Increasing regional competitiveness requires focusing investments and provincial policies on upgrading or expanding infrastructure, fostering access to credit for SMEs, developing skills, improving strategic planning, and building capacity. Integrating all these measures in a regional development strategy is critical to ensure the success of this new approach. The following recommendations should help set the framework conditions for such a strategy to deliver intended outcomes.

Recommendations

1. **Design and implement an integrated infrastructure development strategy that sets short-, medium- and long-term goals and seeks policy complementarities. The strategy should:**
   - Align with national infrastructure policies and co-ordinate with local authorities in the planning, design and implementation phase. The latter includes co-ordinating transfer of funds (national-provincial as well as provincial-local), geographical reach, prioritisation criteria for projects, or even the design of specific projects will require conjunct action across level of governments.
   - Include infrastructure needs of all relevant sectors for the province (connectivity infrastructure, energy, housing, etc.). These investments should also have a geographical scope and be prioritised along consistent pathways that can drive regional economic growth and well-being.
   - Seek the highest value for money through appropriate sequencing and consider low-cost, alternative options including the relevance of multipurpose and green infrastructure.
   - Align infrastructure responses with other policies such as education, social inclusion or innovation policies to make the most out of public investment.

2. **Set the framework conditions to facilitate access to financing for private sector initiatives with a view to foster competitiveness of SMEs in domestic and international markets.**

   - Develop a provincial "roadmap" with steps to follow for potential investors and newcomers in order to attract FDIs. Such a roadmap should outline the administrative steps for MNEs and provide a presentation card, emphasising favourable fiscal conditions, subsidies, hard and soft assets.
   - Strengthen the connection of MNEs to local value chains in the province through the provision of services and intermediate goods.
   - Support the implementation of the provincial Credit Guarantee Scheme in addition to tackling financial illiteracy, reducing asymmetry of information, and promoting an "entrepreneur culture". Measures that the province could implement include:
     - Launch a programme to tackle financial illiteracy among individuals and firms, and build on the existing private association networks and the provincial education system to ensure a successful implementation. Particularly, it should be targeted to the smaller type of SMEs, also known as micro firms, where shortage of resources and capacity gaps are prominent.
     - Reduce asymmetry of information between SMEs and financial institutions by improving the quality of financial information provided by firms, adopting accounting standards based on international best practices, assisting SMEs in applying and conforming to those standards, and developing credit bureaus and other forms of credit monitoring.
     - Provide individuals with the necessary skills to promote an "entrepreneur culture". Córdoba is well placed, given its high quality university system, to support business incubators that stimulate the exchange of skills, information and innovation, and also attract investors.
   - Promote and incentivise the use of alternative and innovative financial instruments for SMEs, including venture capital instruments through fiscal incentives to investors. When doing so, it will be key to ensure the correct use of fiscal exemptions.

3. **Strengthen the quality of secondary and vocational education to promote inclusion and meet private sector skills-demand.**

   The recent re-establishment of VET in the province should be seen as an excellent opportunity to improve skill supply and promote further opportunities for students at risk of social exclusion. If well-designed and managed, VET could become a comparative advantage for the province in the medium and long term. This could be achieved through:

   - Developing a medium- to long-term strategy for skills supply and social inclusion, in co-operation with the Council of Technical Education and Employment, based on skills forecasting models and in coordination with economic and industrial policies. Córdoba needs to address both short term demands for skills and long term ones to be ready for the future.

- Encouraging students to enrol in STEM diplomas (science, technology, engineering, mathematics) through the modernisation of curricula, updating of teaching methods and promotion of these study paths among women. Fast-changing sectors, such as computing/software, require curricula that adapt along with the development of new technologies to attract students.
- Considering targeted programmes in the Provincial University of Córdoba to satisfy needs of provincial companies that are not met by national and private universities. For instance, the Provincial University of Córdoba could evolve into a leading technical centre, given that this is the area with the largest skill-gap.

4. **Design and implement a dedicated regional innovation strategy to modernise productive activities towards value-added niches and keep up the pace of growth.**

   A clear review of the provincial strengths and weaknesses in regional innovation is necessary before designing any strategy. For this, the province should:

   - Recognise the relevance of transformation towards a smart strategy linking the four provincial productive sectors, and identify vectors to modernise and diversify the provincial economy in a joint action between public, private and academic sectors.
   - Build on a strong university community as an asset to attract human capital; ensure that the traditional productive sectors can drive innovation; make the most of national funding programmes; and facilitate the emergence of new industries from strong ties with universities (such as ICT or biotechnology).
   - Create a mix of innovation instruments that fits Córdoba's territorial specificities and the capacity of the government to implement it. Also, ensure these innovation instruments do not become a tool targeting few firms or individuals, but that the benefits spread and reach other actors. A policy mix should combine more than two instruments and serve the purpose to several sectors. Some options include:
     - Ensure the private sector can absorb knowledge produced in public research institutes and universities. Science-industry linkages are only promoted through technology diffusion, but other options could be explored (e.g. exchange of personnel between firms and universities).
     - Densify clusters by going beyond the focus on SMEs to also integrate MNEs, which should favour technology, research and knowledge transfers. MNEs could also benefit by the increasing quality of products and processes in intermediate suppliers.
     - Expand the use of the online procurement platform Portal de Compras of the provincial government.
     - Promote entrepreneurship through support to incubators in the province, offer free mentoring schemes for entrepreneurs, and provide fiscal incentives to regional seed and venture capital funds which can foster the creation of business angel networks.

  - Support the recruitment of young graduates, in particular with high level degrees such as PhDs, with skills and knowledge that can spur new ways of doing business in firms.

- Support the use of instruments for protection of intellectual property by addressing the administrative and financing bottlenecks. More credit or micro-credit, and offsetting up-front costs payable through a percentage of royalties over a period of time could help. Entrepreneurship education programmes can help bridge some capacity gaps.

Notes

1. Countries with full MERCOSUR membership are: Argentina, Brazil, Paraguay, Uruguay and Venezuela. Member in accession process: Bolivia. Associate members are: Chile, Colombia, Ecuador, Guyana, Peru and Suriname.
2. This product also provides employment to thousands of people in the interior of the province due to the necessity of doing an electronic and manual selection.
3. Las comunidades regionales (en adelante CR) son entes intermunicipales, y su conformación respeta la división departamental vigente en la provincia de Córdoba. Están integradas por aquellos municipios y comunas que quieran adherirse por medio de ordenanza o resolución; por los legisladores provinciales por departamento, y por la sociedad civil. Las competencias de las CR versan sobre: el ejercicio del poder de policía, aquel que los municipios y comunas les transfieran de manera voluntaria; la planificación y generación del desarrollo regional y la fijación de prioridades.
4. BANCOR has operated for 140 years under the rules and standards of the central bank. BANCOR is 99% owned by the province, but became a limited corporation and is no longer a source of investment funding. While in 2001, 80% of deposits came from the provincial government, more than 90% are currently from the private sector.
5. Federal Government Bill No. 25.922, National Software Law.
6. The UIC is the largest private association in the province and it is integrated by the most relevant Chambers of Commerce and Sectoral Chambers.
7. Provincial Government bill No. 9870, Provincial Education Law.
8. Government Bill No. 24195, Federal Education Law.
9. Government Bill No. 26206, National Education Law.
10. Government Bill No. 26427, Establishment of the Education Internships System Government bill no. 26206, National Education Law.
11. Government Bill No. 26206, National Education Law.
12. Provincial Government Bill No. 9375, Establishment of the Provincial University of Córdoba.
13. The former administrative structure had industry and innovation embedded in the same Ministry. While the latter could have benefits in terms of transferring innovation

to the local industry, it did come with a smaller budget (ARS 40 million was the former Secretary for Science and Technology's budget).

14. OECD TL2 Regions definition: the OECD classifies regions as the first administrative tier of sub-national government (for example States in the United States, Provinces in Canada, or Régions in France).

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Chapter 3

Strengthening Córdoba's governance for effective policy outcomes

This chapter aims to provide insights on how the provincial government could strengthen multi-level governance, including its accountability and transparency to citizens. It focuses particularly on governance dimensions that can boost productivity, competitiveness, and citizen well-being in a sustainable and inclusive manner. The analysis begins with a brief overview of the institutions and frameworks relevant to territorial development in Córdoba. The discussion then explores specific success factors – such as strategic planning, territorial management, and citizen engagement practices – that can impact territorial development and which are, or could become, challenging for public authorities. The chapter concludes with a series of recommendations intended to support Córdoba's government in successfully designing and implementing place-based policies.

Introduction

Successful territorial development at national and subnational levels depends greatly on the institutions, frameworks, and processes shaping the territory's public governance structure.[1] The strength of this structure, how it is managed, and its adaptability to changing circumstances are prerequisites to meet government and societal objectives. This chapter argues that the effectiveness, efficiency and inclusiveness of government action taken in Córdoba to reap the full benefits of regional productivity and competitiveness could be improved though greater attention to strategic planning, better co-ordination in territorial management, and stronger accountability mechanisms, particularly via more systematic citizen engagement practices.

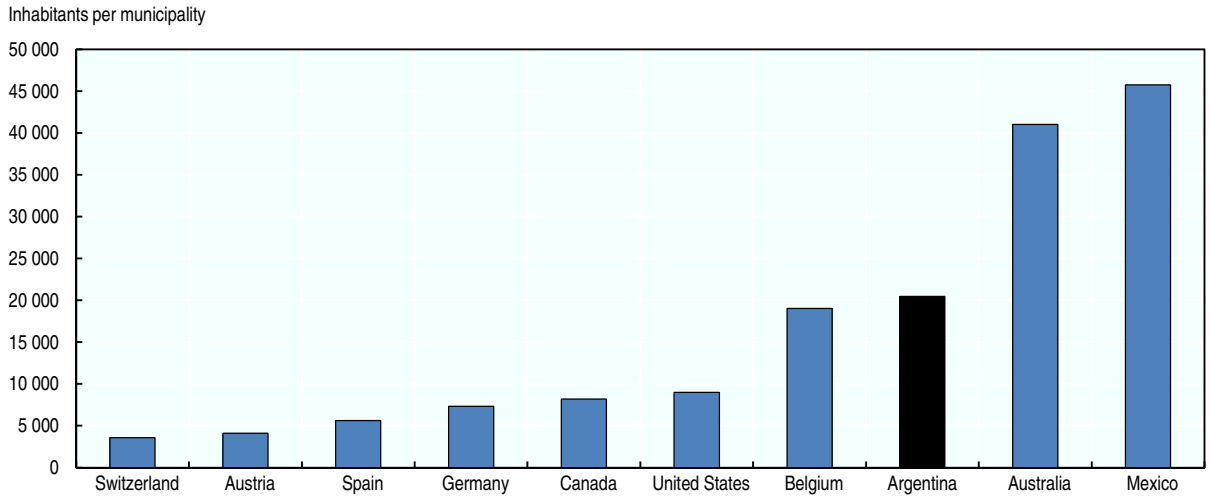
Institutions and frameworks for territorial development

Argentina is a federal country with three tiers of government: i) the national level with a democratically elected executive and bicameral legislature; ii) the provincial level with 23 provinces plus the autonomous capital city of Buenos Aires (CABA); and iii) the municipal level.

All competences and powers not delegated by the Federal Constitution to the federal government are attributed to the provinces. Additionally, each province has its own Constitution and governing institutions, free from intervention of the federal government, as well as a significant degree of policy autonomy. Provincial Constitutions frame each provincial government's institutional, political, administrative, economic and financial reach. provinces can create regions (sometimes called Departments) within their administrative boundaries for economic and social development, as well as enter into international agreements as long as these are known to the national Congress, are not deemed incompatible with national level foreign policy, and do not encroach upon the federal government's delegated powers. The national Constitution requires provincial governments to guarantee municipal autonomy as part of their own Constitutions, and it is the provincial Constitutions that establish municipal systems and rules (Nación de la Argentina, n.d.).

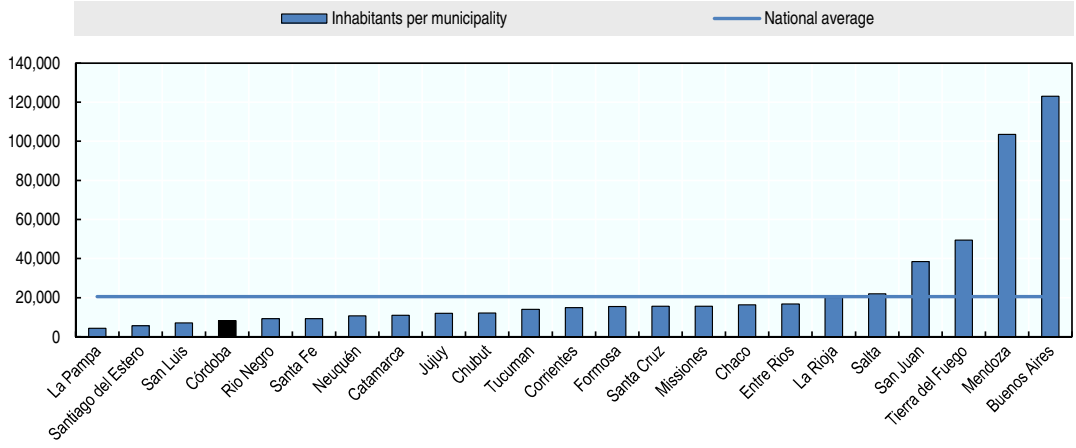
Argentina's fragmentation at the municipal level is smaller than that of most federations or quasi federations in the OECD area (Figure 3.1). For instance, Austria, Spain or Germany (4 090, 5 605, 7 320 inhabitants per municipality) have a higher degree of fragmentation than Argentina (20 455 inhabitants per municipality) when looking at average number of inhabitants per municipality. However, the province of Córdoba is among the most fragmented Argentinian provinces using the same indicator (average number of inhabitants per municipality) and well above the national average (Figure 3.1). When looking at Córdoba as a standalone unit of analysis (8263 inhabitants per municipality), it would come right after Germany in the level of fragmentation (Figure 3.2).

Figure 3.1. **Average number of inhabitants per municipality in OECD (quasi) federations, 2014**



Source: OECD (2016), "Subnational Government Structure and Finance", Regions and Cities (database), http://stats.oecd.org/Index.aspx?datasetcode=REG_DEMO_TL2 (accessed on June 2016).

Figure 3.2. **Average number of inhabitants per municipality, 2016, Argentina**



Source: Ministerio del Interior (2016), "Datos de Municipios", Ministerio del Interior, Obras Públicas y Vivienda, Buenos Aires, Argentina, accessed: 12 April, 2016, www.mininterior.gov.ar/municipios/datos-municipio.php; population data from *INDEC censo 2010 proyecciones*.

Córdoba has a democratically elected governor and a unicameral legislature. The province is divided into 26 departments that play no administrative role (i.e. they are not officially administrative units with unique administrative structures), but that represent territorial divisions for the province and serve as a reference point for planning and development.

Córdoba's 427 municipalities are autonomous political, administrative, economic, financial and institutional entities as guaranteed by the provincial Constitution. They are also autonomous in how they exercise their functions and competences as attributed in the province's Constitution and the laws that emanate from it. Córdoba's Constitution makes allowance for all settlements with more than 2 000 inhabitants to be considered a

municipality (Provincia de Córdoba, 1987); with municipal status comes administrative autonomy as well as provincial financing and own-revenue generating capacity. The number of municipalities in Córdoba is unusual in Argentina. It, together with neighbouring Santa Fé, has the highest number of municipalities in the country. Meanwhile, the country's most populous province, Buenos Aires, has 134 municipalities, and the average number of municipalities per province is 91 (Ministerio del Interior, 2016). Third tier governments are governed by an Organic Charter of Municipalities (*Carta Orgánica Municipal)* in the case of cities, and the Organic Law of Municipalities (*Ley Orgánica Municipal)* for those municipalities that do not have an Organic Charter. Each municipality establishes its own Organic Charter, the guidelines for which are set in the Constitution of the relevant province (Provincia de Córdoba, 1987).

Territorial competences, for example promoting socioeconomic development and delivering public services, are ascribed in the national and provincial Constitutions. These include activities in the area of economic promotion (e.g. developing clusters, promoting and financing economic services), education, health and social assistance, and environmental matters (e.g. parks, waste management, and public spaces). These competences – or many aspects of them – are spread across the three levels of government, and in some instances are also shared with the private sector (e.g. public transport, internet services and secondary and tertiary level hospitals) (Annex 3.A2).

From a resources perspective, the province does not report having difficulties meeting its various ascribed competences. However, it does face disparities in the quality and/or access to services and infrastructure across the territory and it is working to overcome this. For example, there was a lack of school infrastructure particularly in remote areas and/or where the population of children was low. The previous government administration built 500 new schools, prioritising inclusiveness and tailoring infrastructure to place-based needs, such as ensuring suitability for other types of educational training (e.g. adult skills building). The current administration is also gathering the resources necessary to implement the construction of a pipeline to ensure natural gas delivery throughout the territory. At the municipal level competences are not scaled according to size (i.e. fewer competences being required of smaller municipalities), and so technically all municipal authorities regardless of their population should be able to provide the same services. This can represent a significant cost and is not always possible. While particularly true for smaller municipalities that have less of a resource base, larger municipalities, including the city of Córdoba, face resource constraints that can impede the development of necessary infrastructure. Moving forward, consideration will need to be given to further supporting municipalities in their competence requirements. While this does not necessarily mean increasing resources, it does include building capacity in pooling resources in particular for capital intensive infrastructure areas.

Absence of normative frameworks

The national and provincial Constitutions provide guidance for competence allocation and attribute responsibility for key policy areas such as health care and education. Yet there is no explicit attribution of responsibility for territorial development as such. Each tier plays its own role in this area and the subnational levels of government are not obligated to design and/or implement formal territorial development strategies or plans.[2] Though Article 69 of Córdoba's Constitution provides for the elaboration of regional development and economic integration plans with the participation of the relevant economic and social sectors (Provincia de Córdoba, 1987), such plans are not

compulsory, and there is currently no formal territorial development strategy or plan for the province. This does not mean that the province is unable to set priorities for its economic development – it has been pursuing a four-pillared development approach (see Chapter 2), emphasising growth in ICT, food and agriculture, metal-manufacturing, and tourism. However, there is nothing officially or publicly recognising these priorities for regional productivity and competitiveness or anchoring them in clear development objectives.

A wide array of actors

The province's Constitution established an Economic and Social Council, a consultative body for public entities on which sit representatives of private enterprise, labour and trade unions, professional and socio-cultural bodies (Provincia de Córdoba, 1987). However, this body does not have an explicit development role, and there is no executive (cabinet) level institution with dedicated responsibility for articulating, co-ordinating and overseeing the accomplishment of territorial development aims. Rather all – or most – ministries[3] contribute in varying degrees to the province's economic and social development priorities. If the focus is specifically on productivity and competitiveness, the primary executive-level actors include the Ministries of: Agriculture and Livestock; Finance; Industry, Commerce and Mining; Investment and Financing; Labour; Housing, Architecture and Public (Road) Works; Science and Technology; and Water, Environment and Public Services. Government agencies that enter the territorial development framework include Pro Córdoba and the Córdoba Tourist Agency (*Agencia Córdoba Turismo*). There are also independent public agencies and corporations that play a role in helping meet territorial objectives, including the provincial bank, Bancor (*Banco de la Provincia de Córdoba*), the energy company, EPEC, and the public service regulator, ERSeP. In addition to these actors, municipalities are constitutionally obligated to participate in the design and implementation of regional development plans as well as in the realisation of works and services that affect their area.

In the city of Córdoba there is a non-profit economic development agency – the Agency for the Economic Development of the City of Córdoba (*Agencia para el Desarrollo Económico de la Ciudad de Córdoba* – ADEC) – dedicated to improving business competitiveness, territorial development and quality of life in the Greater Córdoba region (metropolitan area) and bringing together public and private sector actors. It focuses on policy discussions, approaches and programming that that can support the region's development through private sector growth, for example by fostering business initiatives, building business capacity in innovation and management, and supporting the private sector in its ability to propose strategies and policies to government (ADEC, 2016).

The private sector plays a significant role through its professional, industry and commercial chambers, for example the *Bolsa de Cereales,* the *Bolsa de Comercio,* the *Cámara Argentina de Maní,* the *Cámara de Comercio de Córdoba,* the *Cámara de Comercio Exterior,* the *Cámara Empresarial Minera,* etc. Rounding out the institutional picture are Córdoba's universities and technical colleges, as well as other representatives from academia, trade unions, and civil society organisations (CSOs), including non-governmental organisations (NGOs). From a territorial development perspective, while it is critical to maintain strong ties with the business sector, it is equally critical to maintain ties with CSOs and with citizens. The balance that the government strikes between these groups tends to lean more heavily toward the private sector organisations, although CSOs are called upon for input and insight in specific policy matters, such as education or social services. Annex 3.A1 provides a detailed list of these various actors.

Characteristics of a "small state"

As part of a federal system of states, Córdoba's government enjoys a relatively high degree of autonomy in how it administrates, finances and develops its territory, and its activities and responsibilities reflect many of those of a central government. This is the case of most Argentinian provinces, which historically pre-existed to the creation of the Nation and enjoy a strong degree of autonomy. Given this, the province's governance system can be evaluated through an analytical framework based on characteristics often attributed to small sovereign states. In doing so, four of the five characteristics identified by researchers stand out: i) the pursuit of agreed upon priorities for growth; ii) informality of structures and procedures; iii) few formal mechanisms for steering and control; iv) "personalism" of roles and functions (Box 3.1) (OECD, 2011a).

Box 3.1. **Characteristics of small state public administrations**

Early research into the characteristics of small state governments highlighted five inter-related characteristics that are common to some degree across such states. While developed after studying sovereign nations, some or all of these characteristics can be relevant to administrations in federal countries where individual provinces or states have significant autonomy and decision-making power over the territory's administration as well as policy design and implementation.

1. Limited scope of goals and activities. Small state administrations have to fulfil certain public prerogatives, such as maintaining health and education systems, independently of the size of the country. Small states therefore need to prioritise and limit the number of goals and activities they pursue, the scope of action, and the means of delivery (e.g. production versus purchase of certain public goods).

2. Multi-functionalism of civil servants and organisations. Public officials in small administrations tend to have many and diverse responsibilities compared to their peers in larger administrations, who have more opportunities to specialise in a particular field. This is also seen in state bodies; for reasons of scale and resource sharing, there is a greater tendency to merge units (e.g. ministries, agencies, etc.) than to establish or maintain separate entities.

3. Informality of structures and procedures. Formal co-ordination mechanisms are more limited in small states, and there is a tendency for structures to adapt to individuals rather than individuals to fit in formal organisational frameworks. While personal relationships are important in any system, senior civil servants in small states are more likely to use informal means of communication to consult and inform one another. Civil servants depend on these relationships – which can combine the professional and personal – in order to properly execute their responsibilities. These relationships can also serve as a bridge between executives and lower levels of organisations.

4. Constraints on steering and control. Independent scrutiny and reporting mechanisms tend to be less frequent in small states than in large ones due to limited resources, lack of specialisation and political partisanship. The political-administrative interface is usually less clearly defined in small states, with greater mobility between the administrative and political spheres. Senior civil servants therefore can have more autonomy in smaller states due to less formal oversight.

5. "Personalism" of roles and functions. The multi-functionalism, informality, and limited control in small states allow a limited number of individuals to exercise quite a bit of influence based on their competencies, networks, and personal qualities. While this can support agility and problem solving, it also leaves room for ad hoc decision-making and subjective judgement.

These characteristics are not "good" or "bad" in and of themselves, but their interaction influences the governance contexts. For example, aspects of personalism that might be perceived as "leadership" in a system with institutional checks and balances can take on a less benevolent aspect in an absence of counter-balancing forces.

Source: Adapted from OECD (2011a, Estonia: Towards a Single Government Approach, OECD Public Governance Reviews, OECD Publishing. http://dx.doi.org/10.1787/9789264104860-en; original source Sarapuu, K. (2010), "Comparative Analysis of State Administrations: The Size of State as an Independent Variable", Halduskultuur – Administrative Culture, 11 (1), pp. 30-43.

Limited number of agreed upon priorities for growth

Córdoba, in its approach to increasing competitiveness and productivity, has identified four priority areas for development: food and agriculture, ICT, metal-manufacturing and tourism. While these areas are broad and appeal to a variety of interests, the province is choosing not to spread itself too thin by pursuing all possible economic sectors or activities, and thus it is clearly defining its scope of action. While this is helpful within a small state as it can support channelling resources, it does not necessarily reduce policy or institutional fragmentation within the government. Quite often, fragmentation characterises the institutional relationships in territories that have a wide number of actors and interests involved in a region's development, as seen in Córdoba. Such fragmentation arises when ministries act within their area of expertise without co-ordinating policy initiatives or interventions (policy fragmentation) with other ministries that share competences, and/or when there is a lack of consultation to identify need at the relevant level of government or community (institutional fragmentation). This can lead to policy incoherence, responsibility overlap, and opacity in accountability, particularly with respect to who is responsible for what, and to whom a citizen may complain about a given problem. In a multidisciplinary or cross-sector policy area – like territorial development – such fragmentation can be compounded by the lack of a formal co-ordination or management system – one that is able to guide and generate complementarities between the different actors involved.

Institutional fragmentation within ministries can have a significant impact on a policy area linked to territorial development, on a ministry's ability to meet government objectives, and on the government's capacity to strengthen accountability to citizens. Within Córdoba's line ministries, individual secretariats establish their own priorities in addition to those established by the minister, and collaborate on an ad hoc basis when doing so will move forward their thematic agendas. Whether ministers take an integrated approach to their portfolio – establishing ministry-wide priorities relevant to multiple secretariats and ensuring that they are executed in a holistic manner – is a ministerial choice, but may not be widely practiced. Incentive mechanisms to promote an integrated approach to policy making within and across ministries may be few, and left to the discretion of line ministers. As explained in Chapter 2, an integrated approach to developing policies that support the four priority areas could generate synergies and greater success. Promoting an integrated approach to policy making at the ministerial level could also support a more innovative approach to development by focusing on strategic spheres or fields (*ámbitos estratégicos)* for activity rather than strategic sectors (*sectores estratégicos).*

Meanwhile, policy fragmentation among sector portfolios is also evident, most clearly between the Ministry of Social Development (*Ministerio de Desarrollo Social*) and the new Secretariat for Equality and the Promotion of Employment (*Secretaría de Equidad y Promoción de Empleo)*. Both of these institutions are responsible for social policy and certain responsibilities that were attributed to the Ministry of Social Development, for example family policy, programming for children and childcare, and gender policy, are being gradually transferred to the Secretariat for Equity and the Promotion of Employment. Thus, there are two institutions working on social policy and one of these is ceding responsibility to the other without sufficient internal clarity on the assignments and processes for transfer, and external clarity on programming responsibility. This can generate responsibility overlap, accentuates fragmentation and can result in incoherent action as well as poor accountability.

For the moment, the impact of fragmentation on the province's pursuit of greater competitiveness, or in its ability to develop and implement individual projects or programmes supporting ICT, industrial manufacturing, food and agriculture and tourism, might be limited. This may be due in part to the fact that these priority areas are clear, accepted by relevant actors, and appropriate across the territory, helping everyone gain from their realisation. In addition, actors have demonstrated an ability to work together in collaborative fashion when implementing the productivity and competitiveness agenda. For instance, in the previous government administration (2008-15), in order to help increase the productivity of small retail businesses the Ministry of Industry, Commerce, Mining, Science and Technology[4] (*Ministerio de Industria, Comercio, Minería y Desarrollo Tecnológico*) developed management software, and then worked with BANCOR to build a payment plan that could make the software financially accessible, especially to small retail businesses. Also to successfully promote tourism, several key challenges were identified including the need for better skilled human capital, greater connectivity and better quality infrastructure. To this end, stakeholders, ranging from the Córdoba Tourism Agency (*Agencia Córdoba Turismo*) that co-ordinates the effort, to the Employment and Professional Training Agency[5] (*Agencia de Empleo y Formación Profesional*), to the ministries responsible for public works and public services, worked together. For example, the Employment and Professional Training Agency supported human capital development in the four priority areas by providing academic scholarships for pertinent studies. They reported receiving about 2 000 scholarship requests both for university and technical studies from students wanting to study in one of the four relevant areas, including tourism. The Tourism Agency also engaged with the appropriate ministries to ensure better road connectivity and other infrastructure needs. This indicates not only a capacity to work together, but also a capacity to ensure coherence in action.

There are, however, at least two cautionary elements to consider. First, despite the voiced agreement among actors with respect to the four priorities for economic development and the apparent ability to weave consensus among diverse interests, there is little in place to ensure policy or programming coherence at the implementation level. In other words, if the Tourism Agency wishes to support more tourism in the north-east, around the large salt lake and doing so requires better roads, it needs to work with the Ministry of Housing, Architecture and Roadwork (*Ministerio de Vivienda, Arquitectura y Obras Viales*). However, it is not clear what ensures that the Ministry's road development objectives align with this and do not prioritise improving road connectivity in the north-west, for example, or what incentive exists to ensure alignment. Thus, while there may be agreement and coherence with respect to pursuing the high-level priorities, it is unclear if this remains true at the implementation level. The second caution has to do with accountability. If building a road in the north is part of a larger plan promoted by the Tourism Agency, to be implemented by the Ministry of Housing, Architecture and Roadwork, there is the question of ultimate responsibility and accountability for on-time and on-budget completion, for the proper use of funds, and for responding to problems, complaints or concerns that could arise from residents in the area or other citizens. Does responsibility rest with the originating entity or with the entity with funding responsibility, as they who control the purse-strings ultimately control the project?

With no entity completely responsible or accountable for territorial development – neither for the development and/or implementation of a strategic policy nor for the co-ordination of a cross sector response – it is difficult to identify, much less to ensure the alignment of diverse or distinct institutional priorities and their effective realisation. If Córdoba elects to use territorial development as a mechanism for driving greater

competitiveness and productivity and, through this, better socioeconomic outcomes, the government may wish to consider formalising responsibility for territorial development as a means to ensure effective co-ordination of policies and minimise any potential impact of institutional and/or policy fragmentation in this area. OECD countries rely on different mechanisms to facilitate this (Box 3.2), sometimes using more than one:

- *Co-ordinating structures such as interministerial committees and commissions* help foster horizontal governance based on the existing government structure and do not require the introduction of a new institution. OECD experience indicates that a horizontal commission that is chaired by one sector ministry might be limited in pursuing multi-sector aims and could hinder full involvement of other ministries. One way to address this is by alternating the committee chair among participating ministries. The higher the leadership within these types of commissions, the stronger the incentive to participate and the greater the engagement of the different actors. Examples of this type of co-ordination include the Ministerial Committee for Regional Policy in Denmark, the Presidential Committee on Regional Development in Korea, and the Cabinet Sub-committee on Rural and Regional Policy in Norway.
- *Establishing or restructuring ministries and departments to create fully fledged ministries with broad responsibilities and powers that encompass traditionally separate sectors* also holds benefits in terms of integrated policies and concentration of skills. Specific ministries for regional development were created in the Czech Republic, Poland, the Slovak Republic and Slovenia. Over one-third of OECD countries channel their regional development approaches through a ministry that focuses on economics, commerce or development. This reflects, in part, the more recent trend for territorial development policies to focus on drivers of innovation and productivity (OECD, 2014a).
- *Strategic planning and programming, including agreements, frameworks and instruments* can provide the impetus and framework for greater co-ordination. The formulation and implementation of regional policy programmes and/or spatial planning is widely used across OECD member countries. Planning and programming have been recognised as policy tools for regional competitiveness policies.
- *Establishing special units or agencies that provide planning and advisory support also help ensure policy coherence across sectors*. High-level "special units" have been created in several countries to ensure consistency and coherence among sectors. The closer such units or co-ordinators are to a chief executive, the greater the incentive for co-operation across sector ministries. Examples include the *Commissariat général à l'égalité des territoires* (CGET, formerly DATAR) that is directly linked to the Office of the Prime Minister in France. Special units under sector ministries include, for example, the Spatial Economic Policy Directorate within the Ministry of Economic Affairs in the Netherlands, and the National and Regional Planning Bureau of the Ministry of Land, Infrastructure, Transport and Tourism in Japan.
- *Regional Ministers* who consider the territorial aspects of the policies and programmes in their portfolios also exist. For example, Canada has a convention of "regional ministers", i.e. appoint ministers who have regional responsibilities

and represent the interests of their respective regions. In such cases, Ministers combine their regular (sector) portfolio duties with their regional political roles.

- *Combining financing and/or creating a consistent and comprehensive budget helps integrating financial tools to improve transparency and synergy across sectors*. For example, Mexico grouped together ministerial budgets for rural policies into an official rural budget under the Special Concerted Rural Development Programme.

Box 3.2. **OECD examples for formalising responsibility for regional development**

Formalising responsibility for regional development either via an interministerial co-ordinating body, a special unit or a dedicated minister, can help smooth any difficulties that could arise with respect to alignment, implementation and accountability of policies and programmes designed to help achieve territorial development aims.

Co-ordinating structures

In **Korea**, the Presidential Committee on Regional Development (PCRD) acts as an advisory committee aimed at co-ordinating actions of sector ministries. It is composed of 9 cabinet ministers and 17 external experts including from civil society and academia. The PCRD has the mandate to set visions and elaborate plans for regional development. It is in charge of comprehensive co-ordination and evaluation of regional development policy, including basic direction, five year-regional plans, and measures for regional development, project management and evaluation. It guarantees co-ordination between line ministries and defines the appropriate territorial scale for regional development policies. The Committee has played a key role in setting the strategic direction and prioritising investment in significant regional development projects.

In 2005, the **Norwegian** government established the Cabinet Sub-Committee on Rural and Regional Policy in order to improve policy co-ordination across ministries. This advisory body is chaired by the Minister of Local Government and Regional Development and has six other ministers as permanent representatives. The Committee co-ordinates government measures with substantial regional impact, addresses challenges, initiates interministerial processes and contributes to setting the political agenda of the government.

Special units or agencies

In **France**, the Commission for Territorial Planning and Regional Attractiveness (Délégation à l'aménagement du territoire et à l'attractivité régionale – DATAR), an interministerial delegation, was dedicated to preparing, promoting and co-ordinating territorial development and management policies. This body was directly linked to the prime minister's office, and was responsible for co-ordinating territorial development. Unlike a management unit, DATAR directed planning programmes in order to anticipate territorial challenges. It relied on experts and could commission specific studies to help define priorities and propose innovative policy solutions. DATAR linked government institutions at the sub-national level to ensure that regional matters were acted upon. In order to give greater visibility to territorial matters within sector policies, DATAR relied on its Interministerial Committees for Territorial Planning and Development. DATAR is now part of CGET, the General Commissariat for Territorial Equality (Commissariat Général à l'Egalité des Territorires), also part of the Prime Minister's office, and tasked with advising and supporting the government in the design and implementation of territorial policies that promote development and fight against inequalities. It ensures monitoring and interministerial co-ordination of relevant policies. CGET is the result of a merging of DATAR, with the General Secretariat of the Interministerial Committee for Cities (Secrétariat general du comité interministériel des villes – SGCIV) and the National Agency for Social Cohesion and Equal Opportunity (Agence national pour la cohésion sociale et l'égalité des chances – Acsé).

Ministries, departments and ministers responsible for regional development

In **Australia**, the **New South Wales** Department of Industry, Skills and Regional Development is responsible for driving the State's sustainable growth and produces the State's economic development strategy.

Box 3.2. **OECD examples for formalising responsibility for regional development** (*cont.*)

In **Victoria**, Regional Development Victoria (RDV) is responsible for delivering the State government's agenda for ensuring job growth and more prosperous communities. Unlike the Economic Development Agency in New South Wales, which is part of a ministerial portfolio, RDV is a separate agency that is responsible for supporting the State government's vision for stronger intra-state regions, primarily through job creation, improved infrastructure and new investment. RDV administers programmes dedicated to supporting business and industry development; helping new businesses get started; assisting existing industries in their growth and diversification; and building prosperous and stronger regional communities.

In **New Brunswick, Canada** the Regional Development Corporation is part of a ministerial portfolio, and is responsible for planning, co-ordinating and implementing the province's regional and economic development initiatives. It works with other government agencies, institutions and not-for-profit groups to ensure that economically challenged regions within the province have the tools and infrastructure necessary to support economic and community development. It is responsible for planning and negotiating economic development and infrastructure agreements (except highways), and makes recommendations to the provincial cabinet regarding economic development priorities. The Regional Development Corporation puts at the disposal of the government an organisation that is: *i)* able to react quickly to unforeseen situations as identified by the Cabinet; *ii)* able to finance and implement cross sector projects; *iii)* able to allocate funding between agreements and programmes as the situation requires; *iv)* broadly knowledgeable about the activities taking place in the field of regional economic development; *v)* able to recover funding due from the federal level under cost-sharing agreements; and *vi)* able, through its Board of Directors, to enhance co-operation and co-ordination among the deputies of economic departments in order to support government priorities.

Source: New South Wales Government (n.d.), "NSW Department of Industry", New South Wales Government, Australia, accessed 29 February 2016, available: www.industry.nsw.gov.au/about; Regional Development Victoria (n.d.), "About RDV", Regional Development Victoria, Victoria, Australia, accessed 29 Feb. 2016, available: www.rdv.vic.gov.au/home; Government of New Brunswick (2016a), "Regional Development Corporation," Government of New Brunswick, Canada, accessed 29 February 2016, available: www2.gnb.ca/content/gnb/en/departments/regional_development.html; Commissariat Général à l'Egalité des Territorires (2015), "Missions", CGET, Paris, France, accessed: 12 April 2016; available: www.cget.gouv.fr/le-cget/missions; OECD (2012), Industrial Policy and Territorial Development: Lessons from Korea, Development Centre Studies, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264173897-en.

Regional level bodies, such as councils or agencies, can provide a strong support structure for designing, implementing and/or co-ordinating development policy efforts, and for promoting co-operative mechanisms. Regional development agencies benefit from flexible structures (e.g. associations) and can bring together diverse stakeholders concerned with regional development. Both Australia and France rely on such entities (Box 3.3). France introduced urban planning agencies progressively, starting in a few cities or large territories, and today they are part of a national network, permitting exchange of expertise between regions and building capacity to address complex subjects. A provincial-level entity focused on territorial and urban development could provide the cross-sector critical analysis necessary to support evidence-based policy making, support integrated strategic development planning, and provide a more formal structure in order to enhance transparency and accountability in the regional development process (OECD, 2013a).

Formalising the oversight of territorial development policy – be it through a co-ordinating structure, a special unit, or a dedicated department – would help ensure co-ordinated policy and service delivery in support of Córdoba's development aims. Such an entity could be a locus for identifying common points of interest, bringing together divergent priorities, and ensuring that ministerial initiatives are coherent and consistent with one another, that they do not overlap and that the effectively meet territorial objectives.

Box 3.3. **Central and subnational supporting bodies for territorial development**

At the national level, **Australia's** Council of Australian Governments (COAG) is the primary body for intergovernmental relations. Its members are the Prime Minister, State and Territory Premiers and Chief Ministers, and the President of the Australian Local Government Association. The Prime Minister chairs COAG. The Council's role is to promote policy reforms that are of national significance or which need co-ordinated action by all Australian governments. COAG is also supported by the COAG Reform Council, established to monitor progress and provide advice on national reform agendas including those implemented at the subnational level. Under COAG sit a number of ministerial councils, which cover specific functional areas of intergovernmental interest, as well as task forces and advisory committees.

At a metropolitan regional level, the **Western Australian** Planning Commission provides the governance structure for the metropolitan region. The commission has 13 members in addition to its executive chair. Six of these 13 are the chief executives of the key planning, transport, water, environment, housing and state development departments. Others represent local government, Indigenous interests and expertise in relevant disciplines. The presence of department heads ensures that the commission has a significant role in policy development and in the planning of state services and infrastructure. It also plays an important role in inter- agency negotiation and co-ordination. The commission operates with a system of 17 committees, and generally involves members from inside and outside government, as well as representatives of interest groups and industry. This permits a diversity of views to be taken into consideration, and helps maintain community confidence in the commission.

France's urban planning agencies (*agences d'urbanisme*) are statutory associations, bringing together municipalities, the central government and relevant actors in urban development and planning. They monitor urban development, participate in urban planning and development policies, study urbanism and methods to promote territorial coherence, and prepare agglomeration projects with an eye on promoting coherence between related public policies. These associations also provide a forum for debate and mediation between territorial actors, and serve as centres of expertise on urban and territorial matters. In 2016, France had 52 such agencies assembled under the National Federation of Urban Agencies (la *Fédération nationale des agences d'urbanisme*/FNAU), dedicated to reinforcing the network of the various agencies, gathering and disseminating member experiences, and forming a link between the central government, municipal associations and urban development actors. Each agency unites the municipalities, region, department, central government, government deconcentrated services, chambers of commerce, universities, ports and public establishments. They are run by an administrative council that collectively decides on the programme of work, and are supported by a technical committee that ensures implementation and follow-up. The agencies are financed through member fees and subsidies, with communes paying a fee linked to the number of their inhabitants. In the past, the central government has favoured the establishment of such agencies in the urban sphere, but the FNAU stresses that the challenges of planning and sustainable development concerns the whole territory. Thus it is recommending that there be at least one urbanism agency per department (France has 96), and suggests that the agencies progressively put their competences in the service of all communes in the department rather than focusing only on large cities/metropolitan areas.

Source: Council of Australian Governments (COAG) (2012), "About COAG", www.coag.gov.au, accessed 20 August 2012; Sansom, G., J. Dawkins and S. Tan (2012), The Australian Model of Metropolitan Governance: Insights from Perth and South East Queensland, UTS: Centre for Local Government, University of Technology, Sydney, Australia; Fédération nationale des Agences d'urbanisme, www.fnau.org; Jarlier, P. (2012), "Rapport au Sénat Français sur l'Ingénierie Publique en Matière d'Urbanisme", www.projetdeterritoire.com/index.php/Nos-thematiques/Conduite-de-projet-Ingenierie/Rapport-sur-l-ingenierie-publique-en-matiere-d-urbanisme; Fédération National des Agences d'Urbanisme (FNAU) (2016), "Accueil", Fédération National des Agences d'Urbanisme, Paris, accessed: 25 February, available: www.fnau.org/index.asp.

Informal structures and networks

The mechanisms behind Córdoba's success at coalescing the interests of diverse stakeholders around a series of development priorities and encouraging them to move together are not entirely formal nor are they entirely clear. While, many governments depend on co-ordinating bodies to align interests across sectors, this does not seem to be the case in Córdoba. At least with respect to territorial development, there are no formal cross-ministerial co-ordinating bodies at the provincial level.

Relationships between Córdoba's institutions and actors appear to be built on strong social capital and network ties,[6] something facilitated by scale – i.e. most high-level actors know each other, either personally, from academia, or professionally. Ministry secretaries rely on personal connections with peers or others to move their agenda forward, just as civil servants might rely on personal connections for obtaining crucial data from peers in other government entities. The importance of informal network ties is also evident in the government's consultation practices for CSOs explored later in this chapter. In addition, such ties need to be considered in light of links between government and the private sector, for example through the Group of Six[7] (*Grupo de 6*). This is a formal association of six of the leading industrial and commercial chambers dedicated to building dialogue and debate, and representing the interests and needs of Córdoba's productive sector to the provincial and national governments (Diario Marca, 2015). It is often consulted on relevant policies such as industrial development and competitiveness. Finally, links that can impact government policy and programming are strong among external stakeholders, particularly the professional, business or industry chambers. The chambers demonstrate a good capacity to work together, supporting their constituents and the overall interests of business in Córdoba. This is due at least in part to strong personal ties among the members, and in part to overlapping membership: an individual can, and often does, belong to more than one chamber. These chambers appear to maintain a close relationship with the government given their proximity to the enterprises in Córdoba's productive sectors and can also serve as lobbying bodies.

A network approach to governance permits actors to be linked together through connections and ties – formal and informal, professional and personal – in this way building social capital and increasing the potential for innovation in its various forms (particularly in terms of processes and organisation). Information and knowledge flows through a network structure more easily than in a top-down, "siloed" structure. At the same time, lines of accountability become more opaque and co-ordination is more challenging. Thus, while on the one hand, high levels of formality may not be necessary in Córdoba, on the other hand, some additional formality could help build accountability over time and ensure that policies and programmes transcend election cycles. More formal structures can be beneficial, particularly those that serve a co-ordinating function, and which can complement the informality. Such structures include cross-sector co-ordinating bodies – in this case for territorial development – as well as strategic development plans, which are discussed later in this chapter.

Few formal mechanisms for steering and control

Córdoba's approach to steering, guiding and reporting on the effectiveness, efficiency and inclusiveness of public policies is evolving. On an operational level, over the past decade the government has worked to upgrade its information and communication technology (ICT) systems to facilitate data exchange within and across ministries, as well as with municipalities and with citizens. This is of great value when seeking to ensure

everyone has access to the same information, and it is a first step towards greater transparency and government accountability and can help citizens stay informed on government activity.

The political-administrative interface[8] in Córdoba is not clearly defined, which can impact decision-making authority and accountability at the administrative level by blurring the lines between decision makers and those who implement the decisions taken. At the same time, senior civil servants have a significant amount of autonomy particularly with respect to establishing and pursuing their priorities. This autonomy can help move sector portfolios forward given the closeness of the senior official to the subject matter and technical teams. However, it is also important to ensure that the diverse secretariats within a ministry are working toward the same overall objective(s) in a coherent and co-ordinated fashion. This has to be supported by clear sector policy, planning and co-ordination at the ministerial level as well as at the provincial level. At the ministerial level, without a framework for pursuing objectives, and without guidance, there is the risk of pursuing incompatible objectives, developing incoherent policy, and duplicating efforts. Mitigating this risk is increasingly the task of the Centre of Government (i.e. the Chancellery, Cabinet Office, Casa Civil, etc.) (Box 3.4), which is often best placed to ensure that priorities are pursued in a coherent and co-ordinated manner.

Box 3.4. **The Centre of Government: What it is, why it is important, what it can do?**

The term Centre of Government refers to the administrative structure that serves the executive (President, Prime Minister, or Governor at the subnational level, and the Cabinet collectively). It does not include other units, offices, agencies or commissions (e.g. offices for sport or culture) that may report directly to the executive but are, effectively, carrying out line functions that might equally well be carried out by line ministries.

An effective Centre of Government is essential for steering policy development and implementation. It can help overcome ministerial and departmental silos that thwart co-operation and create wasteful duplication of policies and institutions. A well-functioning Centre of Government helps sustain a comprehensive long-term vision, manage risks and crises, and ensure an integrated approach to policy and reform. It has a key role in communicating, as well as securing support and monitoring action. Who is at the Centre of Government varies by country. It will always include the body or bodies that serve the Head of Government and/or Head of State, and is often accompanied by the Ministry of Finance.

Among the various roles for the Centre of Government are to:

- provide a strategic overview of government policy activities, including a foresight function aimed at identifying emerging issues and building anticipatory capacity.
- increase policy coherence by ensuring that all relevant interests are involved at the appropriate stages of policy development.
- communicate policy decisions to all concerned players and to provide implementation oversight.
- apply effective regimes of performance management and policy evaluation.
- ensure consistency and coherence in how policies are internally debated and how they are delivered and communicated to the public.

Source: OECD (2014c), Slovak Republic: Developing a Sustainable Strategic Framework for Public Administration Reform, OECD Public Governance Reviews, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264212640-en.

The primary objective of the Centre of Government is to ensure evidence-based, strategic and consistent policy implementation by a government. While each country's Centre of Government will depend significantly on its historical, cultural and political forces, similarities emerge with respect to the functions that Centres of Government perform. Traditionally they have been responsible for servicing the head of government and cabinet, but increasingly they are expected to combine this traditional role with a more active role in other functions, such as policy development, co-ordination, implementation and monitoring, all of which requires a higher level of integration and co-ordination with other government departments and agencies. Centre of Government responsibilities can include: preparing cabinet meetings; communicating government messages; human resource strategy for the public administration; public administration reform; strategic planning; risk management/strategic foresight; preparing the Government Programme; policy analysis; policy co-ordination; regulatory quality and coherence; monitoring policy implementation; relations with sub-national governments; relations with the legislature; international development and aid; supra national co-ordination/policy (OECD, 2015a).

In Córdoba, there is no clearly defined Centre of Government body that could provide policy oversight. The Ministry of Government (*Ministerio de Gobierno)* appears naturally placed to serve such a role but currently does not. The Ministry does not have a co-ordination mandate across ministries nor does it have one for co-ordinating overall government policy or initiatives, as described in other subnational level examples. The Ministry's mandate is broad, but focused on the political activities of a sitting government, including calling, extending or postponing sessions of the legislature; planning organising and co-operating with relevant authorities for the province's electoral activity; and managing relations with other levels of government and other government institutions, as well as political parties. It is also responsible for managing relationships with municipalities and localities as well as regional communities (*comunidades regionales)*, as well as developing implementing and evaluating policies and strategies directed to public safety and security (Government of the Province of Córdoba, 2016).

In Córdoba, guidance and co-ordination appears to be directed from "the top" rather than from a Centre of Government structure that is accountable to the Executive and Cabinet. This is coupled with few to no mechanisms at higher levels of government that can monitor overall policy implementation and performance. These mechanisms are critical to ensure that government actors are all moving in the same direction within an administration and over time, and that short-, medium- and long-term objectives are being met. It may be that the strong level of "personalism" characterising Córdoba's public administration makes up for this lack. At the same time, depending too strongly on "personalism" (and personal networks) to ensure a co-ordinated approach can be opaque and subjective.

An OECD survey undertaken in 2013 indicated that among all of the functions undertaken by Centres of Government four are most relevant among OECD countries: *i)* preparing cabinet meetings (89% of respondents); *ii)* responsibility for policy co-ordination across government units (68%); *iii)* preparing government programmes (57%); and *iv)* monitoring the implementation of government policies (54%). At the same time, the same survey shows that the degree of influence that Centres of Government have over line ministries tends to be heterogeneous with 59.3% of officials considering they exert a moderate degree of influence, versus 29.6% reporting a high degree of influence (the remaining countries reported a low degree of influence). The heads of the Centre of Government function can vary as they must be trusted by the head of government and

political staff but also be respected by the civil service. Among OECD countries surveyed, 53.7% reported a Centre of Government head that was a political appointee who generally changed with the change in government. In the remaining 46.3%, the head of the Centre of Government was a senior civil servant (OECD, 2015a).

Centres of Government bodies are also seen at the subnational level, particularly in federal states. In the Canadian province of Ontario, the Cabinet Office provides the Premier and the cabinet with advice and analysis to support the government in achieving its priorities (Government of Ontario, n.d.). Also in Canada, New Brunswick's the Executive Council Office is mandated to provide secretariat and administrative services for the Executive Council (Cabinet), the Policy and Priorities Committee and ministers with policy co-ordination responsibilities. It is also responsible for reviewing all proposals for the development or amendment of government policy and co-ordinating the development of new policy proposals; for reviewing regulatory and legislative proposals that impact government policy; and for monitoring ongoing progress in reaching government objectives (Government of New Brunswick, 2016a). The Department of the Premier and Cabinet in Queensland, Australia assists and advises the Premier and Cabinet, and provides leadership for the public sector in quality service delivery. Its functions include: co-ordinating initiatives that advance government policies and priorities; leading policy co-ordination across government; supporting Cabinet and Cabinet Committee decision making; managing the State's relationships with other governments or government bodies, including the Council of Australian Governments (COAG), Australia's leading intergovernmental forum (State of Queensland, 2016). The Departments of the Premier and Cabinet in Victoria and in Western Australia play similar roles in their respective States. "Personalism" appears to play a large role in coalescing interests and functions.

Córdoba's institutional relations depend on "personalism", which is often associated with the strong personal ties seen in small states with a concentrated political elite (OECD, 2011a). It is frequently "personalism" – the influence of an individual based on their competencies, networks and personal qualities – that helps ensure that ideas are adopted, programmes are funded, and projects are implemented, particularly in a networked structure that is characterised by informality (OECD, 2011a). "Personalism" may be very effective, particularly in a small state, to set priorities and rally interests, and to support agility for policy making and problem solving. It can also leave room for ad hoc decision making or override accepted decision-making mechanisms, thereby limiting transparency and the proper placement of accountability. In addition, reliance on a small number of individuals with strong influence and network ties can create instability with respect to objectives and their alignment. What happens if these individuals leave their position, for example, do the priorities shift? Does the capacity to ensure an alignment of interests within a network disintegrate?

In Córdoba, getting things done through "personalism", and relying on personal and informal networks seems to be effective for establishing the government's direction, implementing policy, and ensuring that programmes are initiated. While such informality can be beneficial, constructive, and efficient in terms of time and possibly opportunity cost, it can jeopardise the achievement of government objectives and policies in the long term, especially if objectives are unable to transcend election cycles or the vagaries of a fragmented political panorama.

Revenue generating capacity

The province functions on annual budget cycles with medium-term budgeting on a three-year basis. Its revenue structure combines national level transfers in the form of earmarked and block grants plus own-source revenue obtained from taxes, fees and rents. National level block grants are generally used to nourish provincial funds, for example the Energy Fund, the Housing Fund and Road Fund. The federal government redirects funds to the provinces through tax sharing law, whereby 20% of the taxes collected nationwide are redistributed to second tier governments, and of this amount received, Córdoba sets aside 20% for its municipalities (plus 20% from what it collects in taxes itself). Since 2005, national level transfers as a percentage of Córdoba's GDP have been decreasing year on year (with the exception of 2010), dropping from 66.9% in 2005 to 57.3%[9] in 2014 (although government transfers have been rising in real value terms) (MECON, 2016). The Equalisation Law has been highly controversial, particularly between wealthier provinces and the national government, and there is a general sentiment that it has been used to "favour" certain provinces (Box 3.5). Given current federal tax reforms, including an increase in the level of income that is tax exempt, there will be a drop in the equalisation funds available for redistribution. While the federal government is indicating that some provisions will be made to reduce the pressure on provinces, it may not offset the loss – in which case the provinces in turn may need to re-evaluate their own revenue generating capacity.

Box 3.5. **Argentina's federal tax sharing regime**

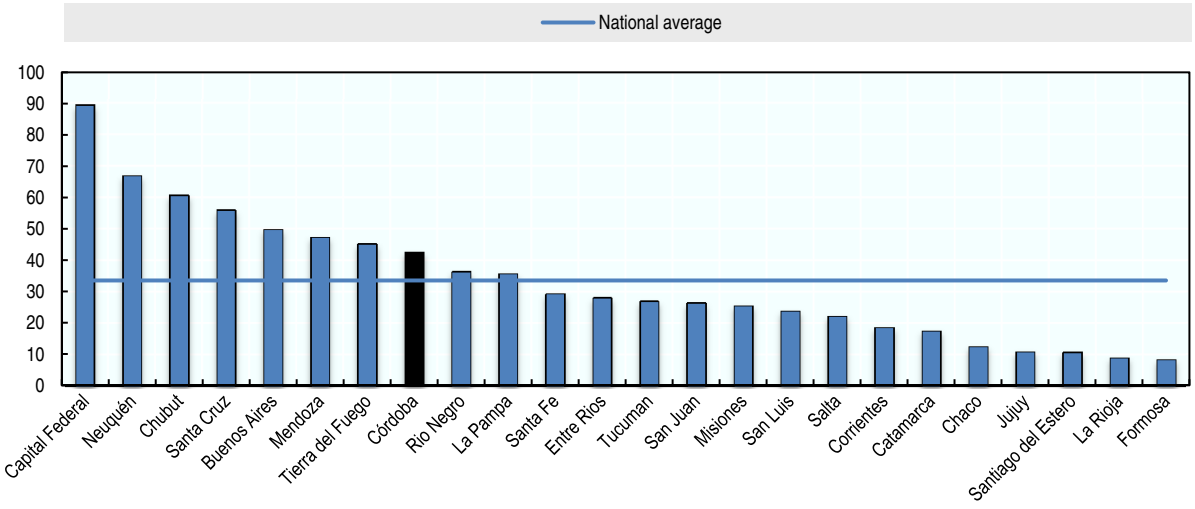
The federal government and the 23 provinces plus the Capital City of Buenos Aires (CABA) have gone through negotiations over the Law of Co-participation that regulates intergovernmental fiscal transfers through an equalisation scheme across the federal and provincial levels of government. Some provinces claim the current framework is a zero-sum game, as yielding to reduce governmental transfers in one province to assign them to another requires the agreement of all provinces, plus CABA. A reduction of the federal government´s share could increase – in absolute terms – the resources received by all provinces, which could facilitate the yield of the percentage resources from the most to the least privileged provinces. But any agreement requires unanimity among parties involved, which has proven difficult to achieve so far.

Source: Córdoba Background Report provided to the OECD by the Province of Córdoba (unpublished).

Subnational fiscal capacity, in general terms, is affected by three factors: *i)* taxable income and wealth; *ii)* capacity to increase own-source revenue; and *iii)* stability and (counter) cyclicality of taxes and transfers revenues (Vammalle, Ahrend and Hulbert, 2014). In Córdoba, the fiscal capacity of provincial and the municipal governments extends to each of these areas: they are direct collectors and recipients of taxable income or wealth (e.g. property); they are able to increase their own source revenue by levying new taxes or fees, adjusting rates or using other mechanisms available (e.g. property sale); and they have sufficient autonomy in taxation capacity to adjust when necessary (whether they do so or not is a political and/or strategic choice).

In 2014, 42.7%[10] of Córdoba's total public administration revenue was self-generated. This is above the 2014 national average of 33.5% and significantly greater than its 2005 self-generated revenue of 33.1% (Figure 3.3).

Figure 3.3. **Self-generated revenue as % of subnational GDP in Argentina, 2014**



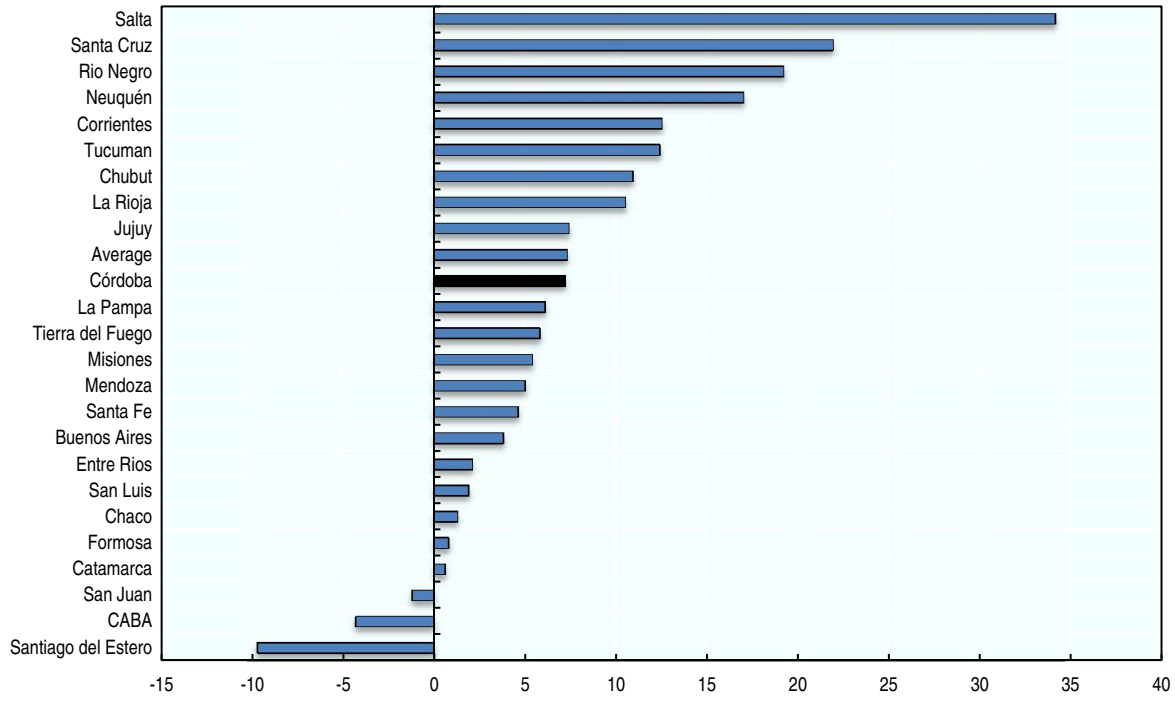
Note: For comparative purposes, the necessary adjustments have been made for the 12 provinces that maintain fiscal responsibility for social security (Buenos Aires, Córdoba, Chaco, Chubut, Corrientes, Entre Rios, Formosa, La Pampa, Misiones, Neuquén, Santa Cruz, Tierra del Fuego); data reflects calculations based on current prices.

Source: MECON (2016), "Información Fiscal Provincial y Municipal", Sector Público Provincial (database), Ministerio de Economía y Finanzas Públicas, www2.mecon.gov.ar/hacienda/dncfp/provincial.html.

Revenues from provincial taxes[11] represented 27.4% of Córdoba's total income in 2014, up from 23.3% in 2005[12] (MECON, 2016). The provincial government has full control over the source of taxes, the design of tax bases, and the setting and modification of tax rates; and part of the increase in own-source revenue is due to the aforementioned increase in provincial tax revenues. Córdoba has also managed to almost double its non-tax revenue as a percentage of GDP, increasing from 3.5% in 2005 to 6.8% in 2014[13] (MECON, 2016).

Provincial expenditures have increased since 2005, driven predominantly by personnel costs (33.5% in 2005 and 40.7% in 2014) – a line item that increased for almost all of Argentina's provinces in this period, in some case significantly (Figure 3.3).[14] The province appears to have managed these increases by reducing other expenditures (e.g. consumable goods or services), or at least keeping them stable. It also reduced capital expenditures from 11.2% in 2005 to 7.4% in 2014, which is more of a concern as this can reflect a decline in the province's investment capacity. While the level of investment in real terms (i.e. monetary value) has increased over time and seemingly dramatically,[15] actual impact can be masked by inflation and can call value for money into question. Real direct investment dropped from 9.7% in 2005 to 5.6% in 2014, and financial investment levels dropped from 0.4% to 0.1% in the same period (MECON, 2016). It may be worth noting that in 2013, among federal OECD countries, subnational provincial government investment as a percentage of GDP (as an aggregate) ranged from a low of 0.5% in Austria to 2% in Canada (OECD, 2015b).

Figure 3.4. **Percentage point increase in personnel expenditures 2005-14**



Note: Data for Buenos Aires, CABA and Mendoza is for 2008 and 2014.

Source: MECON (2016), "Información Fiscal Provincial y Municipal", Sector Público Provincial (database), Ministerio de Economía y Finanzas Públicas, www2.mecon.gov.ar/hacienda/dncfp/provincial.html.

The province can also incur debt by borrowing from financial institutions and the public; although borrowing foreign capital is more restricted and requires authority from the federal government. As of 10 December, 2015, Córdoba's list of ministries includes a Ministry of Economy and Finance (*Ministerio de Finanzas),* and a Ministry for Investment and Financing (*Ministerio de Inversión y Financiamiento*) with a mandate that includes obtaining financing and credit from public or private, national or international institutions; monitoring the province's total public debt; co-ordinating and managing relations with national and international monetary and financial institutions; and promoting investment in the province (Government of the Province of Córdoba, 2016).

Córdoba's increasing revenue generating capacity is positive with respect to territorial development, for a number of reasons. First, it is generally agreed that self-generated revenue can improve resource allocation and promote more efficient resource management at the subnational level. This can be attributed in part to pressure placed on subnational authorities to be more efficient and more responsive to citizen tastes and preferences when they are paying for the goods and services provided. Second, it is thought to promote greater democratic accountability and a stronger orientation toward growth-oriented economic and fiscal policies (OECD/KIPF, 2012). Third, subnational governments that have a degree of control over tax rates or who are able to levy large user fees may be better able to respond to shock and be more resilient than those without such abilities (Vammalle, Ahrend and Hulbert, 2014). Economic turbulence can impact transfer levels to subnational governments, which can be offset to some extent by own-source revenue, giving subnational authorities greater margin to manoeuvre if they need

to reduce deficits or ensure a stable level of income (OECD/KIPF, 2012). This is particularly important in Córdoba, given that its economy is strongly tied to international trading partners (e.g. Brazil for its automotive manufacturing industry), and to international commodity prices (e.g. soya).

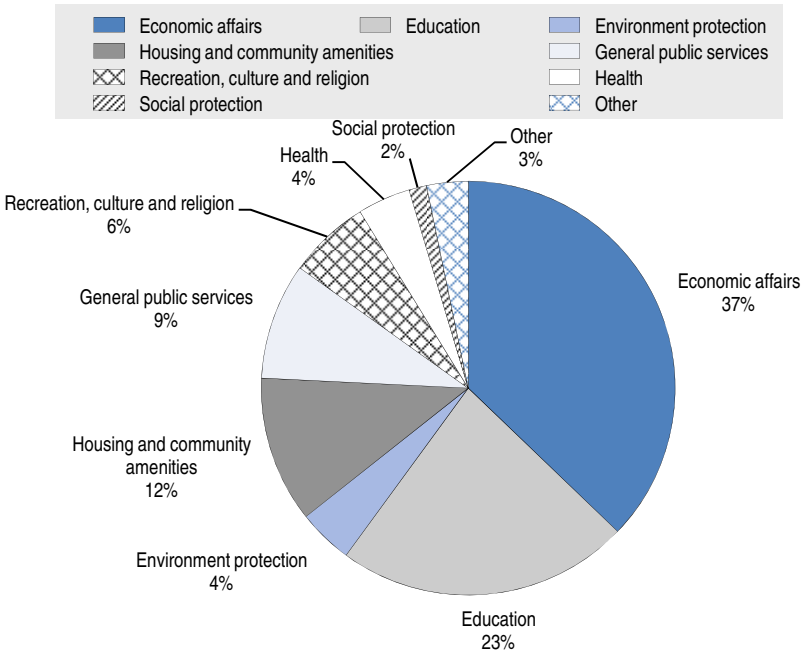
It is generally agreed that subnational authorities should rely on taxing assets that are *i)* relatively immobile (e.g. property – considered the most appropriate tax for the subnational level) in order to avoid tax-based migration; and *ii)* relatively stable to avoid large subnational government budget fluctuations, highlighting the degree to which taxes on individuals and households (e.g. personal income tax or property tax) are appropriate at the subnational level (OECD/KIPF, 2012). Gross income tax (*impuesto sobre ingresos brutos)* is Córdoba's largest source of self-generated tax revenue at 28.0% in 2015. This is followed by followed by stamp taxes (*impuestos de sello*)[16] (2.5%), property tax (2.3%), and finally a vehicular tax (1.1%) (Ministerio de Finanzas, n.d.). It should be noted that these same items are taxed at the federal and /or municipal level as well. Given current instability with respect to the equalisation fund, and increasing unemployment, consideration may need to be given to ensuring even greater stability in own-source revenue.

While Córdoba's revenue generating capacity is strong, the reduction in capital expenditures and especially in public investment highlighted earlier could be a red flag. While it is not easy to isolate its impact, a growing body of work is pointing to significant positive effects of public investment on growth. Some researchers are finding that while short-run impact is limited, this is not the case in the long run once regional spillovers are considered (Bom and Ligthard, 2009). In addition, research focused on public capital (as opposed to public investment) finds that increases in public capital stock can be positively correlated with growth after controlling for initial levels of public capital[17] (Arslanalp et al*.,* 2010; OECD, 2013b). The regional effects of public investment are hard to pinpoint due to a lack of data on capital stocks and very limited data on the composition and scale of public investment by region. Generally, however, work on drivers of regional growth – many of which are linked directly to patterns of public investment – suggests that (OECD, 2013b):

- Investment in physical infrastructure (especially transport) appears to be important for regional performance, particularly when co-ordinated with other policy strands (OECD, 2009a). However, when undertaken in isolation it can yield poor results, and it seems to be subject to diminishing returns
- Investment in human capital and innovation activities are important for regional growth (OECD, 2009a; OECD, 2011b). This highlights the importance of investment in soft as well as hard infrastructure, and critically the need for public investment processes that are capable of effectively targeting regional needs and regional potential.

Finally, OECD studies in public investment indicate that most subnational public investment is channelled to areas of critical importance for a region's future economic growth, sustainable development and citizen well-being (Figure 3.5).

Figure 3.5. **Share of direct public investment by subnational governments, 2011**



Source: OECD (2013c), *OECD Regions at a Glance 2013*, OECD Publishing, Paris, http://dx.doi.org/10.1787/reg_glance-2013-en.

There is a temporal and a political dimension to consider in this evaluation. First, most recent data for Córdoba is to 2014, and thus investment levels in 2015 are not considered. This said, and despite the fluctuations in investment trends since 2005, in 2014 spending in both categories – real direct investment (5.6%) and financial investment (0.1%) – was significantly below its 10 year average of 7.5% and 0.5% respectively.[18] When comparing Córdoba's investment levels to those of other provinces, specifically Buenos Aires, Mendoza, and Santa Fe, as well as CABA, one sees that the province's trends are not significantly different to those of its peers, with the exception of CABA: there has been a general decrease in both types of investment spending between 2008 and 2014, though the level of decrease varies (Table 3.1). Given the trends, it is reasonable to assume that a significant increase in one year is unlikely. This said, the 2015 budget was developed by an outgoing provincial administration, and does not reflect investment priorities of a new governor or government. Provincial expectations for policy changes as a result of a new national level government might shift investment-spending levels in 2016 and beyond.

What is interesting in the case of Córdoba is that any impact caused by an apparent reduction in investment, however, might be at least partially offset by what the province elects to invest in. Grounding its growth in the four priority areas identified requires Córdoba to invest not only in infrastructure but also in areas linked to innovation and human capital (e.g. skills training), thereby effectively investing in drivers for regional growth. While Córdoba may be reducing its investment levels, knowingly or not, it appears to be prioritising development in areas that support its growth drivers. Time will tell if the equation balances.

Table 3.1. **Investment spending as % of GDP in selected provinces, 2008-14**

Province	Real direct investment		Financial investment	
	2008	2014	2008	2014
Buenos Aires	3.3	2.7	1.0	1.0
CABA	14.7	15	0.7	0.2
Córdoba	7.7	5.6	0.3	0.1
Mendoza	8.3	6.7	4.9	1.9
Santa Fe	7.5	4.4	0.7	0.2

Source: MECON (2016), "Información Fiscal Provincial y Municipal", Sector Público Provincial (database), Ministerio de Economía y Finanzas Públicas, www2.mecon.gov.ar/hacienda/dncfp/provincial.html.

The ability to identify the impact of its development priorities on growth objectives and the return on investment may pose a significant challenge to Córdoba given a degree of informality in key governance dimensions such as strategic planning, difficulty with respect to monitoring and evaluation, and a tendency not to undertake programme reviews. Without greater structure in some fundamental practices, the effectiveness – and efficiency – of Córdoba's investment in growth and development may be difficult if not impossible to ascertain.[19]

Formalising a territorial development strategy

The Provincial Government of Córdoba has its eye on building and ensuring long-term competitiveness, promoting inclusiveness and reducing inequalities, and ensuring a more accountable, effective public sector through its governance practices. The previous government administration achieved this by supporting growth in agriculture and food production, ICT, manufacturing, and tourism sectors, which are relevant to the entire territory, promoting jobs, and modernising the public administration. It is expected that this focus will continue in the current administration. The uncertainty regarding direction is revealing as it highlights the lack of a formalised long-term government strategy or policy document for the province's development. Neither the past nor the present (to date) administration has articulated desired policy outcomes for its development ambitions; there is little or ad hoc government activity in performance indicators, monitoring, and evaluation; and no programme review to determine cost effectiveness. When present, these mechanisms – strategic planning, objective setting, monitoring and evaluation, etc. – help identify when initiatives are successful or need adjustment, when an objective has been reached, and what might be the next steps in the development path. Without them it is difficult for decision makers to construct and implement effective and efficient policies and programmes, and for stakeholders – including citizens – to hold government accountable for its actions and use of funds.

An outcome-based approach to strategy and policy planning

A government strategy, one that is grounded in a vision for the territory and supported by a plan of action, serves as an anchor or roadmap that policy makers can use to address present and future development challenges, as well as opportunities. Such a strategy provides an understanding of long-term objectives, and a plan of action that leads to their accomplishment. It helps coalesce stakeholder opinion, supports decision-making, guides prioritisation, sets a course of action, and provides clarity with respect to the

responsibilities and lines of accountability (Cuadrado-Roura and Fernández-Güell, 2008). It can also help ensure that the resources and capacities inside and outside of government are aligned with priorities and actions. Additionally, strategic planning can help build social capital by promoting new forms of subnational governance, fostering co-operation and building ties among stakeholders. Finally, it can help establish agreements among the players involved, thereby building trust among diverse parties and interests, and reducing risk at the implementation stage (Cuadrado-Roura and Fernández-Güell, 2008).

Governments often struggle with the "vision" dimension of strategic planning because it requires thinking in ways that are not necessarily intrinsic to elected office. It means thinking beyond immediate government cycles and immediate political concerns, identifying what the territory wants to achieve over time, and staying true to the Government's objectives during its mandate (OECD, 2010a). Ultimately, it requires identifying and establishing a desired or intended future state of the country, province or municipality. This process is challenging because it involves drawing on capacities and capabilities that are often not fully developed or easily implemented in government. This includes distinguishing analysis horizons and acting accordingly (Table 3.2); considering diverse perspectives and sources of input for long-term strategy, and for medium- and long-term budget planning; having well established and quality evidence-based analysis; and a public administration able to provide evidence-based advice. Finally, developing a successful strategy or being strategic in policy execution means consultation with a broad base of internal and external stakeholders, including CSOs and citizens.

Table 3.2. **Horizons for strategic planning and decision making**

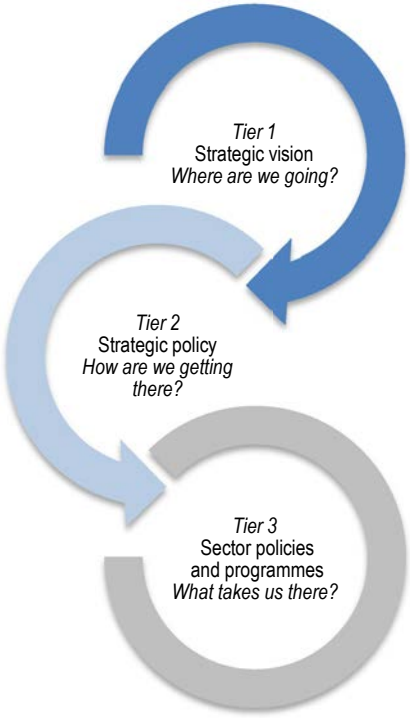
Analytical needs	Characteristics	Requirements	Examples
Foresight (long term: >10 years)	Anticipation of, and preparation for, foreseeable and disruptive/discontinuous trends; including future costs of today's decisions	Continuous scanning and consultation; pattern recognition; analysis of "weak signals"; future studies; consensual views	Futures reporting (e.g. on climate change); horizon scanning; long term budget estimates; scenario planning
Strategic planning (medium term: 3-10 years)	Anticipation of, and preparation for, foreseeable changes; prioritisation, including future costs of today's decisions; risk management	Analysis of historical and trend data; comparable information and analysis across government; consultation on values and choices	Government strategy medium-term budget frameworks; workforce planning, spatial and capital investment planning; innovation strategies
Decision-making (short term: 1-2 years)	Responsiveness; rapidity; accountability; ability to determine at what level decisions need to be taken	Quick access to relevant information and analysis; capacity for re-allocation of resources; overview of stakeholder preferences	Executive action; annual and mid-term budgets; crisis response

Source: OECD (2010a), Finland: Working Together to Sustain Success, OECD Public Governance Reviews, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264086081-en.

A general framework for strategic planning and policy development is based on a clear hierarchy, in which each tier cascades down from the one above (Figure 3.6). A strategic vision – "where are we going?" should drive the strategic policy, which in turn should nourish and be accomplished by sector policies, plans or programmes. The strategic vision is long term (ten years or more), based on foresight, and ideally developed with the input of citizens, political parties, the public administration, business and civil society. It reflects the path to a desired or intended future for a country, province or city. This should outline where the province wants to be in a generation, transcend

political parties and election cycles, and reflect societal ambitions and cultural aspirations.

Figure 3.6. **From strategic vision to sector policies and programmes**



Source: Authors'elaboration.

In the United Kingdom, Scotland provides a good example of how Tier 1 and Tier 2 link together, and how this can cascade into Tier 3. It has a clearly articulated government purpose – to focus government and public services on creating a more successful country, with opportunities for all of Scotland to flourish, through increasing sustainable economic growth. This purpose, or vision, is achieved through Scotland's economic strategy that is supported by two pillars: competitiveness and tackling inequality. To address these issues, four priority areas were identified – investment, innovation, inclusive growth, and internationalisation – to which sector and cross-sector public policies can be associated, such as in business investment; education, skills and health care; trade; place and regional cohesion; public services, etc. (Scottish Government, 2016).

Closer to home, in 2009 Argentina's province of Salta began defining a long-term development strategy – *Salta 2030 Plan de Desarrollo Estratégico* – elaborated in four stages, covering 12 policy sectors, and led by the Secretariat for Strategic Planning (*Secretaría de Planificación Estratégica*) housed within the Government General Secretariat (*Secretaría General de la Gobernación*), directly dependent on the governor. It is a good example of an Argentinian province establishing a long term vision (Tier 1), building a development strategy (Tier 2), and using this strategy to guide sector policies and programmes (Tier 3) (Box 3.6).

Box 3.6. **Long-term strategic planning in Salta, Argentina**

Beginning in June 2009, Argentina's north-western province of Salta set out to establish a 20-year strategic development plan – *Salta 2030 Plan de Desarrollo Estratégico* (PDES 2030). Initially a private sector initiative, it became a public-private undertaking and was eventually incorporated into the Secretariat for Strategic Planning, housed within the Government General Secretariat. The strategy sought to articulate a realistic and achievable vision of the future. In this way, the plan could help ensure that Salta's development not be left to chance, but rather to be an accurate reflection of what its people identified as important; to optimise the use of scarce resources, and to ensure that the future is met responsibly. Ultimately, the strategy's objective was to help Salteños improve their quality of life through sustainable economic growth, social equity and recognition of Salta's culture and history over the long term.

Developed with broad stakeholder engagement, the strategy was to serve as a framework for decision-making and to guide policy activity. It was designed in a four stage process, over a 12-month period:

Stage 1: build an understanding in the community of the importance of a strategic plan, and help people start thinking about the long-term including their future aspirations. This step brought together a total of 76 different institutions and municipalities (including representatives of civil society organisations, provincial and municipal governments, and the private sector) over a total of 18 meetings. The participation rate represented 80% of the community (represented by civil society) and 35% of the private sector. A comparative analysis was undertaken, evaluating matters of competitiveness and vision from 2001 to 2009. Information was gathered through meetings, questionnaires, and expert research. Stage 1 established the steps needed in order to move the plan forward.

Stage 2: assess where the province stands and build consensus around the strategic axes necessary to realise the vision that Salteños have for their province. This was achieved through four workshops over a two-day period, with 75 institutions participating (civil society, government, private sector, etc.), as well as citizen input through a dedicated web page, direct communication, and telephone calls. This process highlighted nine areas with high impact on Salta's competitiveness, which were then agreed upon as critical: human resources and technical advancement; export capacity and insertion into international markets; ability to attract investment; capacity of local enterprise; infrastructure; natural resources, environment and sustainable development; financial system and financial governance; government capacity, public institutions, and public governance; business environment (regulations and synergies). This stage also supported validating and prioritising the strategic axes that would guide the vision and development of Salta, as well as identifying the province's economic and socio-cultural situation, and outlining the next steps to support articulating the actual strategy.

Stage 3: formulate the strategic plan. Twelve policy sectors fell under the plan's umbrella: agriculture, livestock and forestry; economy and treasury; education; energy; environment and legal frameworks; health and sports; industry and commerce; infrastructure; mining; social development; technology and communication; tourism and culture; urban planning. Each of these sectors link to the nine high impact areas, and were further discussed in thematic working groups (*mesas de concertación*) that in turn developed and published sector strategies. After this stage, in order to oversee the plan's implementation, the PDES 2030 Council for Control and Follow-up (*Consejo de Control y Seguimiento del PDES 2030*) was established, bringing together nine different public and private institutions, including academia.

Stage 4: implement the strategic plan. It is unclear, however, where the plan is at this critical juncture.

A dedicated PDES 2030 website was established, on which the results of each stage were published, and in 2015 CIPPEC, one of Argentina's leading policy think tanks, awarded the PDES 2030 its prize for Innovation in the north-west, recognising the plan among 86 innovative public policies in 14 provinces and 34 municipalities.

Source: Provincia de Salta (n.d.), "Home", *Plan de Desarrollo Estratégico 2030*, Secretaría de Planificación Estratégica, Secretaría General de la Gobernación, Salta, Argentina, accessed: 31 March 2016, www.pdes2030.com.ar/index.php.

Strategic planning

Formal medium- and long-term strategic planning has not been prioritised in Córdoba. Currently, there is no official, published strategic planning driving government activity (although there is some hint that discussions are underway to develop one). The province used to rely on a Strategic Planning Council (*Consejo para la Planificación*

Estratégica de la Provincia de Córdoba – COPEC), as a decentralised entity of the provincial public administration, with a legal status, and a mandate to provide practical strategies for the planning, formulation, implementation and evaluation of medium and long-term public policies (COPEC, 2015a). COPEC worked with academics and experts in diverse policy fields to present analysis and recommendations for the government, often focusing on specific policy sectors. With the new administration, some of these prerogatives have been folded into the Ministry of Economy and Finance, and at the time of writing the Governor was considering reactivating the COPEC as a mechanism to foster a medium to long-term strategic territorial development vision for the Province.

There are several past achievements on which to build. In 2014-15 COPEC developed a Strategic Plan for the Integrated Development of Córdoba (*Plan Estratégico para el Desarrollo Integral de Córdoba* – PEDICor), though its implementation and impact has been unclear. Based on a consultative process, stakeholders identified four priorities that needed to be addressed by the province. In order of importance these were:

1. **Physical capital:** housing, public works such as roads and connectivity, and public utilities such as gas, water, light and sewage systems
2. **Human capital:** health, environment and education
3. **Economic activity:** employment and growth of the regional economy
4. **Social capital:** safety, coexistence, strengthening civil society.

These findings are not antithetical to the province's economic development aims. In fact, the four sectoral priority axes (agriculture and food industry, metal-mechanic manufacturing, ICTs and tourism) can directly support the third priority: employment and regional economic growth. Yet, three points should be noted. First, it is unclear if COPEC's plan was requested by the executive or cabinet as a tool to identify territorial priorities. However, it is reasonable to assume, based on interviews with authorities in Córdoba, that neither the past nor the present administration has accepted the document as the government's overall strategic plan. Second, the lack of a formally articulated and broadly communicated strategic plan – one that establishes a framework for long-term socioeconomic development and that can guide ministerial policy development and implementation in the short term – represents a significant challenge for sustainable economic development, performance management, an effective and efficient use of resources, and accountability. Third, building productivity and competiveness cannot happen in isolation of physical, human and social capital. This requires an integrated approach to policy making for territorial development, which in turn requires significant cross-sector co-ordination and a strategy that has been agreed upon by major stakeholders. To this end, Córdoba may wish to consider France's approach to regional (provincial) level planning for development in the economic and innovations sectors (Box 3.7).

Box 3.7. **Regional plans for economic, innovation and international development, France**

In France, regions are the subnational level authorities responsible for the definition of economic development orientations on their territory. In consultation with local authorities and their groupings, with consular chambers, with the Economic and Social Council and others, they develop regional schemes of economic development, innovation and internationalisation. These schemes define orientations regarding support to businesses, internationalisation, real estate investment and business innovation, as well as orientations regarding the attractiveness of the regional territory. Orientations set by these schemes encourage an innovative, sustainable and balanced economic development of the regional territory and the maintenance of economic activities within it. The schemes can contain a section setting orientations on development aid for agriculture, craft, industry, pastures and forestry activities.

The draft scheme is drawn up by the region in co-operation with the metropolitan areas in its territory. Orientations of the regional schemes of economic development, innovation and internationalisation on the territory of a metropolitan area are developed and adopted jointly by the Council of the metropolitan area concerned and the regional council. When both fail to agree, the city develops a strategic orientation document that takes into account the regional scheme. The scheme is communicated to neighbouring regions for information.

The Regional Council may consult any person or body for the development of the draft scheme. The scheme is adopted by the regional council in the year following the general renewal of regional councils. A new scheme is then developed every six years. The regional scheme is approved by order of the State representative in the region.

Source: Contribution from peer-reviewer of France, A.M. Roméra.

There is room for greater partnership between the government and COPEC, not only for stronger development planning, but also for the co-ordination and implementation of a provincial development strategy. COPEC could remain embedded in a ministry or it could return to its previous status as an autarkic entity, potentially expanding its role to become an institute for territorial development. It could be tasked with formalising a strategic approach to territorial development and ensuring policy co-ordination and coherence, as well as potentially serving as a platform for dialogue among stakeholders, including to identify the objectives or desired outcomes from such a dialogue, serving as a means to share information and knowledge, and guiding discussions among relevant points interest. Such a platform could help identify common territorial development aims and ambitions that can then be used to generate greater co-operation among all levels of government. Given that its role is under review by the new provincial administration, now may be a good time to re-evaluate and potentially broaden its mandate.

Córdoba's government is clear in its aim to build greater productivity and competitiveness and improve socioeconomic outcomes and well-being for all residents. However, its vision for the province (Tier 1 in Figure 3.6) – i.e. where the province wants to be in terms of its socioeconomic development, for example measured by GDP, GINI coefficient, education and health outcomes, labour-force participation, etc. – appears to be unarticulated. While a vision statement can be highly aspirational, it can bring diverse interests together – building acceptability of needed reforms by society, help government better manage trade-offs when conflicting goals appear, and be prepared for the future. Tier 1 can be difficult to achieve without political and societal will, resources, and time. It also requires extensive and open dialogue, not only within government but also with the broader range of stakeholders, including citizens. Box 3.8 presents the Australian

experience with vision setting. The example reflects a national level exercise, but it is also relevant and applicable at the subnational level.

Box 3.8. **Long-term vision setting in Australia**

In April 2008, the Australian government convened the Australia 2020 Summit to foster a national conversation on Australia's long-term future. The summit aimed to harness the best ideas for building a modern Australia, ready for the challenges of the 21st century. It brought together 1 000 participants from across the country to think about long-term challenges confronting Australia's future, and requiring responses at the national level that would not be limited to the span of the usual electoral cycle. The summit generated more than 900 ideas over two days. Participants, drawn from business, academia, community and industrial organisations, and the media, debated and developed long-term options for Australia across ten critical areas: productivity (education, skills, science and innovation); the economy; sustainability (e.g. population, climate change, water); directions for rural industries and communities; a long-term national health strategy; strengthening communities (e.g. social inclusion); indigenous populations; culture (e.g. art, film, design); governance; security and prosperity. The Department of the Prime Minister and Cabinet provided the secretariat for the Summit and was responsible for co-ordinating the development of the Summit report and the Australian government's response to the Summit, as well as the implementation of the policies and programmes generated.

Source: OECD (2010a), *Finland: Working Together to Sustain Success*, OECD Public Governance Reviews, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264086081-en.

Córdoba's emphasis on enhancing productivity and competitiveness based on four priority sectors serves as an implicit regional economic development strategy applicable throughout the province. These priority areas are common to internal and external stakeholders, who are actively pursuing their development. However, there is no formal strategy or strategic framework capturing this, and from which emanate ministerial policies that support territorial development priorities. In addition, clear outcome objectives are missing. A lack of clear objectives can leave ministries and other stakeholders with insufficient guidance or support when designing and implementing policies and programmes to move priority areas forward. Objective setting may certainly have been a challenge for provincial level policy makers given poor data, uncertainty stemming from high inflation rates, and national policy shifts that contributed to an unstable environment. However, this does not mean that outcome (results) objectives should be discounted as impossible to establish. Objectives help set goals so that institutions and individuals know what they are working toward, and when they have been successful; they can be set based on the current "knowns" and also be adjusted should unforeseen events strike. Objectives in Córdoba may exist implicitly, or in an informal agreement among leadership, but unless they are explicit, government accountability – internally and externally, including with citizens – is weakened.

Not only is an overall "umbrella" strategy for territorial development (Tier 2) missing, so are formal and clearly articulated sector or cross sector policies (Tier 3) that indicate how provincial ministries and agencies intend to contribute to growing the competitiveness priorities. Those that do exist tend to remain internal and are communicated within the ministry, secretariat or agency. Such policies act as frameworks or guidelines supporting a systematic course of action taken to achieve government objectives in a policy sector (e.g. education, infrastructure, agriculture) or cross sectors (e.g. regional development, skills development and training, safety, etc.). They can also guide spending priorities, thereby helping decision makers work through trade-offs, for example when needing to choose between spending on a bridge versus a hospital. Instead,

the approach – common to many subnational governments – is one based on sector-based programmes or projects at the ministerial or secretariat level. Each initiative may fully support one or more of the priority four axes. However, the result can be ad hoc development programming and implementation. Such an approach can be hard to follow, a challenge to co-ordinate, difficult to communicate, and is potentially inefficient without data-driven monitoring and evaluation mechanisms, including outcome indicators and programme reviews.

This approach can also result in a lack of focus or, conversely, too much focus. For example, there has been valuable work undertaken to improve and develop the socioeconomic conditions in the north-western region of the province (e.g. building houses, building skills, improving roads and water services, etc.). The question arises, however, of how the focus and investment in this region is balanced with a focus and investment for similar populations in other parts of the province, especially in the greater Córdoba where pockets of poverty are noteworthy. Here is where having a clearly defined territorial development policy could help. Finally, without clearly articulated sector policies, it is hard to prioritise activity and investment. Thus for example, without a clear energy policy it is difficult to know whether to emphasise biofuel production for generating electricity, another alternative energy source, such as wind turbines or solar energy, or if it is possible (or desirable) to emphasise all of them relatively equally. It is important to note that having a sector policy in place does not mean promoting one group at the expense of another.

Córdoba's management of strategy, policy and programming depends on strong leadership inside the ministries and at the executive level – the "personalism" explored earlier in this chapter. The issue is what happens if an individual leader changes? How are strategies, policies or programming ensured over time? More formalised strategy and policy statements can help support continuity. In addition, by clearly articulating intention, they can also promote greater transparency and provide an accountability framework, internally and also for citizens and CSOs. Scotland again provides a good example in this respect. The National Performance Framework, previously "Scotland Performs" (Box 3.9), is the measurement and communication tool that supports the government's purpose or vision statement. It is an easy to understand and accessible internet tool where citizens can learn about government objectives, and which ministries and policies supported their implementation. The system includes seven purpose targets, to demonstrate progress towards the government purpose in the areas of economic growth; productivity; participation; population; solidarity; cohesion; and sustainability. This is supported by clearly articulated strategic objectives (i.e. where the government will focus its action), it also required the qualitative and quantitative data to support objective setting, evidence gathering, and performance monitoring.

Box 3.9. **Establishing strategic objectives and outcomes in Scotland**

In May 2007, the Government of Scotland set out to streamline government resources and improve overall territorial performance. To do so, it aligned the government around five strategic objectives – a Scotland that was wealthier and fairer, smarter, healthier, safer and stronger, and greener. From these **five objectives**, it established a series of **16 national outcomes** articulating what Scotland wished to achieve over the subsequent 10 years. It then established a set of **50 indicators** that cut across many of the national outcomes, helping decision-makers and policy designers identify policy complementarities, and helping citizens identify where progress could be made in more than one area. For instance, one national outcome was stated as: "our young people are successful learners, confident individuals, effective contributors and responsible citizens." It linked to three strategic objectives: smarter, healthier, wealthier and fairer; and had 15 associated qualitative and quantitative indicators. These indicators were primarily outcome oriented, and ranged from to improving people's perception of their neighbourhood to reducing child deprivation. On its website, "Scotland Performs", the government clearly communicated its strategic objectives, and what it sought to achieve. It explained why each national outcome was important, the factors that could impact outcomes, and the role of the government in achieving them. It also identified the related strategic objectives and the relevant national indicators.

Performance in each indicator was easy to interpret as it was based on an arrow – up, down or horizontal – to indicate improvement, decline or no change over time. The importance of each indicators was also explained on the website, as well as its current status, the indicator measure, what influenced change, the government's role, how Scotland was performing in the indicator over time, criteria for change, partners engaged in creating change, and any related strategic objective. These latter two points highlighted not only the different stakeholders engaged but also the multidimensionality and complementarity of measuring well-being and taking an integrated approach to policy making.

Scotland constantly monitored and continues to monitor its performance, updating its objectives and indicators accordingly. For example, in 2011 a national outcome relating to older people was added. With respect to the indicators, Scotland also adjusted these when necessary (in 2007 there were 45 original indicators, and in 2014 there were 50 indicators). Some of the initial indicators remain untouched, others have had adjustments made to their definitions, 12 were added in 2011, and 7 were either removed as they related to targets that were already achieved or were replaced by more appropriate measures of progress. Over the subsequent years, Scotland Performs was transformed into the National Performance Framework, but the concept of establishing a vision, clearly establishing a strategy with associated outcomes, and appropriate indicators remains valid and accessible online.

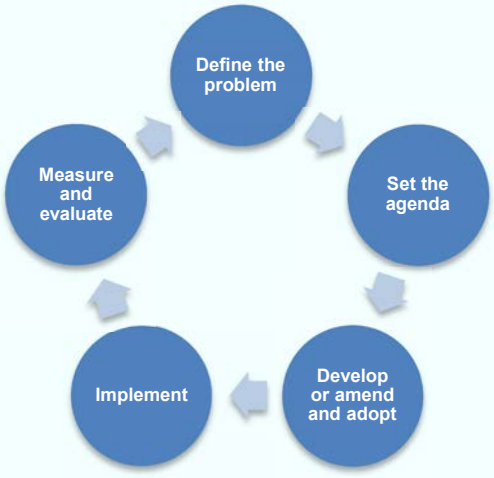
Source: OECD (2014a), Adapted from The Scottish Government (2014), "Scotland Performs", www.scotland.gov.uk/About/Performance/scotPerforms (accessed 4 July 2014 and 23 February 2016).

Evidence bases and better performance measurement

Córdoba's ability to identify if its aims are being met – be they in competitiveness and productivity, improved socioeconomic performance throughout the territory, etc. – is hindered by two issues. First, it has not clearly articulated its aims. Usually, these are linked to desired strategy and policy outcomes, which in the case of Córdoba are not formally established. Second, it does not undertake systematic monitoring and evaluation of its programming and projects, thereby limiting the capacity to determine whether or not a strategy or policy is achieving results or if it needs adjustment or replacement (Box 3.10). More specifically, Córdoba's ability to measure policy performance with respect to territorial development is challenged on three fronts: i) a lack of reliable data; ii) a lack of performance indicators; and iii) a weak monitoring and evaluation culture.

Box 3.10. **The role of evidence bases and performance management in the policy cycle**

Ideally anchored in an established and agreed-upon vision and strategy, for example for territorial development, a policy cycle is often considered to have five phases:



1. **Define the problem:** Where the policy problem (e.g. poverty, urban development, energy, connectivity) is identified and examined and possible solutions are explored with the support of research and analysis. Consulting with stakeholders can give policy makers clearer, "on the ground" evidence as to the precise issues faced, and their prioritisation.
2. **Set the agenda:** Where effort is made to build awareness around the problem and potential solutions among stakeholders, including citizens and decision makers (political and administrative). Typical mechanisms include: community organising, public education, media and communications, stakeholder fora, coalition building.
3. **Develop or amend and adopt:** Where options and possible solutions are discussed among policy makers, leading to the adoption of new policy or the amendment of existing policy. Mechanisms often used to impact policy adoption include: issue advocacy, regulatory advocacy, community organising, creating public-private partnerships.
4. **Implement:** Where essential decisions are made that can determine policy effectiveness. This stage is often ignored in the cycle, as it is less visible, particularly to citizens. Implementation methods include: issue advocacy, regulatory advocacy, litigation, creating public-private partnerships.
5. **Measure and evaluate:** Where policy research and analysis, including performance measurement, are used to determine if the policy is meeting its original objectives and if there are any unintended outcomes. If the policy has not been successful at any level, evaluation findings can be used during a new round of problem definition. The policy cycle then begins again and continues until an effective policy is designed and implemented. Policy evaluation and adjustment are critical to successful policy outcomes.

There is no pre-determined time to fulfil the policy cycle. The length of each phase depends on the issue, the stakeholders and the complexity of the policy itself. The policy cycle is merely a framework to visualise the incremental nature of policy making, with each stage building on the previous one.

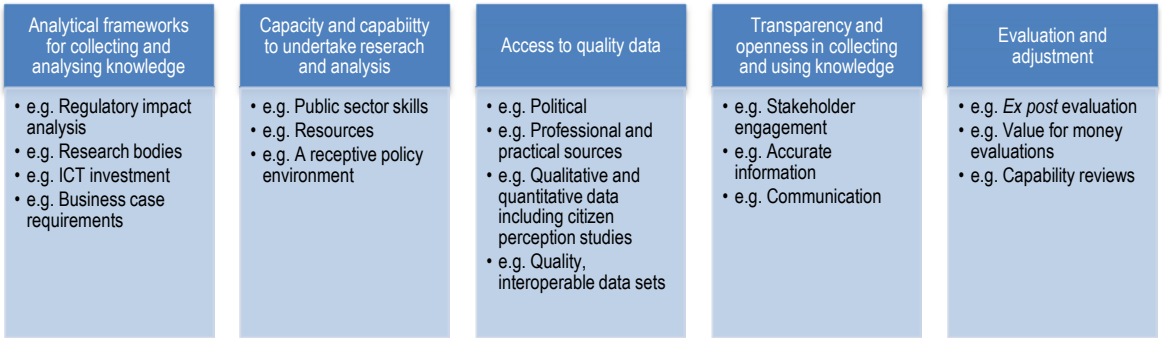
Source: OECD (2013e), OECD Territorial Reviews: Antofagasta, Chile 2013, OECD Publishing. Paris, http://dx.doi.org/10.1787/9789264203914-en; originally adapted from Northern California Grantmakers (n.d.), "Phases of the public policy life cycle", Public Policy Grantmaking Toolkit, www.ncg.org/s_ncg/doc.asp?CID=16966&DID=42043 (accessed on 30 March 2013).

A lack of reliable data

Consistent and appropriate use of quality evidence bases can help ensure the success of strategic policy development and implementation. Evidence bases lend credibility and legitimacy to strategies, policies and programmes, and can lead to greater effectiveness and efficiencies in achieving outcomes. In the case of Tier 1 strategy, external stakeholders are critical contributors of knowledge, information and societal ambitions. If a strategic vision does not resonate with the majority of society, including diverse political parties, then it will not be sustainable over time or electoral cycles. Tier 2 strategic policies should be supported with as much evidence as possible in the design phase and prior to implementation in order to maintain credibility. Otherwise, there is greater risk for widespread dissatisfaction with the government and the direction of the territory in the medium term. With respect to Tier 3 policies and programmes, evidence-bases are imperative: here is where policy impact is potentially most quickly and acutely felt. If action is not well grounded in data and reflective of stakeholder needs and preferences it will be much harder to implement. At this level especially, evidence bases can help establish clear targets, a monitoring platform, and success indicators. These can then be used to adjust policy or programme approaches if necessary, and also to communicate policy success and positive change achieved through government initiatives.

Successful evidence bases require frameworks and tools for gathering knowledge (evidence); the capacity to undertake research and analysis; good quality data; sufficient time to gather, analyse and test data; transparency and openness in collecting and using the knowledge; and room for evaluation and adjustment (Figure 3.7).

Figure 3.7. **Pillars of evidence-based decision making in public administration**



Source: Adapted from OECD (2010a), *Finland: Working Together to Sustain Success*, OECD Public Governance Reviews, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264086081-en.

One challenge Córdoba faces in building its evidence bases is the availability of and access to quality data. This is, in part, a national level problem that the provincial government can do little to influence. National statistics generated by the previous federal administration are currently considered unreliable and often not shared, particularly in the economic and social development spheres. The situation is expected to change with the new federal government, but it can take some time.[20] Statistics generated by the national Congress or congressional committees have been considered partisan, and statistics generated by academia or the private sector, for example the Argentinian Social Development Observatory at the Catholic University of Argentina (*Observatorio de la Deuda Social Argentina* de la *Pontifica Universidad Católica Argentina*), while highly

respected and frequently cited by the press, present national aggregates, not provincial performance. The inaccessibility of data that is reliable or timely has led Córdoba's ministries to build their own data sets and indicators. For example, the Ministry of Social Development is challenged to produce poverty data, and is confronted with a lack of harmonisation with other social indicators and data gathering initiatives (e.g. the data from the Social Development Observatory of the National Catholic University). Thus, it is working on developing its own indices. In the meantime, the *Bolsa de Comercio's* Institute for Economic Research (*Instituto de Investigaciones Económicas – IIE*) is leading a private sector initiative for developing stronger evidence bases (Box 3.11).

Box 3.11. **Córdoba's Institute for Economic Research**

In 1981, the *Bolsa de Comercio* established and funded a centre dedicated to economic and social research, the Institute for Economic Research (*Instituto de Investigaciones Económicas* – IIE). Since its inception, the Institute has provided information on capital markets and developed sector reports. In 1994, the Institute started publishing its annual *Balance de la Economía Argentina* (Argentina Economic Balance Report); and since 2008 it is also publishing the *Indice de Competitividad* Provincial (Provincial Competitiveness Index). This last publication is released every two years and compares the performance of Argentina's provinces in factors that influence competitiveness including demographics, business, economy, government, environment and natural resources, and science and technology.

As of 2015, the Institute is in the process of building an observatory for public service delivery and the business environment in three cities (Córdoba, Rio Cuarto and Villa Maria). The intention is for the observatory to publish a thematic report each month on performance in specific service (e.g. public transport).

Source: IIE (2016), Historia del Instituto de Investigaciones Económicas de la Bolsa de Comercio de Córdoba, www.bolsacba.com.ar/instituto.php (accessed April 2016).

There is nothing wrong with ministries or the private sector developing their data or indicator sets, and given a lack of reliable data it may be just what is necessary until the data situation normalises. However, care needs to be taken that there is some sort of methodological coherence and compatibility among data sets for comparative purposes (i.e. that data sets are harmonised), that the data is shared, and that it is presented in a way that is useful and relevant. Raw data, or a final quantitative conclusion with little analysis or indication of its policy implications may be insufficient to properly inform decision makers. Data should also be made publically available, communicated in a manner that society can understand and work with the information it conveys. It is important to underscore that the quality and reliability of data in Argentina is questionable and therefore the data feeding Córdoba's is initiatives is of a similar quality with some variation. Until the national level resolves its statistical problems, the province, despite its more robust methodologies – for example the Institute's Provincial Competitiveness Index – data sets in Argentina will remain shaky, thereby affecting evidence bases.

While quantitative information can be unreliable or difficult to produce and access, Córdoba's decision makers seem to have a good capacity to access knowledge from diverse sources (Box 3.12), with particular strength in political, professional and practical knowledge bases. For example, several ministers and senior civil servants have served for multiple terms,[21] and within ministries, high level officials previously occupied positions outside of government that were directly associated with their ministerial domain, making them conversant not only in the political dimension of their portfolio but in the substantive dimension as well. This creates strong internal knowledge bases, and supports

links to knowledge outside of government through personal and professional networks. It also generates a risk that the government team picks up where it has left off in the past – a possibility that could be mitigated with clearly articulated objectives to meet and actions to undertake, building on the previous administrations' achievements.

Córdoba's decision makers are aware of the need for reliable, consistent data to support evidence-informed policy making. To this end, the former Ministry of Public Administration (*Ministerio de Gestión Pública*) undertook harmonising norms and data sets across the public administration, ministries and agencies, and this work is continuing through the Secretariat for Innovation and Modernisation within the Ministry of Economy and Finance (Box 3.13). This is very helpful for the gathering and sharing of internal knowledge. Yet, it does not necessarily help Córdoba broaden its scope of knowledge. For a more complete evidence base, Córdoba will need to expand its practices in citizen consultation (explored later in this chapter). It is clear that the government is at ease gathering information from and consulting with the private sector and academia, especially through the various professional chambers and universities. There is less evidence, however, supporting an equally strong ability or tendency to gather information from citizens and other members of civil society, including social partners and NGOs. Doing so supports a broader evidence base, and helps build "ownership" of different policy and programming actions among diverse stakeholders, increasing the potential for policy success. In addition, it clarifies and strengthens accountability, as citizens know better what to expect and from whom.

Box 3.12. **Knowledge and areas of evidence for informed strategy and policy planning**

In an effort to better embed the use of evidence bases in strategy development, five kinds of knowledge and areas of evidence can be considered in order to ensure sufficient breadth of knowledge for appropriately informed strategy and decision making. The ability to access this knowledge, and to work with it, will vary based on a government's resources; capacity; data availability, reliability and practices; and consultative ability and experience.

- **Political knowledge**: Includes the political experience, analysis and judgement of political actors (e.g. legislature, executive, cabinet, ministers, political advisors, staff and consultants)
- **Research and technical knowledge**: Includes the products of scientific analysis produced by universities, research and technical institutions
- **Professional and practical knowledge**: Involves information on the practical, everyday issues relating to policy and programme implementation, made available by professional and managerial communities, most often from the private sector
- **Citizen knowledge**: Obtained by engaging with citizens, businesses and CSOs
- **Public administration knowledge**: Responsible for providing its own impartial advice to government, it also has the duty to provide an analysis of the information collected from the various sources of knowledge and other evidence bases.

Source: OECD (2010a), *Finland: Working Together to Sustain Success*, OECD Public Governance Reviews, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264086081-en.

Box 3.13. **Improving and modernising public information in Córdoba**

Beginning in 1999, Córdoba's Ministry of Public Administration launched a three-step process for improving data and information within the government. The first step was to introduce new systems and standardise information, resulting in greater harmonisation of norms and data sets across the public administration and its agencies. Once this was in place, the government moved to improve vertical systems as a means to better support the digital economy, to clarify and manage property rights and registers, and to aggregate information across public agencies. The third step has focused on e-government and better interaction with citizens through ICTs. As part of this modernisation effort, the Ministry consulted with social partners through formal roundtables. It also established a dialogue with municipalities on related topics such as urban development, investment and collaborative areas of work.

Under the current government administration, the Secretariat for Innovation and Modernisation responsible for modernisation activities resides in the Ministry of Economy and Finance. It is focused on using ICT to improve the quality of service within the health care system (specifically hospitals), the education system and the police force, as well as to improve connectivity through fibre optic service, in addition to initiatives that were in place prior to December 2015.

Source: OECD interview with representatives from the Ministry of Public Administration, Córdoba, Argentina, 16 November 2015; OECD interview with representatives from the Ministry of Economy and Finance, Córdoba, Argentina, 17 March 2016.

There is also little evidence showing how information gathered is used, regardless of its source. For example, it is unclear if evidence bases were used to help develop the four priority axes for territorial development. If yes, then a series of questions remain open, for example: where did the knowledge originate? Was there a balance of evidence from government, professional and practical sources, and citizens? Was information qualitative and quantitative in nature? In addition, it should be noted that evidence-based decision-making can be compromised by a high degree of informal discussion within government and when there is no standard requirement for using tools such as business cases, cost/benefit analysis, comparative analysis, and broad consultation (OECD, 2010b). This is particularly relevant in the case of Córdoba, where processes can be informal, and the requirements or frameworks for gathering and evaluating evidence when making a decision appear to be scant.

Performance indicators

Evidence bases – both quantitative and qualitative – not only support strategy and policy development ex ante, they can also set the foundation for performance measurement systems, including performance indicators. Performance indicators can promote learning and orient stakeholders towards results. In this way they address information asymmetries that arise between levels of government or between government and stakeholders, including citizens. They are also effective tools for reinforcing accountability at all levels of government by improving transparency. When carefully coupled with specific incentive mechanisms and realistic targets, indicators can stimulate and focus actors' efforts in critical areas. In this way, they help put attention on priorities, and promote capacity development and good management practices (Mizell, 2008).

Indicator systems are fundamental to effective performance measurement, and help government as well as other stakeholders to monitor progress. Indicator systems and performance measurement as a whole can support budget management, the attribution of

subnational grants, and enhance the government's understanding of policy outcomes. As an ongoing activity and when effectively communicated, indicators and performance measurement can show citizens how government is meeting its stated objectives, how it is using its resources, and how its policies are performing. While acknowledging their value, many governments are challenged to establish effective performance measurement systems, in part due to difficulty in building meaningful indicators. Among the obstacles are:

- the lack of a strategic objective
- organisational cultures which inhibit broad-based co-ordination and building ownership
- insufficient appreciation of the relationship and links between strategies, policies, targets, outputs and outcomes
- policies that are not clearly articulated
- indicators that are imprecise.

When developing indicators, it is important to get as much input from all relevant stakeholders as possible. This is especially true if policy success depends on the participation of multiple actors with complex relationships and divergent interests. A clear strategic objective, or high-level goal, is also important – for example increasing formal employment in the female labour force. Without a strategic objective, establishing links between strategies, policies, targets, etc. will be difficult. This is especially the case when cross-sector co-ordination and the involvement of external stakeholders is necessary to meet an objective, as each actor will tend to rely on their own policies or tools to address the same problem. Thus, if the objective is to increase formal employment among women in the province, interventions will be necessary among diverse ministries, including Education, Social Development, Labour, and the Secretariat for Equality and the Promotion of Employment, as well as programmes that promote staying in school, finding a first job, or building skills, such as those previously managed by the Agency for Employment and Professional Training (*Agencia de Empleo y Formación Profesional*) and currently under the Secretariat for Equality and the Promotion of Employment (*Secretaría de Equidad y Promoción de Empleo)*. Here is where clearly articulated policies, stakeholder dialogue, and understanding the interests of the various intervening actors is fundamental: in order to effectively measure success there needs to be agreement as to what success looks like and how it can be achieved. Finally, imprecise indicators, or even too many indicators, will not tell an accurate story. If an indicator is imprecise, then the information provided is vague. If there are too many indicators, then information is confusing and ineffective.

Within Córdoba's ministries and agencies, there is a strongly voiced desire to understand performance and a frustration with data availability. For example, the Ministry of Education (*Ministerio de Educación*) is developing a self-assessment tool to measure the province's performance against specific criteria or standards (e.g. enrolment, completion, dropout rates, grade repetition, etc.). This is being done in response to national and international evaluations that are released two years after data is collected, which is too long of a time frame to identify what needs to change and to make the necessary adjustments. The Agency for Employment and Professional Training, when it sought to determine whether its programmes were actually creating more jobs, needed to sign an agreement (*convenio*) with the Ministry of Labour at the national level (*Ministerio*

de Trabajo, Empleo y Seguridad Social de la Nación) to obtain the necessary data. Until the negotiation was concluded, the agency depended on an agreement with the national tax authority (AFIP) to obtain data that could be cross-tabulated and provide some indication of programme impact. This secondary agreement was facilitated by personal contacts without which it may have been harder to negotiate. Despite these examples, however, there does not appear to be a pervasive culture of performance measurement or of monitoring and evaluation. There may be many reasons behind this, including data concerns, but the lack of clearly articulated, concrete objectives from a strategic or sector policy standpoint makes action in this area more difficult, as well.

As described in Box 3.9, the Scottish Government translated its strategic objectives into a series of targeted outcomes measured by a performance indicator system. This provides government with a means to measure performance and update its objectives. In addition, it provides citizens with an up-to-date tool to understand government activity and its results. Performance measurement also supports public service provision and capacity. This has been one of the benefits Norwegian municipalities have gained from Norway's KOSTRA system, which publishes the data results electronically, within a month of receipt from the municipalities (Mizell, 2008). Canadian provinces, such as Nova Scotia, Ontario, and Quebec are also adopting performance reporting systems for their municipalities to support municipal and provincial decision makers (Box 3.14) (Buckstein, 2009). Australia undertakes a review of government service provision in order to compare the performance of government services and share service reforms that have been implemented or are under consideration. In addition, the review outlines agreed upon national performance standards for government services and analyses service provision reform. Among the services covered in the review are care of the elderly, child services, emergency management, health and housing (Commonwealth of Australia, 2012). Again, while the last two examples reflect practices from national administrations, they are relevant and applicable to provincial governments, as highlighted by Canada.

Box 3.14. **Performance measurement in Norway and Ontario, Canada**

The **Norwegian KOSTRA system** is an OECD-area best practice. Used for performance monitoring of local services, it is an electronic reporting system for municipalities and counties. It can publish input and output indicators on local public services and finances and provide online publication of municipal priorities, productivity and needs. KOSTRA integrates information from local government accounts, service statistics and population statistics. It includes indicators of production, service coverage, needs, quality and efficiency. The information is easily accessible via the Internet and facilitates detailed comparison of the performance of local governments. The information is frequently used by local governments themselves and by the media and researchers. Although individual local governments could use KOSTRA more efficiently (e.g. by systematic benchmarking), the system has helped facilitate comparisons of municipalities, thereby promoting "bench-learning" or "bench-marketing".

In 2000, the **Province of Ontario, Canada**, introduced the **Municipal Performance Measurement Program (MPMP)** as an accountability mechanism and to help local authorities make more informed decisions, and its use became mandatory in 2001. Ontario's 444 municipalities – regardless of their size – are all responsible for reporting on 12 core service areas, resulting in 54 measures of efficiency and effectiveness. These service areas are: local government, fire, police, roads, transit, waste-water, storm-water, drinking water, solid waste management, parks and recreation, library services, and land-use planning. The government has considered adding building services, housing, long-term care and museums to this list as well. The MPMP has not only improved reporting, it has also given provincial and local authorities a solid database of information, supporting multi-year trend analysis and budgeting processes. Municipalities report performance data annually by 31 May.

Box 3.14. **Performance measurement in Norway and Ontario, Canada** (*cont.*)

In addition to MPMP, in 2001 Ontario introduced the Ontario Municipal Benchmarking Initiative in order to support city executives to measure progress and share data and practices with respect to: the efficiency with which resources are transformed into good and services; their quality; their associated outcomes; and the effectiveness of services delivered. The initiative is composed of member 15 member municipalities, and it publishes an annual report, available to the public. This report presents information in 27 services areas with an aim to help citizens be more informed about their municipality and the services it offers, and how their municipality compares to others.

Source: OECD (2010b), OECD Territorial Reviews: Sweden 2010, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264081888-en; Buckstein, J. (2009), "Municipal Performance Indicators are gaining in Stature and Efficiency across Canada", CGA Magazine, Chartered Professional Accountants, Canada, Ottawa, Canada, accessed: 15 April 2016, available: www.cga-canada.org/en-ca/AboutCGACanada/CGAMagazine/2009/May-Jun/Pages/ca_2009_05-06_bsin_feature.aspx; Government of Ontario (2015), "Municipal Performance Measures", Ministry of Municipal Affairs and Housing, Government of Ontario, Ontario, Canada, accessed: 15 April 2016, available: www.mah.gov.on.ca/Page297.aspx; OMBI (2011), "What is OMBI", Ontario Municipal CAO's Benchmarking Initiative, Ontario, Canada, accessed: 15 April 2016, available: www.ombi.ca/?page_id=4.

Programme reviews and performance management

Monitoring and evaluating policies, programmes and projects is a critical part of the policy cycle and contributes to strategic planning and decision making. While results-based indicators are one instrument to help monitor performance, programme reviews are a mechanism to support evaluation. Such reviews can help identify the efficiencies, effectiveness, coherence and/or synergies of different initiatives. Performance information on individual initiatives based on a clear set of criteria, can be used to support policy performance and budget allocations in order to: i) help guide decision-making regarding resource allocation and reallocation; ii) provide input for decision making, strategy development, budget formulating, setting performance targets, etc.; and iii) support reporting and accountability with respect to the use of funds, for auditing, as well as for managerial and political accountability.

Introducing programme and/or spending reviews for ministerial or agency initiatives and for services provided by relevant service providers can help Córdoba's decision makers understand the impact of the various programmes undertaken that support the four priority axes and the territory's overall socioeconomic development. Programme reviews can also help determine if the activities are aligned with overall priorities, and highlight which are successful, which require adjustment in order to yield better outcomes, and which may need to be replaced. Such an exercise would provide insight into what is best supporting the achievement of Córdoba's territorial objectives and how spending is taking place within programming areas. It would also point to those initiatives that are most effectively and efficiently supporting productivity and competitiveness. It should be stressed that effective monitoring and evaluation is self-critical and can be at odds with governance approaches characterised by high levels of "personalism," and an ill-defined political-administrative interface. To overcome this requires strong political will and/or a civil service that is empowered – and interested – in better understanding performance.

There is discussion within the current administration to introduce results-based management techniques, as established by the Inter-American Development Bank (IDB). The IDB's Management for Development Results programme builds capacity for results-oriented action, appropriate resource prioritisation, management processes that support

achieving objectives, and monitoring and evaluation. The methodology intends to help governments realise their priorities and to act in a co-ordinated and efficient fashion (IDB, 2015a; IDB 2015b). If successfully incorporated into Córdoba's public administration, it could help the provincial government become more effective in planning, as well as in programme and spending reviews.

Assessing and overcoming gaps in territorial development practices

Effective territorial management in Córdoba is particularly challenged by a large number of autonomous municipalities that have little incentive to co-operate with the provincial administration, and by the economic and demographic weight represented by the city of Córdoba and its surrounding municipalities (Greater Córdoba). In the medium to long term, for Córdoba to meet its territorial aims – i.e. improving productivity and competitiveness while also generating greater well-being for its residents – the government will need to identify ways to improve provincial/municipal dialogue and co-ordination as well as inter-municipal co-operation particularly in Greater Córdoba; otherwise it may become increasingly difficult to ensure equitable service delivery given the fragmented environment.

Strengthening inter-municipal co-operation

Article 180 of Córdoba's Constitution grants the province's 427 municipalities full political, administrative, economic, financial and institutional autonomy. They are also independent from other institutional powers in the execution of their competences as per the Constitution and subsequent laws (Provincia de Córdoba, 1987). They can design, generate and implement municipal development policy and plans, but are not required to do so. In addition, they are responsible for a broad set of competences and services. In order to meet their responsibilities, Córdoba's municipalities receive federal and provincial transfers: 20% of the provincial taxes collected by the provincial government plus 20% of the total sum the province receives from the federal government as a result of the tax sharing law (*Ley de Coparticipation*) is redistributed to the municipalities. The province also provides a direct transfer for decentralised health services, and has established a Programme of Assistance to Municipalities (*Programa de Asistencia Municipal – PAM*). In addition, they can generate own-source revenue by establishing and collecting local taxes on transactions, property and vehicles, as well as fees, most often for municipal services. Like the province, they have the power to modify tax bases and rates, and to incur debt Municipal capacity in terms of administration, resources (financial, human capital, and infrastructure) and service delivery varies, creating disparities among local authorities.

Countries and provinces with autonomous municipalities all face a similar challenge with respect to multi-level governance: difficulty in encouraging multi-level and inter-municipal co-ordination in policy and programme development and implementation, as well as in public service delivery. This can have hinder higher-level policy objectives, especially when these objectives are best – or only – met with municipal involvement (e.g. improving public transport, improving environmental outcomes, etc.). It also hinders municipal capacity to manage resources and provide better or more services for citizens. One way to overcome this is by fostering effective co-ordination, co-operation and collaboration of involved actors (Box 3.15). The key lies in the ability to promote agreement among the divergent interests of internal and external stakeholders, which often requires transforming different motivations into complementary ones. One way to

manage this is to build dialogue among the different actors and guide them to identifying common points of interest, or common concerns – such as an area's economic development, where pooling financial resources and capacity would make sense to meet pressing and emerging challenges (e.g. investment in capital intensive infrastructure sectors).

Box 3.15. **Co-ordination, co-operation and collaboration**

Co-ordination, co-operation and collaboration build on each other, where co-ordination is at the basis, and can grow into collaboration.

- **Co-ordination:** Joint or shared information insured by information flows among organisations. "Co-ordination" implies a particular architecture in the relationship between organisations (i.e. centralised or peer-to-peer; direct or indirect), but not how the information is used.
- **Co-operation:** Joint intent on the part of individual organisations. "Co-operation" implies joint action but does not address the relationship among participating organisations.
- **Collaboration:** Co-operation (joint intent) together with direct peer-to-peer communication among organisations. "Collaboration" implies both joint action and a structured relationship among organisations.

Source: Adapted from OECD (2005b), *e-Government for Better Government*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264018341-en.

Like many governments, Córdoba's provincial and municipal authorities are faced with co-ordination and co-operation challenges: municipalities do not have to co-operate with the provincial government in policy implementation or service programming (vertical co-ordination), and local authorities have little to no incentive to co-ordinate their activities with their neighbours (horizontal co-ordination). The result can be inconsistent or unequal access to public services and infrastructure among municipalities (e.g. in transport and wastewater treatment). Very often municipal co-ordination becomes critical when matters of scale (e.g. geographic distance and/or low population levels) affect the ability to deliver public services in an efficient and effective manner.

In Córdoba, the impact of scale on public service delivery at local or community-based level has been managed mostly through service co-operatives (*cooperativas*). These entities are private and generally operate in rural or remote areas, providing basic services such as electricity, water or gas to the municipalities that sign a contract with them. They reach about 30% of the population, and cover approximately 70% of the territory, building scale and scope to make the service delivery cost efficient, and replacing the municipality in the service delivery role if the public authority does not have the capacity to meet its assigned competence(s). While helpful in meeting service delivery requirements, the service co-operatives present a set of challenges for the municipalities as they often become a parallel power to the local government. Delegating service responsibility to a co-operative is a delegation of power, and some authorities take back the delegated competences when they find themselves in a stronger financial situation. Municipalities that would like minimise such delegation should consider inter-municipal co-operation as an alternative in the medium to long term.

Co-operatives can also generate fragmentation in tariff structures and possible inequities in service access. Co-operatives do not always enter into service agreements with the government. A direct consequence is that many of their customers do not receive

certain subsidies or other benefits for which they would normally be eligible, such as the social tariffs established by the Ministry of Social Development. This can result in inequitable pricing or missed opportunities for poorer consumers in communities where co-operatives are responsible for delivery. It is up to the co-operative to meet the pricing offered by the government. Whether they do or not, or if they provide other types of benefits, is unclear. Ultimately, the existence of service co-operatives reduces the need for inter-municipal co-operation for service delivery, and it is one possible explanation why horizontal co-ordination mechanisms have not evolved strongly in Córdoba. This said, not all capacity gaps are in service delivery, and municipalities – including the more remote localities that depend on co-operatives – may need greater capacity to meet administrative, operational and infrastructure needs, and thus could still benefit from stronger inter-municipal co-operation.

While promoting inter-municipal co-operation is not impossible in Córdoba, it appears to be most successful when kept at a smaller scale. Four to six municipalities, including Rio Primero, have had a good experience with pooling funds and co-operating in small public works projects and cultural events. Larger scale co-operation is reported to face more difficulty. This is illustrated by the experience of six municipalities wishing to invest in a solid waste treatment plant. The municipalities agreed to co-operate, signed an agreement (*convenio*), selected the site within the administrative territory of one of the participants, La Carlota, and constructed the plant. However, the costs generated by transporting the waste to La Carlota appear to be higher than some of the municipalities expected. Thus, the co-operative approach may not be yielding the cost benefits sought due to logistical issues.

Inter-municipal co-operation in Córdoba appears to be most challenging when it involves co-operation between the city of Córdoba and municipalities forming the greater Córdoba area. It is as if the smaller municipalities are reluctant to co-operate with their large neighbour, preferring to co-operate with each other as a means to build a counterweight. This attitude may be changing, at least with respect to transport planning. In this area, there is evidence that the reticence among smaller municipalities to co-operate with the city of Córdoba can be overcome – at least in transport planning, and with the support of the Institute for Metropolitan Planning (IPLAM) (Box 3.16). Whether or not IPLAM's success can endure the implementation process, or be realised in other sectors requiring a co-operative approach to service delivery, remains untested. This example of good practice appears rather isolated, however, and is dependent on a generous timeframe and strong commitment, as well as convening power. IPLAM is also promoting "urban agreements" (*convenios urbanísticos*) among municipalities in a particular area, for example *Sierra Chica.* In this case, 11 municipalities together with the province, universities, and NGOs, have agreed to work on such areas as health, education, data, and other services or needs, as required. This highlights the capability of municipalities to work together with the relevant guidance and partners. It also seems to indicate that smaller municipalities are more apt to work with each other than with the city of Córdoba. These agreements, based on "corridors" of municipalities, particularly in the greater Córdoba area, can serve as a good step towards a more integrated approach to managing the metropolitan area.

Box 3.16. **IPLAM and inter-municipal co-operation for transport planning**

Córdoba's Institute for Metropolitan Planning (*Instituto de Planificación Metropolitana* – IPLAM) is working with the Ministries of Infrastructure and of Environment to develop inter-municipal plans to address service delivery challenges in Greater Córdoba, particularly with respect to transport. At first, municipalities were reticent to co-operate with the City of Córdoba. But with time and an ability to provide input into the planning process, representatives from IPLAM report the resistance shown by local authorities gradually gave way to an understanding of the importance of a regional, collaborative, approach. IPLAM's emphasis on dialogue and consensus building among municipal leaders in order to improve the transport system is a very good start to working around traditional barriers to co-operation at the municipal level.

Source: OECD interviews with representatives from IPLAM, November, 2015, Córdoba, Argentina.

Vertical co-ordination between the province and the municipalities is also a problem, as there is nothing requiring local authorities to adopt provincial policy or service programming, nor are there incentive structures in place to encourage them to do so. This presents the provincial administration with a serious challenge in promoting its policy objectives and can have implications on expenditures and accountability. For example, in greater Córdoba, urban sprawl is a reality. It arises for several reasons including fragmented land-use planning policy and regulations (land-use planning is entirely a municipal competence). This can lead to approval for construction of housing developments – often high-end, gated communities – where there is no appropriate infrastructure (e.g. water, sewage, electricity, etc.) already in place, just as it can result in construction in high-risk areas, for example of flooding. There is a three-fold impact. First, it is very challenging for the Ministry of Housing, Architecture and Roadwork to implement urbanisation or housing policies, in part because there is no provincial jurisdiction over land-use planning or capacity to encourage municipalities to follow a particular plan (e.g. of densification or affordable housing). Second, it can lead to unforeseen costs as housing built on unserviced land must be serviced, and it is generally the province that absorbs the costs of such infrastructure demands, not the municipalities where the developments are built nor the developers themselves. This could be considered reasonable if the province had a say in the development site, but such consultation is apparently not required. Finally, citizens who build in a high-risk zone, and whose houses are subsequently damaged tend to fault the province and not the municipal planning system that granted the building permit. This can have a significant impact on provincial government in terms of accountability for activities over which it has little responsibility or jurisdiction.

To manage these problems of horizontal and vertical co-ordination governments depend on a mix of mechanisms ranging from "hard" levers (e.g. laws and legislation, multi-annual budgeting, contracts, etc.) to "soft" levers (e.g. strategic planning requirements, co-ordinating bodies, ad hoc and informal meetings, etc.) for building agreement and ensuring policy implementation. Among OECD governments, legislation and laws for co-ordination tended to be the most frequently used, followed by co-ordinating bodies. Other popular co-ordination mechanisms for managing national/subnational relations are co-operative agreements and contracts (Charbit and Michalun, 2009).

Contracts and co-operative agreements

Some countries find that contracts and co-operative agreements are of great value to help manage interdependencies and solve institutional weaknesses (Charbit and Michalun, 2009), particularly when aiming for greater co-operation with and between municipalities. Contracts can clarify roles and responsibilities, establish clear accountability mechanisms, and ensure that all parties are working toward the same outcome. Formal mechanisms to promote inter-municipal co-ordination – for example contracts, and agreements– together with incentive structures (often financial), are usually imperative since it is uncommon that municipalities will voluntarily choose to work with their neighbours or respond to "soft" levers without an incentive to do so. There is experience in Córdoba with the use of *convenios* or agreements between municipalities or between a municipality and the provincial government, for example in the inter-municipal arrangement for waste management mentioned earlier. However, there is room for a broader use of contracts, combined with incentive mechanisms to promote greater co-operation. In France, project contracts are established between the central and subnational authorities to help fund projects that meet the aims of both government levels, while in Vancouver an extensive agreement was signed between all three levels of government to promote multi-level co-operation in addressing critical problems in such areas as socioeconomic development, health and safety, and community building (Box 3.17).

Box 3.17. **Contractual arrangements in France and Vancouver, Canada**

France uses project contracts (*Contrat de Projet*) to bring together State (including European Structural Funds) and regional funding to finance projects that can help leverage other objectives (e.g. digital services, transitions to more environmentally practices, etc.). Territorial Contracts (*Contrat de Pays*) are also used to encourage a group of local authorities to undertake a development project, sometimes straddling or crossing administrative boundaries, thereby adapting to the functional space or space where people live. The project is directly prepared by the relevant area (group of local authorities), and the contract provides fiscal incentives to enterprises involved.

In **Vancouver, Canada**, the first Vancouver Agreement was signed for a five-year period in 2000 and renewed in 2005 until 2010. The scope of the Vancouver agreement was broad, having three main components: health and safety (including primary health care, substance abuse, policing and justice), economic and social development (including housing), and community capacity building. Its main objective was to promote co-operation between the three levels of government to address local issues of poverty, homelessness, substance abuse, safety and economic revitalisation, concentrating on Vancouver's Downtown Eastside. While the Vancouver Agreement was unfunded, it made use of existing mandates, authorities and programmes to finance initiatives. There was agreement by each party to use funding available from existing federal, provincial and municipal programmes to finance projects and programmes and to strategically focus a portion of those expenditures on agreed-upon activities.

Source: OECD (2006), Competitive Cities in the Global Economy, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264027091-en; Vancouver Agreement (n.d.), "The Agreement", www.vancouveragreement.ca/the-agreement (accessed 4 February 2012); OECD (2014b), "Effective Public Investment Across Levels of Government: Toolkit", OECD, Paris, www.oecd.org/effective-public-investment-toolkit/.

Fiscal incentives

Fiscal mechanisms are among the more effective incentives for stimulating co-ordination. These can be applied systematically by reserving a portion of subnational funding exclusively for a specific activity (e.g. collaborative investments), or on an ad hoc basis. For example, in Galicia, Spain, the regional government has taken steps to

build economies of scale among smaller municipalities by providing financial incentives for voluntary inter-municipal co-ordination arrangements. For example, investment projects that involve several municipalities get priority for regional funds (Mizell and Allain-Dupré, 2013).

Co-ordinating bodies

Co-ordinating bodies can serve to build dialogue, identify common needs and support co-ordination efforts both horizontally and vertically. Córdoba's ministries use councils (*Consejos*) as co-ordinating and networking bodies. For example, the Social Policy Council linked to Ministry of Social Development includes representatives from academia, trade unions, religious institutions, professional associations and, on an ad hoc basis, other ministries. The Ministry of Water, Environment and Public Services (*Ministerio de Agua, Ambiente y Servicios Públicos*) works with an Advisory Council for Energy Policy (*Consejo Asesor de la Política Energética)* that was successful at building consensus around a gas law to diversify the energy matrix. The Ministry of Education's Council for Education and Employment (*Consejo de Educación Técnica y Trabajo)* was instrumental in re-establishing vocational education and training in Córdoba. However, the overall input and effectiveness of these councils as strategic drivers in their sectors – for example do they contribute to a discussion of portfolio aims with the minister and their senior staff – or for designing and implementing policy aligned to meet broader objectives is unclear. In addition, these *Consejos,* while they are certainly multi-stakeholder, they end to be sector-based, as evidenced by the Social Policy Council, mentioned above. This can be very helpful for ensuring sector-based initiatives are implemented, but does not consistently bring diverse ministries together and are thus less supportive of an integrated or cross-sector approach to policy making and implementation.

There are initiatives among certain ministries to build greater co-ordination, for example through the "Productivity Cabinet" (*Gabinete de Producción*) which acts as a horizontal co-ordination body for relevant initiatives among the Ministries of Agriculture, Industry, and Science and Technology. Within this Cabinet there are smaller co-ordinating groups or roundtables (*mesas)*, for example for ICT on which sit representatives from the three ministries as well as the Ministry of Culture, together with universities and the private sector. It is too early in the tenure of this administration to determine the Cabinet's effectiveness. A forum for discussion between provincial and local authorities has been established in the form of the Province and Municipalities Roundtable (*Mesa de la Provincia y los Municipios).* Yet, there is no consensus as to its effectiveness. Some cite it as a useful vertical co-ordination mechanism, but others indicate it is politicised and of little help. To promote co-ordination at the municipal level, and to establish a stronger negotiating position with respect to higher levels of government, subnational authorities in many OECD countries rely an association of municipalities, or association of mayors, etc. While there is a national level federation of municipalities, the Argentinian Federation of Municipalities (*Federación Argentina de Municipios)* to which 88 of Córdoba's municipalities belong (FAM, n.d.), there is no provincial level association of local authorities either of municipalities or of mayors. Such an association could be helpful in light of the number of local authorities in Córdoba by serving as a forum for identifying common objectives, interests, challenges, and potentially solutions to these challenges.

Overall, while bodies for provincial and municipal co-ordination exist in Córdoba, their effectiveness in building dialogue, generating consensus, and promoting action on issues relating to the province, including its development, is questionable. Córdoba may not need more co-ordinating bodies, but it should consider how existing structures, for example the Province and Municipalities Roundtable, could more effectively identify common points of interest, generate dialogue, and build consensus around the needs of municipalities and the objectives of the provincial government.

While some obstacles to co-ordination are difficult to overcome, such as distance or difficult geography, using co-ordination mechanisms to encourage municipalities to join forces could help improve the quality and mix of services offered to citizens and to rationalise municipal operational and administrative costs. This can be particularly beneficial for local authorities in remote areas where the individual costs of service delivery, infrastructure maintenance and administration can be high.

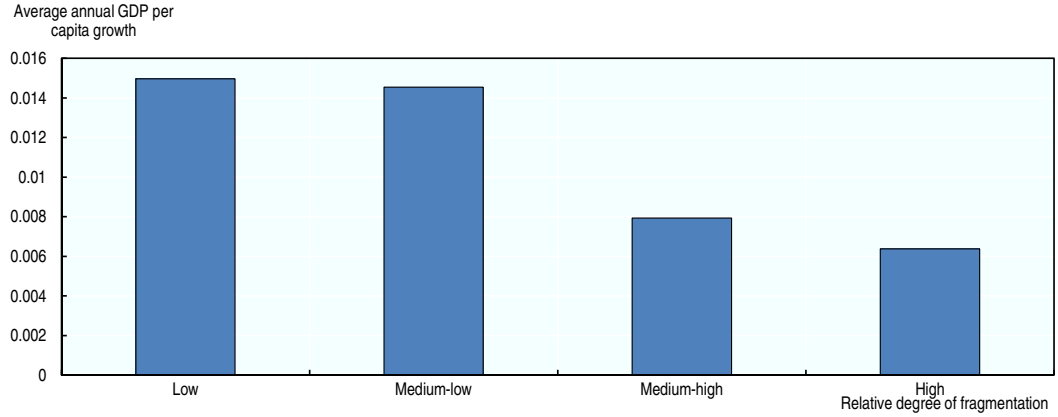
Metropolitan governance for Greater Córdoba

The productivity and competitiveness of Córdoba as a province is closely tied to the ability of the metropolitan area of Córdoba (Greater Córdoba) to attract and maintain a skilled workforce and growing enterprises, as well as to ensure a good quality of life for residents. Thus far, it has succeeded. Continued success, however, may depend on further promoting better quality services and positive outcomes in the material and non-material dimensions of well-being.[22] The provincial government and relevant local government officials of Córdoba seem to recognise this and the need for a more strongly co-ordinated, and more "metropolitan", approach to governance in the Greater Córdoba area.

The Greater Córdoba area has a radius of approximately 50 kilometres and encompasses 46 individual cities and towns, including the city of Córdoba. It is home to about 1.8 million people (68% of the province's population) and 64 000 businesses. Meanwhile, the majority of the population (1.4 million people) live in the city of Córdoba, and 40% of the province's GDP is generated there. The functional metropolitan area is larger than this, however, and some commuters travel up to 100 kilometres. Spatial characteristics of Greater Córdoba include low urban density that translates into significant sprawl, which can result in socio-spatial segregation and unequal access to services, in type and quality.

One of the key issues facing territorial management in Greater Córdoba is administrative or municipal fragmentation – the fact that the region is formed by 46 autonomous municipalities, each with their own elected officials, administrations, administrative and service responsibilities, etc. Municipal fragmentation reduces the economic performance of metropolitan areas, which typically cross multiple administrative boundaries. Even if the different administrative authorities could individually achieve their short-term aims, working in isolation they are more likely to fall short of developing the economic potential of the whole metropolitan area. OECD work is indicating that those metropolitan cities in OECD countries showing higher levels of fragmentation experienced lower GDP growth per capita over the 1999-2010 period (Figure 3.8) (OECD, 2014a).

Figure 3.8. **Growth in metropolitan areas**



Notes: Administrative fragmentation is defined as the number of municipalities divided by population in the metropolitan areas and is normalised with the fragmentation in the least fragmented metropolitan area in the same country. The four categories of fragmentation are calculated as follows: the low fragmentation group corresponds to the lease fragmented metropolitan area in each country and serves as the benchmark for the other three groups; the medium-low fragmentation group includes the metropolitan areas that are up to twice as fragmented as the low fragmented area; the medium-high fragmentation group includes the metropolitan areas that are between two and four times as fragmented; and the high fragmentation group are those that are at least four times as fragmented. The growth is calculated for the period 1999-2010, except for Japan and Denmark (2001-10), and Mexico (2003-10). Norway and Switzerland are not included because GDP data for metropolitan areas is only available from 2008 onwards

Source: OECD (2014a), *OECD Regional Outlook 2014: Regions and Cities: Where Policies and People Meet*, OCED Publishing, Paris, http://dx.doi.org/10.1787/9789264201415-en.

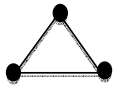
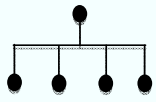
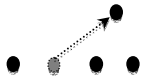
Without a mechanism to take into account the full economic and productive unit represented by a metropolitan area, such fragmentation can cause fissures in its administration since each municipality is administered independently and pursues its own priorities. Policy and service integration can be hampered by differences in objectives, priorities, capacity, and need, neutralising the efficiencies and synergies that are obtained through co-operation and scale. The result can be accentuated differences in the administrative and financial capacity of municipal authorities, thereby contributing to intra-regional disparities. Mechanisms that can help manage the impact of municipal fragmentation range from (OECD, 2014a):

- *Municipal mergers*: to reduce the number of municipalities and increase scale in terms of geography and population
- Inter-municipal *co-operation*: to encourage arrangements that allow local jurisdictions to work together for certain common services or investments
- *Metropolitan governance*: to address the special needs of larger cities and surrounding areas. These arrangements may take different forms but are specifically focused on metropolitan areas, as opposed to municipalities.

Metropolitan governance bodies – broadly defined as bodies organising responsibilities among public authorities in metropolitan areas, including voluntary associations of municipalities, with few or no legal powers – are extremely common in OECD countries and exist in about two-thirds of OECD metropolitan areas (OECD, 2014a). Four common approaches to metropolitan governance range from soft co-

ordination to formal metropolitan arrangements (Table 3.3). Two or more such metropolitan arrangements may coexist in the same country and occasionally within the same region. In some instances, they can also encompass rural-urban partnerships within metropolitan areas. Such arrangements may be the result of a bottom-up choice on the part of municipalities, which are generally the administrative level closest to citizens, or they may be chosen by upper levels of government. Both options may be promoted by national (or in federal countries, regional) level reforms (OECD, 2014a).

Table 3.3. **Four common approaches to metropolitan governance**
Dots represent a municipality or other form of local government

Informal/soft-co-ordination. Often found in metropolitan areas with multiple urban centres, lightly institutionalised platforms for information sharing and consultation; relatively easy to implement and to undo. Typically, they lack enforcement tools and their relationship with other levels of government tends to remain minimal.	
Inter-municipal authorities. When established for a single purpose, such authorities aim at sharing costs and responsibilities across member municipalities – sometimes with the participation of other levels of government and sector organisations. Multi-purpose authorities embrace a defined range of key policies for urban development such as land use, transport and infrastructure.	
Supra-municipal authorities. An additional layer above municipalities can be introduced either by creating a directly elected metropolitan government, or with the upper governments setting down a non-elected metropolitan structure. The extent of municipal involvement and financial capacity often determine the effectiveness of a supra-municipal authority.	
Special status of "metropolitan cities". Cities that exceed a legally defined population threshold can be upgraded into a special status as "metropolitan cities", which puts them on the same footing as the next tier of government and gives them broader competences.	

Source: OECD (2014a), *OECD Regional Outlook 2014: Regions and Cities: Where Policies and People Meet*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264201415-en.

When considering a metropolitan governance arrangement, the institutional contexts and local considerations must be addressed. Each arrangement described above has its own set of strengths and challenges that need to be assessed based on the national and metropolitan context. However, lessons on the process adopted to implement a metropolitan governance reform can guide policy makers walking a similar path, even if their ultimate objective is a different arrangement. Observations from OECD experience suggest a number of guidelines for introducing metropolitan governance arrangements (Table 3.4).

Table 3.4. **Effective metropolitan governance reforms: Lessons from OECD Countries**

Lesson	Description	Example
Identify a common cause for collaboration and build on (as well as communicate) successful collaboration outcomes.	Starting with small-scale and concrete projects can sometimes help rally forces and progressively lead to setting a "big picture", as success breeds success and trust.	In Barcelona, three sector-driven inter-municipal authorities (transport, environment, and planning) were created in 1987. After participating in the formulation of a metropolitan strategic plan with the municipality of Barcelona in 1999, a metropolitan authority of Barcelona was established in 2011.
Develop metropolitan leadership and/or ownership.	A relevant personality and/or institution often plays a pivotal role in steering change and creating and maintaining momentum for reform. The reform needs a strong advocate as the engine of the process. Clear demand for reform may stem from different constituencies.	In France, impetus towards governance reforms in the three largest metropolitan areas has been largely (if not exclusively) driven by the central government in Paris; local governments in Lyon (municipalities and department); and the private sector, as well as the central government, in Marseille.

Table 3.4. **Effective metropolitan governance reforms: Lessons from OECD Countries** (*cont.*)

Empower and engage stakeholders at an early stage and ensure accountability and transparency.	Those who are the ultimate recipients of governance/policy (and have the continuity that political bodies do not), such as citizens, businesses, and universities, need to be brought on board at the very beginning of the process. Policy makers, citizens and relevant parties require clear information both on short- and long-term gains/losses.	The Montreal Metropolitan Community created a mixed committee of elected officials and citizens to jointly organise a biennial set of debates among elected officials and civil society to discuss the implementation of the Strategic Metropolitan Plan 2031. The first series of debates took place in February and March 2014.
Strengthen the evidence base and track progress.	Solid background research and scrutiny from unbiased experts can help create and sustain credibility for the reform. Strong, reliable instruments for monitoring and evaluation contribute to fostering continuous improvement.	In Canada, the Greater Toronto Civic Action Alliance convened all three levels of government with business, labour, academic and non-profit sectors after its diagnostic report "Enough Talk: An Action Plan for the Toronto Region" (2003). It convenes a Greater Toronto Summit every four years to lead collective action on pressing issues such as transport, energy and socioeconomic inclusion.
Provide (or secure) sources of financing.	Metropolitan public financing is often the nexus of political resistance, as governments are torn between the search for fiscal autonomy and dissuasive taxation. Securing an appropriate stream of financial resources helps to avoid unfunded mandates and often determines effective collaboration. In addition to traditional fiscal tools (e.g. own taxes, grants and transfers, fees) strategic partnerships with the business and financial community can be instrumental in gathering additional resources for public investment.	Former Mayor of London Ken Livingstone built a close relationship with the London Chamber of Commerce and Industry, the local branch of the Confederation of Business Industry and London First – inviting them to sit on the newly created London Business Board (2000) which convened frequently.
Balance clear time frames and flexibility.	Providing visibility in the short and long term will allow actors to anticipate the next steps of the process, while leaving room for trial and error as well as midway adjustments.	In Sweden, governance reforms have first been tested in a few pilot regions (Västra Götaland around Gothenburg, and Skåne around Malmö) with a multi-annual timeline and evaluation mechanisms, before extending the formula to other interested regions.

Source: OECD (2014d), *OECD Regional Outlook 2014: Regions and Cities: Where Policies and People Meet*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264201415-en.

Developing an appropriate model for metropolitan governance in Greater Córdoba could help promote more unified and coherent growth in the province's most dynamic area. A "hard position" model, one that forces municipalities into one single administration (e.g. municipal mergers), or that creates a metropolitan government (e.g. a supra-municipal authority) is likely unrealistic at the moment. This is due in part to technical reasons: while Article 190 of the Constitution makes provision for inter-municipal co-operation, it does not explicitly provide for a metropolitan governance structure or facilitate establishing an organisation that supports operating with a metropolitan logic. To do so would require that all other municipalities agree. It also has to do concerns about maintaining municipal culture and identity, which frequently makes merger arrangements difficult to impossible. Informal or soft-co-ordination may also be ineffective given a lack of incentive for municipalities to co-operate with each other, and the evidence indicating that while smaller municipalities will work together, they are reticent to work with the city of Córdoba.

The co-ordination mechanisms that are taking root in the Greater Córdoba area, such as IPLAM's transport plan and the *convenios urbanísticos*, may be a platform for building inter-municipal authorities either for a single purpose (e.g. for transport) or for multiple purposes. This would permit Greater Córdoba's municipalities to grow accustomed to working together and with the city of Córdoba, and build trust among the

various authorities. Care has to be taken, however, to ensure that there is not a proliferation of sector-based authorities, as this can then lead to fragmented service delivery and uneven quality, greater fragmentation and less political accountability.

Box 3.18. **The Grand Paris metropolitan area: A very progressive construction**

By the 1990s, many findings highlighted the need for territorial reforms in order to establish a more effective governance model for Paris. Such territorial reforms were also driven by the need to compete with other world capitals such as London, Madrid, Shanghai who had already gone through such reforms. Difficulties included: the consideration of urban and economic development widely deployed around Paris whose area is very restricted; transportation problems in the suburbs because of a too radio-concentric network; constant inequalities between a rich west and the north and east which are much poorer; and finally, a serious shortage of affordable housing weakening the overall attractiveness of the region.

While sharing these findings, the municipalities of the periphery of Paris were concerned about being annexed into a single agglomeration as in the historical annexation of 1865. To allay these fears, as of 2001, the newly elected municipality of Paris put up with the region a metropolitan conference as a venue for dialogue among all elected representatives on major challenges faced. Meanwhile, the municipality appointed an elected representative of Paris to be in charge of relationships with neighbouring cities. A metropolitan consciousness slowly got built in this manner and from 2008, a Study Confederation gathered many communities on a voluntary basis. Blockages, however, remain significant.

The central government then launched in 2010 a major international consultation and took the name of "Grand Paris" for the transportation project taking the form of a double loop of Metro around Paris. This quickly became a unifying project praised particularly by economic actors. The "Grand Paris" name quickly became adopted as a revival sign, including internationally. The State encouraged elected officials of the areas served by the new transportation lines to elaborate territorial development contracts. These contracts define a development strategy and include housing construction targets associated with employment forecasts. Public financing of projects presented in these contracts should provide leverage for private investment groupings of municipalities with own-source tax revenue.

The Grand Paris metropolitan area was created by the law of 27 January 2014, reinforced by the law of 7 August 2015 and took effect on 1 January 2016. It is a Public Establishment for Intercommunal Co-operation with an independent budget. Its perimeter results from a compromise due to the difficulty of setting limits in a continuously urbanised area and very nested economic and service functions. It now includes 130 municipalities and more than 7 million inhabitants, and is the densest area of the city. The metropolitan area is administered by the Council of the Grand Paris metropolitan area composed of elected councillors. Its president, who has recently been elected among them, is one of the mayors of a town in the metropolitan area, it is not the mayor of Paris. An Assembly of Mayors provides advice and recommendations. A Development Council bringing together the economic, social and cultural partners is consulted on major orientations. The metropolitan area exercises power on behalf of municipalities in four areas: development of the metropolitan area; local housing policy; economic, social and cultural development; protection of the air and the environment.

Source: Contribution from peer-reviewer of France, A.M. Roméra.

Citizen engagement

One of Córdoba's public governance objectives is to improve its transparency and accountability to citizens, and there is a desire to show citizens that spending is aligned with citizen priorities. With respect to the former, Córdoba has taken many positive steps towards building and applying transparency mechanisms, as well as establishing better links between government and citizens, especially using ICT. At the same time, there is little evidence that the government is actively identifying citizen priorities, spending or otherwise, and it is challenged to communicate positive results as it has not clearly stated its objectives nor does it actively measure outcomes. Achieving greater accountability to

citizens will require the government to engage more actively, strongly, and directly with citizens in a "two-way" manner; different from today's one-way approach. This would support identifying spending priorities and communicating outcomes. It can also provide the government with strategic insight as to a vision for the province's development as a place to live and work in the medium and long term, help legitimise policy decisions, and strengthen policy outcomes.

Progress in transparency

There has been a concerted move in Córdoba to strengthen the government-citizen relationship. Advances and investment in new systems and in the standardisation of information, together with improvements in vertical ICT systems (e.g. aggregating information across public agencies) and in e-government initiatives, have helped cut red tape, improve data disclosure, and facilitate interaction with citizens. There have also been inroads in establishing greater transparency and integrity, including in public procurement with the online public purchasing and contracting portal (*Portal de Compras y Contrataciones*) and with the introduction – via gubernatorial decree (*Decreto 1062*) – of ISO Standard 37.001 targeting bribery and kickbacks in the public sector. Córdoba publishes a "citizen budget" (*Presupuesto Ciudadano*) highlighting government income and spending in a manner easily understood by all citizens – an initiative unique among Argentina's provinces.

In 2015, CIPPEC ranked Córdoba as Argentina's most transparent province with respect to transparent public budgeting practices, scoring 9.75 out of 10 points possible, followed by the city of Buenos Aires with a total of 9.55 points (Box 3.19). In addition, Córdoba is only one of four provinces[23] that fully comply with the terms of budget transparency as established in the Law of Fiscal Responsibility (*Ley de Responsabilidad Fiscal)* (CIPPEC, 2015). Argentina's provinces are responsible for almost half of the country's public spending and are the primary entities responsible for providing such public services as health, education, justice and security (Agosto and Casadei, 2015) underscoring the importance of provincial budget transparency as an accountability mechanism. While the province scores well in budget transparency, the city of Córdoba should be recognised for its use of participatory budgeting (*presupuesto participativo*), a practice that has not yet reached the provincial level. This said, the results or impact appear mixed: the practice exists and is implemented, but it may not be implemented for maximum effectiveness. For example, it is reported that in 2013 neither the process for developing the participative budget nor the amount allocated to participative projects (7% of the total municipal budget) were aligned with the regulating ordinance.[24] Of the total participatory budget in 2013, 66% was used, with some funds carried over from 2012 (Nuestra Córdoba, 2014).

Under the former provincial administration, the Ministries of Finance and of Public Administration[25] both published Sustainability and Social Government Responsibility Reports (*Reportes de Sustentabilidad y Balances de Responsabilidad Social Gubernamental*), providing qualitative and quantitative performance information. The implementation of other integrity and accountability measures, such as codes of conduct, mechanisms to manage conflict of interest, performance management systems, and the monitoring and evaluation of policy outcomes, remains to be further developed, and could add to the progress already made.

Box 3.19. **The CIPPEC Index of Provincial Budgeting Transparency in Argentina**

Argentina's Centre for the Implementation of Public Policies for Equity and Growth (*Centro de Implementación de Políticas Públicas para la Equidad y el Crecimiento* – CIPPEC) is an independent think tank dedicated to analysing and promoting public policies that foster equity and growth in Argentina. In 2015 it published the Provincial Budgeting Transparency Index (Indice de Transparencia Presupuestaria Provincial, 2014 - ITTP), measuring practices in transparent budgeting along two axes: i) the disaggregation and level of detail of published information that is publically available; ii) the degree to which the available information is up to date. CIPPEC's associated analysis with respect to transparent budgeting practices at the provincial level evaluated whether each province published: a) its budgeting laws over the past five years; b) spending in seven specified categories; c) regularity of reports regarding spending reports, public debt, provincial tax collection, federal level transfers received, transfers to municipalities; d) rules or regulations for financial administration; and e) the publication of a citizen budget.

Overall, the study found that there is a large gap between the most and least transparent provinces. While one-third of the jurisdictions obtained more than eight out of ten points, almost half received only between two and six points, which were considered minimum to medium levels of budget transparency. Córdoba was ranked first in 2014, and having improved in its score by 0.90 points from the previous year.

Source: CIPPEC (2015), "Córdoba, la Ciudad, Neuquén, Entre Ríos y Buenos Aires lideran la transparencia presupuestaria", Informes de Prensa, CIPPEC, Buenos Aires, Argentina, accessed: 28 February, 2016, www.cippec.org/informes-de-prensa/-/asset_publisher/VMqfNNxcoup1/content/Córdoba-la-ciudad-neuquen-entre-rios-y-buenos-aires-lideran-la-transparencia-presupuestaria; Agosto, W. and E. Casadei (2015), "Indice de Transparencia Presupuestaria Provincial, 2014: Analysis", CIPPEC, Buenos Aires, Argentina (accessed 28 February 2016), available: www.cippec.org/informes-de-prensa/-/asset_publisher/VMqfNNxcoup1/content/Córdoba-la-ciudad-neuquen-entre-rios-y-buenos-aires-lideran-la-transparencia-presupuestaria.

Despite these advances, much – if not most – of the citizen engagement activity to date has been based on one-way information exchange: the government provides information to the citizens, or the citizens consult with the government on its activity through the Digital Citizen (*Ciudadano Digital)* platform. While certainly successful, the need to build a two-way dialogue with citizens remains. This was noted in a 2015 report published by CIPPEC. The report praised the capacity of "Digital Citizen", the public purchasing and contracting portal, and the Sustainability and Social Government Responsibility reports to promote and/or uphold open government values.[26] However, it also highlighted that these initiatives reached only the first or at most second level of citizen participation[27] as classified by the Association for Public Participation (Elena and Ruival, 2015).

Dialogue with citizens

The ability of Córdoba's government to engage and partner with private sector and academic stakeholders appears strong, not only to realise investment aims but also for the development and implementation of priority initiatives, such as innovation or cluster development. With few exceptions, however, the government's engagement with citizens, either individually or through CSOs does not appear to be as strong. Increasingly, governments are seeing citizens as partners in governance as well as the policy making and service delivery processes. Actively partnering with citizens can lead to innovation in services and service delivery practices. Not only does understanding citizen preferences and perceptions help the government prioritise policy and service programming and

spending, it can also build citizen investment in a policy or service, creating a sense of "ownership" for ensuring policy success. This builds accountability mechanisms, can offset "capture" by specific interests (OECD, 2009b), and can strengthen compliance when necessary or appropriate. Engaging with citizens is a way to gain expert insight and create opportunities for citizens to better understand policy and service options. While engagement is a means for citizens to influence government, this works two ways, and government can use engagement as a means not only to understand public opinion but to challenge it, helping better inform and shape preferences. It gives policy makers the chance to "test" how people will react to a policy proposal and adjust it if necessary. Perhaps most importantly, engagement can help legitimise government decisions and policies (Holmes, 2011). Moving forward in its citizen engagement initiatives, the provincial government should consider building a stronger and more active dialogue with citizens, as well as identifying opportunities to bring citizens into the service delivery process. Doing so could support its productivity and competitiveness agenda by ensuring that Córdoba remains responsive to the day-to-day needs of citizens in an innovative manner and one that continues to improve quality of life and well-being.

Consultation and participation

Policy decisions that impact the everyday and physical environments in which citizens live, for example urban form, housing, transport, education, health care, etc., can yield more effective outcomes if designed with the help of citizens. When citizens are engaged in the decision-making process, they have a greater stake in ensuring positive results, and outcomes can often be stronger. This was seen in Valparaíso, Chile with the *Recuperación de Barrios* programme: *Mi Querido Barrio* (Box 3.20).

Box 3.20. **Community involvement in Chile's: Mi Querido Barrio**

In 2006, Chile's Ministry of Housing and Urbanism (MINVU) launched an on-going nationwide programme, *Recuperación de Barrios: Mi Querido Barrio*, aimed at recovering disadvantaged neighbourhoods. Programme implementation requires management plans to be submitted by the relevant communities. National and regional government authorities in Valparaíso, Chile's second largest metropolitan area, noticed that in those communities where programme results were poor, no inclusive ex ante planning had been undertaken by community leaders. Communities with strong results had established plans based on ex ante participation among representatives from the community, the municipal administration, and regional government. These stakeholders came together to identify the problems that needed to be addressed and to develop a list of priorities. Based on the difference in results between plans developed with and without community involvement, the regional government has since solicited citizen participation in other initiatives.

Source: adapted from OECD (2013a), *OECD Urban Policy Reviews, Chile 2013*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264191808-en; original source Ministry of Housing and Urbanism/SEREMI (2012), OECD interview, June 2012, Valparaíso, Chile.

At the provincial and municipal level in Córdoba there are a few examples of pro-active citizen engagement, as well as grass-roots activity to ensure greater participation and government accountability. For instance, when undertaking projects with an environmental impact, the Secretariat for the Environment and Climate Change (*Secretaría de Ambiente y Cambio Climático)*[28] holds a public consultation with the affected neighbourhood prior to granting final approval, complying with articles 19-21 of the National Environmental Law (*Ley General del Ambiente, N*o. 25.675) (Republic of

Argentina, 2002). Citizen participation at these events is reportedly mixed – sometimes there are many people present, and other times very few. If the project is met with no objection then it moves forward. If there is objection by the community, despite a good technical evaluation, there will be a re-evaluation and reconsideration of the project. It is not unheard of for a project to be cancelled due to lack of community support.

In the city of Córdoba, the Our Córdoba Citizen's Network (*Red Ciudadana: Nuestra Córdoba)* has established a set of 10 quality of life indicators[29] with quantitative and qualitative data indicating the city's performance over time in relevant dimensions (e.g. greenspace, particulate matter, wealth distribution, number of licensed vehicles, etc.). *Nuestra Córdoba* is a non-partisan, non-governmental network that works with the participation of more than 200 citizens and 60 organisations (academia, civil society organisations, foundations, private enterprise, research institutes, etc.) in the city of Córdoba. It is associated with the Latin American and the Argentinian Networks for Fair, Democratic and Sustainable Cities and Territories.[30] Its objective is to promote a city that is more fair, democratic and sustainable. This same group proposes to the city government a potential "Plan of Objectives" (*Plan de Metas)* for its consideration, and to bring to the attention of public officials the aims that citizens have for their city (Box 3.21).

Box 3.21. **Our Córdoba Citizen Network**

As part of its activities and at the beginning of each mayoral term, the Our Córdoba Citizen Network presents the mayor of the city of Córdoba with a proposed "Plan of Objectives" (*Plan de Metas*) for the administration's consideration and adoption. Adopting a Plan is required of the municipal government by Municipal Ordinance No. 11942 signed in June 2011, which was spearheaded by the Network. The Plan is intended as an instrument to enhance the clarity and transparency of government's proposed plans and actions. In practical terms, the Plan is a planning and information instrument through which the sitting mayor must, before completing 120 days in office, present their goals, identify the strategic actions that will be undertaken by each branch of the municipal administration in order to meet the goals, and requires that objectives and indicators be fixed to facilitate monitoring and evaluation. The plan also requires that the mayor provide an annual performance report (before 10 March) with respect to the goals and indicators. Unfortunately there is no requirement to provide a summary report at the end of the mayoral mandate. The Network puts forth a proposal of objectives for the government to adopt. The 2015-19 proposal was developed with the participation of over 200 citizens, and covers three themes, each of which is associated sub-dimensions and quantifiable objectives: sustainable urban development (20 objectives); institutional development (19 objectives); inclusive development (10 objectives).

Source: Nuestra Córdoba (2015), 49 Metas para Nuestra Ciudad: Una propuesta de la ciudadanía para el Plan de Metas 2015-2019, Red Ciudadana Nuestra Córdoba, Córdoba, Argentina, accessed: 3 March 2016, available: www.nuestraCórdoba.org.ar/ Nuestra Córdoba (n.d.), "Plan de Metas", Red Ciudadana Nuestra Córdoba, Córdoba, Argentina, accessed: 3 March 2016, available: www.nuestraCórdoba.org.ar/.

Despite these good examples of consultation, based on discussions with government officials in Córdoba, citizen engagement practices are weak and are not strongly embedded in the culture – neither normatively via a law as in the National Environmental Law, nor voluntarily as seen with the "Plan of Objectives" introduced by the Our Córdoba Citizen Network. Engaging with citizens and allowing them to actively participate with government in addressing pressing and complex issues increases the opportunity to develop a strategic, well-informed and broadly accepted response. It can also increase the stake citizens have in ensuring positive results and outcomes. Finally, engagement builds awareness among citizens as to what the government can and cannot influence, potentially even building pressure on those entities that have a greater practical role.

Citizen engagement is a critical component for building trust in government (Box 3.22), and can be broken down into three broad categories: information, participation and consultation. These processes build on each other and there is no "better or worse" among them. However, they vary in their degree of sophistication, and implementation requires different levels of resources, including time. Information – and access to it – is crucial. It helps build evidence bases, supports performance management, and is fundamental to performance measurement. Córdoba has introduced information mechanisms, for example *Ciudadano Digital*. Meanwhile, consultation can help government identify social trends and potential future issues, making it easier for governments to be appropriately responsive. While citizen engagement through information exchange and consultation are important, participation is even more powerful, because it establishes ongoing dialogue. This, in turn, can minimise misunderstandings and misinterpretations among stakeholders.

Box 3.22. **Key concepts for citizen engagement**

When discussing citizen engagement in the context of public governance, the term "citizen" has a wide and all-encompassing definition, which includes: individual citizens, civil society organisations (CSOs), businesses, and municipal and regional authorities. Citizen engagement includes exchange in three areas: information, consultation and participation.

- **Citizen information:** information is conveyed in one direction only, from the public administration to the public, with no involvement of the public (e.g. public feedback is not required or specifically sought) and without mechanisms through which to respond. Providing information is a critical first stage of more open and transparent government. Communicating information to citizens on decision making, policy development and implementation puts governments in a position to be scrutinised and builds citizen trust. Informing citizens helps educate them about their rights and entitlements and can communicate the rationale, objectives and achievements of government. This is important for ensuring buy-in to changes and reforms and for providing a platform from which citizens can engage with government. Examples include: access to public records, official gazettes and government websites.

- **Citizen consultation:** information is conveyed from members of the public to the public administration, following a process initiated by the public administration: government provides information and invites citizens to contribute their views and opinions. Citizen consultation is a key element of a citizen-centred approach to policy making, decision making and service delivery. Its main purpose is to improve decision making by ensuring that decisions are based on evidence, which they consider the views and experience of those affected, that innovative and creative options are considered and that new arrangements are workable. Examples include: public opinion surveys, comments on draft legislation, public hearings, focus groups, workshops/seminars, and comment and notice periods.

Box 3.22. **Key concepts for citizen engagement** (*cont.*)

- **Citizen participation:** information is exchanged "two ways", between members of the public and the public administration through a dialogue, where opinions of both parties are transformed. Citizen participation also involves the two-way information flow between citizens and the public administration. Through participation, citizens can make an active and original contribution to policy making. This requires a relationship founded on the principle of partnership. Active participation recognises the autonomous capacity of citizens to discuss and generate policy options; it requires governments to share in agenda-setting and to commit to taking into account policy proposals generated jointly in reaching a final decision. Finally, it requires citizens to accept higher responsibility for their role in policy making that accompanies greater rights of participation. Examples include consensus conferences, citizens' juries, dialogue processes and citizens' fora.

By actively engaging with their citizens, governments can benefit from wider public input when deliberating, deciding and doing. Effective citizen engagement can also facilitate:

- building trust in government
- generating better outcomes at lower costs
- securing higher compliance levels with decisions reached
- enhancing equity of access to public policy making and services
- leveraging knowledge and resources
- developing innovative solutions.

Source: OECD (2010a), *Finland: Working Together to Sustain Success*, OECD Public Governance Reviews, OECD Publishing, http://dx.doi.org/10.1787/9789264086081-en; OECD (2009d), *Focus on Citizens: Public Engagement for Better Policy and Services*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264048874-en; OECD (2001), *Citizens as Partners: Information, Consultation and Public Participation in Policy-Making*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264195561-en.

Consultation requires political and administrative will, and in many cases risks becoming a box ticking exercise unless it is given sufficient time and importance within the public administration. This said, it can be effective – as experienced by Córdoba's Secretariat of Environment and Climate Change in its consultation practices. A provincial entity similar to France's Economic, Social and Environmental Council (*Conseil Economique, Social et Environnemental*) might help build stronger ties between civil society and government representatives (Box 3.23).

Box 3.23. **The Economic, Social and Environmental Council in France**

France's Economic, Social and Environmental Council (*Conseil Economique, Social et Environnemental*) is a constitutional consultative assembly. It represents economic, social and environmental activity, and aims to promote co-operation between diverse social and professional interests groups, ensuring also that they are part of the public policy process. It has five main areas of intervention: i) advises the government and the parliament and participates in the development of economic, social and environmental policy; ii) promotes dialogue between diverse socio-professional groups to identify areas of common interest and concern in order to shape proposals in the public interest; iii) contributes to the review of economic, social and environmental public policy matters; iv) promotes constructive dialogue and co-operation with consultative bodies at the local level, as well as with international and EU counterparts; and v) helps keeps citizens informed. It receives petitions not only from the government and both houses of the legislature, but from citizens as well.

Box 3.23. **The Economic, Social and Environmental Council in France** (*cont.*)

The Council is comprised of 233 members, all of whom are active in civil society and appointed for a five year term. Of these members 140 represent economic matters and social dialogue, 60 represent social and territorial cohesion and communities; and 33 represent environmental matters and nature conservation. Within these three categories there are representatives from diverse interests, such as family associations, youth and student groups, experts in sustainable development, the craft industry, private industry, etc.

The Council operates in a manner similar to that of a parliamentary assembly, holding plenary sessions, and active in sections (thematic working groups) that prepare studies and draft opinions in their respective fields (e.g. the sustainable management of territories; economy and finance; education; labour and employment; culture and communication; and agriculture, fisheries and food, etc.).

Source: ESEC (2011), "About the ESEC", Conseil Economique, Social et Environnemental, Paris, France, accessed: 3 March 2016, www.lecese.fr/en.

Consultation with CSOs is another way of learning more about citizen preferences as well as service delivery needs and practices. Currently, such consultation is not a regular or required practice by provincial government entities. Rather it is reportedly more often ad hoc and informal, with personal networks and ties coming into play. Córdoba's CSOs feel the impact of a lack of long-term strategic planning on part of the government, and perceive the channels for dialogue and activity to not yet be fully open. The challenge for the government will be to move beyond its more traditional interlocutors, such as industry chambers, academia, and selected CSOs that have been active for many years and have "proven themselves". Any successful initiative toward a more open and accountable government policy in Córdoba should more actively and regularly engage with and listen to a broad spectrum of CSOs. Under the previous provincial administration, there was a move in this direction with the proposed introduction of a provincial Bill on Open Government and Governance designed to promote the principles of the Open Government Partnership,[31] of which Argentina is a member. The Bill foresaw the creation of an internal oversight body to monitor the implementation of open government principles and to foster a capacity for open government among ministries. It also promoted the creation of consultative commissions within each ministry and agency to engage citizens and NGOs[32]. It has been indicated that this initiative is currently on hold.

Building citizen participation is more challenging than information exchange or consultation, as it requires governments to share in agenda setting, to ensure that policy proposals are collaboratively generated, and citizen needs are taken into account in making decisions (OECD, 2010a). Participation can be further broken down into three, increasingly sophisticated, levels of activity (OECD, 2015c):

1. **Representation:** a structural level of engagement that aims to develop collective choices, and is often embedded in organisational structure.
2. **Partnerships:** this is an agreed upon collaboration between stakeholders, and is characterised by joint agreement.
3. **Co-decision and co-production:** a collaborative form of policy making where power is more equally distributed among the stakeholders involved.

In Córdoba, there appears to be little activity in generating citizen participation. In an effort to build greater accountability and transparency, and potentially enhance its policy

outcomes, Córdoba could consider some of the methods of OECD countries to strengthen its citizen participation practices (Box 3.24).

Box 3.24. **Methods for strengthening citizen participation practices in OECD countries**

All levels of government face barriers to citizen engagement, and citizen participation can be particularly difficult although perhaps exceptionally rewarding when actively pursued. Tools for citizen participation include those described below.

Citizen Fora: provide a means to deliver policy proposals generated by citizens or their representative organisations (e.g. civil society organisations) directly to policy makers. In December 2006, thousands of current and former residents of New Orleans, Louisiana were invited to an unprecedented Community Congress that took place at 21 meeting sites across the United States (half of the residents of New Orleans had not yet been able to return home). More than 2 500 people, representing the demographic diversity of pre-Katrina New Orleans, took part in the deliberative forum. Linked together by satellite and the Internet, residents struggled with the tough choices facing the city and articulated a set of collective priorities for rebuilding their home city. One month later, 1 300 people came back together to review a recovery plan that had been developed based on their priorities. Support for the plan was overwhelming; 92% of participants agreed that the plan should move forward. For the first time, community leaders had a public mandate to act. Building off this support, the city's recovery plan was soon approved by the city and the state and has begun to be implemented.

Citizen juries: allow a group of citizens – selected to reflect the general population – to question experts and to offer recommendations after deliberation. The Department of Sustainability and Environment in Victoria, Australia, and the United States Environmental Protection Agency (EPA) have both established guidelines for citizen juries as part of larger citizen engagement toolkits. These are intended involve citizens in a decision-making process. Citizens are generally selected at random or in a stratified way, and provided with a detailed brief of the issue at hand (i.e. a policy or project that has an impact across the community and where a representative or democratic decision-making process is required), its background and current thinking. They are then asked to discuss potential approaches and potential impact on the community. The jury might be presented with possible alternatives to consider and asked to judge which is the most desirable option for the community. They are asked to deliver a report, as in legal juries, which could include recommendations for future action or directions. These juries can be used to broker a conflict or provide a transparent and non-politically aligned perspective to a matter. It is expected that the jurors add-value based on their own knowledge and personal experience, and the juries provide an opportunity to build knowledge and exchange ideas. A study in Australia on the use of a citizen jury in matters of food policy regulation indicated that the method provided policy makers with an effective way to gain insight into the public's view of a controversial policy matter (in this case a proposal to ban food and drink advertising and/or sponsorship at children's sporting events). It also suggests the jury increased participant knowledge of the issue and supported a reflective dialogue on the proposal.

Dialogue processes: enable governments to engage large number of citizens directly in identifying needs and developing policy solutions. In 2008, Bilbao, Spain launched a highly successful renewal project to transform from an industrial city to a service-based one. In addition to establishing a clear vision and an implementation plan sufficiently flexible that it could be changed if the situation warranted, it also had leadership that was committed to ensure citizen participation when preparing and implementing policies and programmes. Public consultation opened the door for citizens to express their concerns and discuss potential solutions to the problems the city faced, including unemployment, slow economic growth, poor quality education, etc. This provided the city with an overview of citizen priorities and the issues and challenges that a plan had to address. The city was committed not only to speaking with citizens but also to listening. At the same time, citizens had to be willing to enter the conversation – this often required faith that they would be heard; that they would see themselves, their needs and hoped for benefits, reflected in project plans and outcomes. This is particularly sensitive and important at the subnational level, where actors often know each other, community interests and individual interests may not align, and outcomes directly impact individual households.

Bilbao's mayor not only listened carefully to the needs of citizens, but also explained potential solutions to problems, acknowledging that the citizens were heard and brought into the decision-making process.

Box 3.24. **Methods for strengthening citizen participation practices in OECD countries** (*cont.*)

Communicating transparently with citizens meant not only informing about what the government intended to do, it also meant explaining why something was or was not being done, why some policies were favoured more than others, etc. The challenge was to do so in a way that diverse audiences could understand and accept. The lessons stemming from Bilbao's experience is that policy makers not only need to communicate their plans, but they also have to remain open minded about criticism and scrutiny of the decisions they make, and to be ready to accept responsibility for the outcomes of their decisions.

Consensus conferences: enable a panel of non-experts (with access to a range of experts) to discuss a complex issue over several days and report on their conclusions. In the mid 1980's, the Danish Board of Technology developed the consensus conference technique and used it until 2011. These conferences allowed citizens to provide informed input into technical and complex subjects. More than 20 consensus conferences were organized by the Board, based on a standard model: about 16 randomly-selected "lay-persons" (non-experts) are invited to meet over a four-day period around a pre-selected issue, first to hear experts' and policy officials' views, and then to deliberate among themselves. On the final day of the conference, they present their agreed upon, or "consensus" views. A final document may be written by "lay" participants, and is generally aimed at communicating with parliamentarians, other policy and decision makers, and also the general public. The Danish Board of Technology publishes these contributions in a series of reports and disseminates them to interested parties. These documents have contributed to informing politicians and policy makers on citizen views and attitudes towards new technology.

Norway's National Committees for Research Ethics and the Norwegian Biotechnology Advisory Board applied the consensus conference model in 1996 in order to gain the views of citizens on the issue of genetically modified food. The conference was held over a four-day period. It consisted of a "layman's" panel of 16 people (8 men and 8 women), aged 18 to 72, living in various parts of the country, with diverse backgrounds, and with no ties to organisations or professions with established policies in the topic. The objective of the panel was to: i) give co-ordinated advice on genetically modified food to politicians, authorities, and the food industry; ii) to establish a forum for dialogue between experts and non-experts; and iii) to contribute to an all-encompassing and well-informed public discussion on the subject. A follow-up conference on the same topic and with the same panel was held four years later. While subsequent evaluation of the processes highlighted that it was difficult to assess the direct influence of these conferences on the government and parliament, it also underscored the potentially positive psychological impact on public opinion arising from the fact that authorities took the involved laymen into the decision-making process surrounding a complex and politically sensitive policy issue. Additional benefits of the conference include raising public awareness of genetically modified food. This initial experience in consensus conferences in Norway paved the way for greater use of this mechanism, particularly in the areas of medicine and technology.

Citizen panels: assess public preferences and opinions, and are often used for assessing service needs and identifying local issues; they can be useful for engaging stakeholders with the development of new policy areas. In Bristol, England, 2 200 panellists that reflected the city's population were recruited through random sample and interviews to form the Bristol Citizens' Panel. It keeps the Council informed about public opinion. Since its establishing in the late 1990's the Panel has been asked more than 600 questions on topics ranging from recycling to changing the selection process for the city's mayor. Panel members receive up to four questionnaires annually, that they can compete on paper or electronically. Results from the panel enrich the decision-making process.

Participatory strategic planning: a consensus building approach to help a community or an organisation articulate how they would like their community (or organisation) to develop over the next few years. It can be used to help a group agree on where they want to go, and how they are going to get there. It is particularly useful to build a sense of ownership and commitment in a group, and to build consensus. Participatory strategic planning was used by Ponders End, North London to empower and enable residents and the communities to address local economic, social, and environmental concerns, and improve their quality of life. This four-stage process served as a reference point for the Community Development Trust in its movement forward, and helped the Trust find and deliver a programme of community events and infrastructure based on the agreed plan.

Box 3.24. **Methods for strengthening citizen participation practices in OECD countries** (*cont.*)

User panels: regular meetings of service users. These panels help identify the concerns and priorities of service users and can help identify problems or generate ideas for improvement. These can be particularly helpful for constituencies whose voice is not usually heard (e.g. children, the aged, etc.) and is a good way to establish two-way dialogue between service providers and service users.

Since 1992, Age Concern Scotland's Fife User Panels have provided an opportunity for the ageing population to influence the delivery of services that can help them maintain an independent lifestyle, for example an enhanced cleaning service for home care clients, and good practice for hospital discharge.

Source: OECD (2001), Citizens as Partners: Information, Consultation and Public Participation in Policy Making, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264195561-en; Department of Sustainability and Environment (2016), "Citizen Juries", Effective Engagement, Department of Environment and Primary Industries, State Government of Victoria, Melbourne, Australia, accessed: 17 April 2016, available: www.dse.vic.gov.au/effective-engagement/toolkit/tool-citizen-juries; United States Environmental Protection Agency (2015), "Public Participation Guide: Citizen Juries", International Cooperation, United States Environmental Protection Agency, Washington, DC, accessed: 17 April 2016, available: www.epa.gov/international-cooperation/public-participation-guide-citizen-juries; Henderson, et al., (2013), "Evaluating the use of Citizens' Juries in Food Policy: A Case Study of Food Regulation", BMC Public Health, Biomed Central, Ltd., London, England, accessed: 17 April 2016, available: http://bmcpublichealth.biomedcentral.com/articles/10.1186/1471-2458-13-596; OECD (2014), Breakout session 2: "Open Government at the Local Level" presented by Ibone Bengoetxea Otaolea, Deputy Mayor, Bilbao, Spain, during the OECD International Forum on Open Government, October, 2014, Paris, France; Grundhal, J. (1995), "The Danish Consensus Conference Model", Public Participation in Science: The role of Consensus Conferences in Europe, ed. Joss, S. and J. Durant, London: Science Museum, accessed on 17 April 2016, available: http://people.ucalgary.ca/~pubconf/Education/grundahl.htm; The Loka Institute (n.d.), "Tracking Danish-Style, Citizen-Based Deliberative Consensus Conferences Worldwide: An Innovative Way to Involve the Public in Science & Technology Policy Deliberations", The Loka Institute, Claremont, California, accessed: 17 April 2016, available: www.loka.org/org.html; Involve (2016), *People and Participation: How to put citizens at the heart of decision making,* Involve, London, England, accessed: 25 May 2016, available: www.involve.org.uk//wp-content/uploads/2011/03/People-and-Participation.pdf.

It should be noted, however, that not all citizen participation methods work in the same way or will achieve the same results. For example, user panels can help map existing opinions and are a strong consultation mechanism. Meanwhile, participatory strategic planning can directly support decision making, improve relationships, build a shared vision, generate new ideas and empower participants. Both generate positive outcomes, however, they support different purposes for engagement. This said, institutional context, resources, and the design of the participatory process are just as critical to success, perhaps even more so, than the method selected (Involve, 2016a). In addition, there is also a question of demographics, as youth do not necessarily view participation in the same way as older generations, with traditional forms of engagement such as activity in political parties being replaced by participation via "sit-ins", via social media, etc.

Engaging citizens to deliver better quality services

Córdoba's provincial government is responsible for delivering on a wide range of competences, many of which are rooted in its capacity to deliver public services. Its most pressing and tangible service requirements appear to revolve around infrastructure (transport, water quality, wastewater treatment, housing, etc.). Service delivery challenges include a need to ensure that quality services reach remote areas and less advantaged populations. It also needs to manage the costs associated with service delivery over a territory that is at once sparsely populated and home to a large metropolitan area. This can lie in identifying new or innovative ways to meet citizen needs that also improve

service delivery outcomes and increase citizen satisfaction. Córdoba has successful experience engaging citizens in service delivery and production, particularly in the north-west (Box 3.25). However, moving forward it should consider how it can apply equally innovative programmes in other parts of the territory.

Co-production of services is a potential source of service innovation (Box 3.26). It can build community empowerment, increase user satisfaction, and lower production costs. Co-production in public services refers to user-centred collaborative approaches in service delivery, where citizens or service users design, commission, deliver or evaluate a public service in partnership with service professionals. Córdoba's approach to housing construction as part of its North-west Development Plan, described in Box 3.25, is a relevant example. Other examples among OECD countries of co-production in public services include volunteer community groups partnering with local police to increase neighbourhood safety; patients with chronic illnesses taking control of their health with the support of health care professionals; and young parents using online social networks supported by social workers to receive guidance and share advice regarding child upbringing (OECD, 2011b).

Box 3.25. **The North-West Development Plan, Córdoba**

In 2012, the Foundation of the Bank of Córdoba (*Fundación Banco de la Provincia de Córdoba)* launched a five-year North-west Development Plan (*Plan de Desarrollo Noroeste*), based on ministerial diagnosis and reports that highlighted the need for better infrastructure in the region. The north-west is one of Córdoba's least privileged areas, socioeconomically, and given the difficult terrain a challenge for infrastructure and service delivery. Thus, the Plan's objective was to i) build infrastructure; ii) change the region's productive profile; and iii) foster education and human capital. While the plan included building roads and ensuring that electricity and water reached the inhabitants of often-remote localities, it also focused on housing. To this end, it provided the financial, technical, and material (e.g. tools) capacity for the residents of each locality to build their own house. Basically, the government paid residents to build their own houses, rather than building the houses itself. Every time a critical stage of the building process was complete (e.g. laying foundations, putting up retaining walls, building a roof, etc.) the government would "pay" the house-owner for their work. The last payment was earmarked for buying furniture. The government also provided technical capacity by placing young architects and engineers in the villages to support the residents, and by developing easy to follow, picture-based manuals. The result was communities of proud homeowners who took care of their residences and any additional infrastructure they helped build (e.g. children's play areas or recreation areas for adults), as well as individuals who felt empowered to pursue new opportunities based on skills gained, for example masonry, or mechanics. In addition, younger residents, once their house was built, would help the elderly construct a home for themselves as well.

Source: OECD interview with representatives from the "Fundación Banco de la Provincia de Córdoba", 19 November 2015.

Box 3.26. **Co-production of public services in OECD countries**

When confronted with budget pressures on one hand and with a growing demand for public services on the other, co-production can be a source of innovation and lead to greater individual and community empowerment, increased user satisfaction, and lower production costs. An OECD survey of service delivery highlighted that among the OECD countries that have adopted some form of co-production, the primary objective is to increase citizen involvement and achieve better quality service delivery rather than to reduce costs. Among the obstacles to co-production identified by OECD governments are a lack of resources, organisational resistance, and a lack of financial incentive. There is also limited understanding and measurement by governments of the benefits and costs of co-production schemes, and thus in some countries there is a lack of evidence to support the potential benefits of co-production. The OECD survey also indicated that implementing co-production may require a set of changes within public service delivery organisations. Leadership and commitment from senior public officials

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Box 3.26. **Co-production of public services in OECD countries** (*cont.*)

and the willingness to engage with users and citizens were identified as the top two levers leading to effective citizen and user input in service delivery. Clear accountability and financial frameworks were also identified as critical success factors, especially in more complex forms of co-production involving resource transfers to service users (e.g. self-directed budgets). Finally, as co-production alters the professional roles and responsibilities of traditional service providers, new skill sets and competencies for service professionals may need to be introduced across services.

Source: OECD (2011c), *Government at a Glance 2011*, OECD Publishing, Paris, http://dx.doi.org/10.1787/gov_glance-2011-en.

Structuring services around the needs and expectations of citizens shifts the emphasis from the government and what it provides to citizens, to the citizens themselves and how government can meet their needs (OECD, 2010a). In Finland, for example, Kuopio municipality structures its services around six service sectors (well-being promotion, learning services, urban environment, social services, health services, city attractiveness), each of which is an administrative entity that provides or organises services for service users. It also categorises its services by topic (culture and library; day care and education; environment; housing and districts; plots and construction; social and health; sports and nature; streets and traffic; town planning; and youth services) (City of Kuopio, n.d.). Kuopio has classified services by sector and topic in ways that are immediately relevant and accessible to users. Its objective was to provide services from the perspective of the citizen, and to do so more efficiently and effectively. Another useful mechanism to engage citizens in service delivery is to help them understand the choices available and facilitate their ability to take action, and also increase transparency with respect to service availability (Box 3.27).

Box 3.27. **Helping citizens make informed choices while increasing service transparency**

In Stockholm, Sweden, the municipal government has helped citizens make choices and increase the transparency of available services through the city's "Compare Services" website. This online tool has permitted Stockholm residents to compare the full range of services the city offers, as well as service quality. More than 4 000 units were mapped with criteria for comparison and up-to-date information, for example, regarding quality, geographical location and services offered. The tool also incorporated contact information for the city's various units. For example, parents could visit Compare Services and through a straightforward interface, access preschools they found interesting. They could then search for preschools in the Stockholm city districts of their choice on the basis of pedagogic methods or on activities offered. They could also compare the size of children's groups and the number of teachers. After finding the preschool that best suited their child, they were able to move on to the associated e-service to apply to the school or contact the city district administration to seek a place for their child. The intention was to help residents choose services that best suited their needs based on their individual requirements. The tool also helped improve service management.

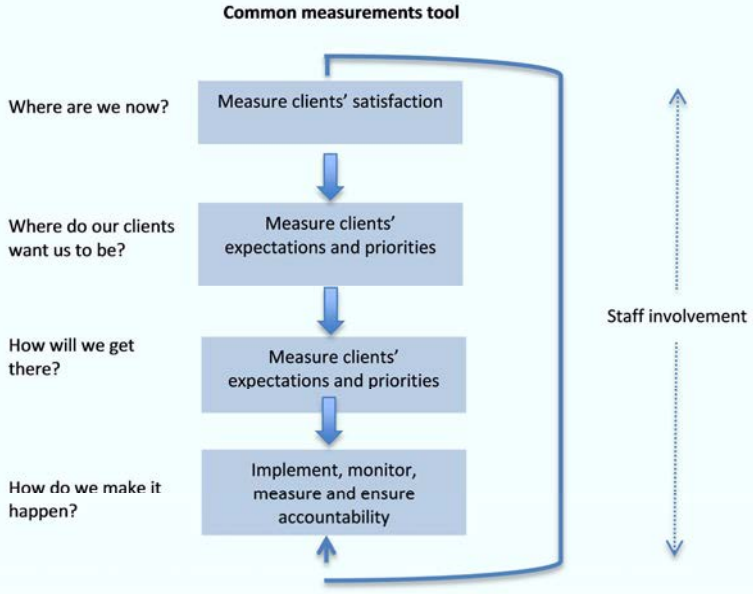
Source: City of Stockholm (2011), "Compare Services", http://international.stockholm.se/Politics-and-organisation/e-Governance/Compare-Services (accessed 4 April 2013).

Listening to and speaking with citizens also builds the capacity of the local public administration and provides a channel for adjusting the attitude of public servants, thereby contributing to shifts in organisational culture. In Australia, for example, "Value Creation Workshops" are undertaken with citizens so that public servants and policy designers can hear their stories. This interaction helps shape service design and offerings. In Canada, public sector managers at all levels of government use the Common

Measurements Tool to better understand client expectations, assess levels of satisfaction, and identify opportunities and priorities for service improvement. The instrument also provides government with the ability to create links between public sector staff and citizens, and opens space for listening, learning and adjusting. In Finland, an active approach to listening and learning from citizens helped the Kainuu regional government better address citizen needs in medical clinics, discovering that solving one of the most pressing concerns was as simple as providing a phone number (Box 3.28).

Box 3.28. **Learning from citizens to improve service delivery in Canada and Finland**

In Canada, the Common Measurements Tool (CMT) was first designed in 1998, and has become an internationally recognised innovation in public management, receiving the Silver Award for International Innovation by the Commonwealth Association for Public Administration and Management (CAPAM) and a Gold Award for Innovative Management by the Institute of Public Administration of Canada. It is now used at the federal, provincial and local levels in Canada, and has been adopted by governments in other countries. The CMT permits public sector managers to better understand citizen expectations and needs, and adjust service capacity accordingly. The tool helps evaluate citizen satisfaction with services delivered in person, by Internet or by telephone, and creates the space for active listening, learning and adjusting on the part of the public sector, creating a dynamic and positive feedback loop, as illustrated in the figure below.



Source: Institute for Citizen-Centred Service (n.d.), "About the Common Measurements Tool", accessed: 28 February, 2016, www.iccs-isac.org/en/cmt; adapted from OECD (2010b), Finland: Working Together to Sustain Success, OECD Public Governance Reviews, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264086081-en.

In keeping with the principle of a client perspective to public services, Finland's Kainuu Regional Council developed the "Happenings" programme to identify and respond to the needs of health care users. Under this programme, the health care team visited all municipal health clinics twice. During the first meeting, open to all citizens who wished to participate, the team presented the different services available at or through the clinic, followed by a question-and-answer period with the regional health care team, the clinic service providers and the municipal residents. After approximately ten days, the team returned to the municipal clinic for an evening session, where they shared the input and feedback they had heard during the previous visit. They then worked together with citizens to identify solutions to some of the most pressing concerns. The team noticed that sometimes the small things mattered most. For example, the health care providers at both the regional and municipal levels believed that everyone knew the telephone number for a 24/7 nurse call centre.

Box 3.28. **Learning from citizens to improve service delivery in Canada and Finland** (*cont.*)

This, however, was not the case, and a quick, low-cost solution was found to ensure that all citizens were aware of and had easy access to the appropriate number. Through "Happenings", the Kainuu health care team built awareness among citizens of the variety of services available to them. In addition, rather than depending strictly on feedback from clinic practitioners, the team listened directly to the end users of the services. This allowed the development of more targeted and community-tailored solutions, increasing the effectiveness of the services provided, as well as their efficiency. Because reform to health care systems at any level is a highly sensitive issue, by developing a two-way communication channel and acting on citizen input, the council increased the potential for residents to feel that they had a role in the process. This, in turn, could increase trust in the reform process and a sense of ownership of the services available in their community.

Source: Institute for Citizen-Centred Service (n.d.), "About the Common Measurements Tool", accessed: 28 February, 2016, available: www.iccs-isac.org/en/cmt; adapted from OECD (2010a), Finland: Working Together to Sustain Success, OECD Public Governance Reviews, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264086081-en.

Conclusions

The institutions and frameworks that support public decision-making in Córdoba are well established. One of Córdoba's strengths is its clear focus on a limited set of priorities for economic development and regional competitiveness: food and agriculture, ICT, metal-manufacturing and tourism. Ensuring that all relevant actors know and agree upon the areas identified to boost productivity and competitiveness means that they can more easily move in the same direction, facilitating collaboration among government bodies and with external stakeholders. However, greater interconnection between these four strategic sectors is needed to fully reap the benefits of policy complementarities.

The governance structure (i.e. institutions, processes and frameworks) in place to support decision making in the province of Córdoba reflect characteristics of public governance seen in small (sovereign) states; and these arrangements could be strengthened to help policies transcend election cycles, to promote a more integrated approach to policy making, and to better reinforce accountability and transparency. Broadly speaking, Córdoba's growth priorities are supported by relevant government and private sector actors. However, these priorities are not supported by governance arrangements that can help consistently and coherently channel stakeholder activities, by a normative (i.e. legal) requirement for territorial development planning at the provincial level, or by an entity responsible for overseeing and co-ordinating territorial development efforts. This leaves Córdoba faced with three significant governance challenges, which if addressed could generate more effective outcomes in its territorial development activities. These include strategic planning, territorial management, and citizen engagement.

One of the main issues confronting the province of Córdoba is the lack of formalised strategic planning. This affects all levels of government, leaving ministries and agencies without a roadmap for action, creating difficulty in prioritising initiatives and risking incoherence and overlap in activity. It results in limited clarity regarding how priorities and agendas are set and what the government wishes to achieve in a concrete manner. This prevents effective performance measurement, monitoring and evaluation and handicaps the government's ability to understand whether or not it is meeting its own goals. It also does little to support objectives to increase transparency and accountability to citizens. The impact extends to non-government actors, such as CSOs, who have a difficult time evaluating where they and their contributions can fit within the government's plan; and can conceivably leave the government open to capture by private

interests. When the lack of formalised strategic planning is combined with difficulty in building broad-spectrum evidence bases and a weak culture of performance measurement, public and private stakeholders have little capacity to determine the effectiveness of government policy or to hold government accountable for its performance.

Córdoba has not set concrete objectives for outcomes – for instance, what it wants to accomplish in each of the four priority axes (e.g. how many new ICT businesses, what contribution of tourism to GDP, etc.). This can result in activity that is not grounded in clear, attainable goals and can also weaken government accountability – to its own institutions, as well as external stakeholders. While Córdoba's results in terms of socioeconomic development have been solid to date, they are declining in some areas, as explored in Chapter 1. In order to regain lost ground and continue growing, an outcomes-based approach would be valuable. This would require formalising a provincial development strategy; supporting ministries in developing integrated policies that link to the development strategy and from which sector projects and programmes emanate; expanding evidence bases; and building a culture of monitoring and evaluation, for example by developing a performance measurement system that includes outcome indicators, and programme reviews.

Another relates to territorial organisation and management. The large number of municipalities with varying degrees of resource capacity; a fragmented service delivery model where, in many instances, the public sector has delegated responsibilities (and ultimately power) to private service co-operatives; poor infrastructure for basic services such as sewage; land-use planning practices that put municipalities and the province at odds; and an extensive metropolitan area with no metropolitan governance structure, all conspire to work against territorial equity and equilibrium. It can also impact the province's position when competing for investment.

Co-ordination mechanisms at the provincial and municipal levels, as well as between the province and municipalities, could help introduce more equitable service provision, and improve financial, operational and administrative capacity. Municipalities have too few incentives and mechanisms to co-operate with the provincial government or enforce provincial level policies with a territorial impact (e.g. housing). For example, fiscal incentives for co-ordination do not appear to be used; there are no reporting mechanisms for municipal performance; co-ordinating bodies for provincial/local matters, ones that can help build dialogue, identify common needs and support a common approach, are reported to be ineffective; some inter-municipal joint initiatives have been successful (e.g. solid waste management) but not at the scale or for the services of greatest cost (e.g. sanitation); and overcoming a strong reticence on the part of smaller municipalities to co-operate with the city of Córdoba in areas of clear mutual interest is challenging.

Consideration should be given to establishing a form of metropolitan governance for the Greater Córdoba region. The importance of this is grounded in the impact that municipal fragmentation can have on the growth of a metropolitan area and on the growing awareness among public officials for greater co-operation in service delivery at a metropolitan scale to pool capacities and financial resources for investment and efficiency. To this effect a more focused analysis on the metropolitan dynamics and governance practices level would be necessary at the municipal to develop a detailed and complete discussion of options and opportunities based on the identification of needs and synergies, and an understanding of the costs and benefits of agglomerations.

Increasing transparency and accountability is one of Córdoba's stated governance goals, and its modernisation initiatives have been performing well. It also has good consultation mechanisms established for dialogue with institutional stakeholders, particularly professional and industry chambers as well as universities. Córdoba has made significant strides in improving its accountability and transparency through citizen information and citizen consultation through its government modernisation programme. It is a leader among Argentinian provinces with respect to transparent budgeting practices, and has actively sought to increase integrity with the introduction of relevant ISO standards. Yet, if it is aiming to build even greater accountability with respect to its decisions, actions, and spending, it should consider expanding its set of interlocutors beyond private sector organisations such as industry chambers and academia.

The province now needs to move to the next stage of engagement – citizen participation, requiring a two-way exchange of information, knowledge and ideas. Actively seeking citizen and stakeholder input into policy and decision-making processes is difficult for governments. They are not accustomed to it, and often find it threatening. However, when citizens are engaged in the decision-making process, they have a greater stake in ensuring positive results and outcomes are stronger. Citizens can also feed existing and future evidence bases, mitigate resource and service delivery constraints, help build a viable long-term development strategy, prioritise spending for more successful territorial growth, and further legitimise government decision and policy making. There is some experience with this in Córdoba, for example in the Secretariat for Environment and Climate Change, as well as at the municipal level in the City of Córdoba through the Our Córdoba Citizen Network. These can be good platforms for learning and for expanding citizen-centred activity at the provincial level.

Recommendations

What follows is a set of recommendations for adjustments in governance practices in the four areas explored in this chapter, namely setting and implementing a regional development strategy, enhancing transparency, monitoring and performance management, strengthening multi-level governance, and engaging better with citizens. They are provided in the spirit of building on Córdoba's successes to boost greater levels of competitiveness and productivity, while also enhancing the quality of life for citizens throughout the territory.

Recommendations for setting and implementing a regional development policy strategy

1. **Identify the provincial-level entity responsible for formalising a strategic approach to territorial development and ensuring policy coordination and coherence.**

   Several options could be considered, such as:

   - Establishing special units or agencies that provide planning and advisory support also help ensure policy coherence across sectors. A regional development agency or council could be established in Córdoba in the medium or long run. In the meantime, special units or coordinators of regional policy could set incentive for co-operation across sector ministries. Examples include the Commissariat Général à l'égalité des territoires (CGET, formerly DATAR) that is directly linked to the Office of the Prime Minister in France.

Special units under sector ministries include, for example, the Spatial Economic Policy Directorate within the Ministry of Economic Affairs in the Netherlands.

- Establishing or restructuring ministries and departments with broad responsibilities and powers including regional development that encompass traditionally separate sectors. This also holds benefits in terms of integrated policies and concentration of skills. Specific ministries for regional development were created in the Czech Republic, Poland, the Slovak Republic and Slovenia. Over one-third of OECD countries channel their regional development approaches through a ministry that focuses on economics, commerce or development. If re-activated, COPEC, under the responsibility of the Ministry of Finance, could be the platform in the Ministry to meet this need and take the lead in regional policy.
- Co-ordinating structures such as interministerial committees and commissions help foster horizontal governance based on the existing government structure and do not require the introduction of a new institution. OECD experience indicates that a horizontal commission chaired by one sector ministry might be limited in pursuing multi-sector aims and could hinder full involvement of other ministries. One way to address this is by alternating the committee chair among participating ministries. For Córdoba, an option could be expanding the mandate and ministries involved in the "Productivity Cabinet".

2. **Establish a long-term vision for the Province with clear objectives and targets, and through broad stakeholder engagement.**

- Establish a strategic vision – "where are we going?" The strategic vision is long term (ten years or more), based on foresight, and reflects the path to a desired or intended future for a country, province or city. It should outline where the province wants to be in a generation, and transcend political parties and election cycles. Ideally, the strategic vision should be developed with the input and consensus of citizens, political parties, the public administration, business and civil society. For instance, long-term vision setting through the Australia 2020 Summit. Objective was to foster a national conversation on Australia's long-term future and aimed to harness the best ideas for building a modern Australia, ready for the challenges of the 21st century.
- Define a strategic policy – "how are we getting there?" It helps establish priorities and identifies how strategic objectives will be realised (usually a high-level strategy and roadmap for the medium term, 3-10 years). Strategic policy is often more political and often follows the political priorities of a ministry. In the case of Córdoba's territorial development, this could take the form of a territorial or regional development strategy that supports the long-term vision for the province.
- Design sector policies and programmes – "What takes us there?" Sector-driven activities, usually shorter term (1-2 years), which serve as proactive measures to implement Strategic Policy priorities. They focus on the what – for example an urban policy that promotes developing medium-sized cities in the interior; industrial policy that supports the "greening" of industry and manufacturing; labour force and family policies that support women in the workforce, etc.

3. **Ensure effective revenue-generating and investment capacity to support the implementation of the regional development strategy and related policies and programmes.**

   - The province will need financial resources to implement the programmes required to achieve the objectives of the to-be-developed regional development strategy. A way forward is to attract foreign investment; build foreign and domestic credit opportunities; and re-evaluate budget allocations for public investment.

Recommendations to enhance accountability, monitoring and performance management:

These recommendations seek to complement informal networks with formal structures and clear accountability mechanisms through actions that can be taken from two different standpoints: administrative (centre of government) and operational (monitoring and evaluation).

1. **Build a strong Centre of Government (CoG) to ensure coherence and co-ordination in achieving Córdoba's strategic objectives across ministries and public agencies, and between levels of government.**

   - In Córdoba, there is no clearly defined CoG body that could provide policy oversight, although the Ministry of Government appears naturally placed to serve such a role.
   - There is a range of options for CoG structures within the OECD countries, including at the sub-national level in federal states. A common feature is that they tend to include the body or bodies that serve the Head of Government and/or Head of State, and are often supported by the Ministry of Finance. In Ontario, Canada for instance, the CoG lies within the Cabinet Office, which provides the Premier with advice and analysis to support the government in achieving its priorities.
   - It is important to ensure that the diverse secretariats within a ministry are working toward the same overall objective(s) in a coherent and co-ordinated fashion.
   - This has to be supported by clear sector policy, planning and co-ordination at the ministerial level as well as at the provincial level. This is increasingly the task of the Centre of Government, which is often best placed to ensure that priorities are pursued in a coherent and co-ordinated manner.

2. **Improve monitoring and performance management practices to determine whether or not a strategy or policy is achieving results or if it needs adjustment or replacement.**

   - Identify results based indicators and ensure monitoring and evaluation mechanisms are in place to track outcomes.
   - Build capacity for objective setting and establishing outcome-based indicator systems. This should come together with improving data and information at the provincial level.

- Create space (e.g. through a dedicated website) to communicate and share progress on objectives and indicator results with stakeholders and citizens, thereby supporting greater government transparency and accountability.
- Introduce programme and/or spending reviews for ministerial or agency initiatives. These can provide insight into what is best supporting the achievement of Córdoba's territorial ambitions, and how funds are being spent with respect to these ambitions.
- Continue with the plan to introduced results-based management techniques. Potentially pilot the initiative in one or two key ministries before rolling it government-wide.

Recommendation to strengthen multi-level governance:

- Adopt a functional approach to Greater Cordoba, looking beyond the administrative borders that conforms each municipality to have a more accurate view of the metropolitan area based on where people work and live.
- Address institutional fragmentation by promoting and rewarding an integrated approach policy development and implementation. This can help align action and economic resources among ministries and municipalities.
- Make better use of existing co-ordination mechanisms to improve provincial and municipal dialogue and co-operation, not only for service delivery but also to identify common needs and interests that could then spur co-operation.
- Broaden the menu of co-ordination mechanisms used to include strategic planning requirements, performance measurement, and performance management for example.
- Consider establishing an association of municipalities that can coalesce interests and priorities, and act as a voice for the province's 427 municipalities.
- Reinvent the Roundtable for Provincial and Municipal Governments with an eye on ensuring its relevance to all municipalities regardless of size or political leaning.
- Identify relevant incentive mechanisms for inter-municipal co-operation, including with the City of Córdoba. Such mechanisms could include fiscal incentives and/or performance indicators.
- Continue promoting "urban agreements" (convenios urbanísticos) to support inter-municipal activity in service delivery along municipal "corridors".
- Establishing the appropriate governance structure is a medium term endeavour, but consideration should be given to establishing one or several "inter-municipal authorities". The work undertaken by IPLAM and the "urban agreements" could provide a basis for such an undertaking.

Recommendations to engage citizens for greater transparency, accountability and service provision

- Pursue the government modernisation good practices that support transparency and accountability. These include the public purchasing and contracting portal, the citizen budget, "Digital Citizen" portal, ISO standards, and budget transparency practices.
- Strengthen "two-way" citizen engagement practices by increasing citizen participation in the policy making, policy dialogue and policy evaluation processes.
  - Consider a process similar to the City of Córdoba's Plan de Metas introduced by civil society, and adapted for the provincial level.
  - Consider working with the Our Córdoba Citizen Network or a similar organisation to build and publish a set of baseline indicators for the Province that is akin to what was developed for the City of Córdoba.
- Identify opportunities to engage citizens in service production and delivery, building on the example of the Northwest Development Plan.
- More actively, regularly and formally consult with civil society organisations to identify programming needs and developing relevant sector policies.

Notes

1. The OECD defines public governance as the formal and informal arrangements that determine how public decisions are made and how public actions are carried out from the perspective of maintaining constitutional values, particularly as problems, actors and times change (OECD, 2005a).

2. The previous Federal administration published a national policy and strategy for territorial development and management (*Argentina 2016: Política y Estrategia Nacional de Desarrollo y Ordenamiento Territorial*), however where its implementation stands is unclear, particularly given the recent change in government, and it is reported that individual provinces were not consulted or actively involved in its design. It is too soon to identify the plans of the new national administration in this area.

3. Córdoba's executive branch is composed of the governor's office and 13 line ministries: Ministry of Government (*Ministerio de Gobierno)*, Ministry of Finance (*Ministerio de Finanzas*), Ministry of Industry, Commerce and Mining (*Ministerio de Industria, Comercio y Minería)*, Ministry of Agriculture and Livestock (*Ministerio de Agricultura y Ganadería*), Ministry of Education (*Ministerio de Educación),* Ministry of Justice and Human Rights (*Ministerio de Justicia y Derechos Humanos)*, Ministry of Health (*Ministerio de Salud)*, Ministry of Housing, Architecture and Roadwork (*Ministerio de Vivienda, Arquitectura y Obras Viales),* Ministry of Social Development (*Ministerio de Desarrollo Social)*, Ministry of Science and Technology (*Ministerio de Ciencia y Tecnología*), Ministry of Labour (*Ministerio de Trabajo),* Ministry of Water, Environment and Public Services (*Ministerio de Agua, Ambiente y Servicios Públicos)*, Ministry of Investment and Financing (*Ministerio de Inversión y Financiamiento*), General Secretariat of Government (*Secretaria General de la Gobernación*) (Government of the Province of Córdoba, 2016).

4. With the change of government on 10 December, 2015 this ministry was split into two, and former competences are now shared by the Ministry of Industry, Commerce and Mining and the Ministry of Science and Technology.

5. With the change of government on 10 December, 2015, the Employment and Professional Training Agency (*Agencia de Empleo y Formación Profesional*) was absorbed into the Secretariat for Equity and the Promotion of Employment (*Secretaría de Equidad y Promoción del Empleo).*

6. The ties among actors or actor groups were not studied with precision (i.e. through a mapping exercise). However, it is reasonable to speculate that they strike a relatively good balance between strong ties, i.e. those among people close to you and whom you trust, and weaker ties, i.e. second or third level connections from which new ideas or opportunities are often generated.

7. The Group of 6 is comprised of representatives of the *Bolsa de Comercio,* the *Cámara de Comercio de Córdoba,* the *Cámara de Comercio Exterior de Córdoba,*

the *Cámara Argentina de la Construcción – Delegación Córdoba,* the *Federación Comercial de Córdoba,* and the *Unión Industria de Córdoba.*

8. The political-administrative interface refers to the separation and relationship between government's political level including political appointees to senior civil servant posts, and the career civil service, including high-level civil officials.

9. Percentages reflect calculations based on current prices, and are net of provincial income from social security.

10. Figure is net of social security contributions. Figure comes from the quotient between provincial revenue (sum of current income and capital minus current transfers, capital transfers and social security contributions) and total revenue (current income plus capital income with the exception of social security contributions).

11. Provincial tax structure is based on: transaction taxes, property tax, vehicle tax, stamps, gambling taxes (e.g. lottery, horse racing, etc.), and other fees.

12. Percentages reflect tax revenue in current prices.

13. This covers the sales of goods and services, property rental, and other revenues.

14. In terms of actual personnel numbers, Córdoba's public administration "planta" personnel in 2013 was less than the national average: 75 041 in Córdoba versus 87 005 as the average figure for all provinces.

15. In the 2005-14 period real direct investment grew from ARS 600 million to ARS 3 631 million, and financial investment increased from ARS 22 million to ARS 54 million, all in current ARS.

16. The Stamp Tax (*Impuesto de Sello)* is a subnational tax legislated by each province, levied on acts, contracts and transactions considered "onerous" (e.g. real estate transactions) and formalised within the province's jurisdiction.

17. They do not, however, find that these benefits are guaranteed. Their results suggest that the growth impact of public investment can be negative in certain circumstances, particularly where initial public capital levels are already very high and/or where financing via distortionary taxes or high-cost borrowing reduces the return on investment (OECD, 2013b).

18. Córdoba's 10 year average (2005-14) for real direct investment as a percentage of GDP was 7.5% versus 5.6% in 2014; the 10 year average (2005-14) for financial investment was 0.5% of GDP versus 0.1% in 2014.

19. Effectiveness and efficiency are two distinct dimensions of performance. "Effectiveness" is concerned with performance with respect to the objectives set, independently of cost. Effectiveness reforms may be cost-increasing cost-neutral or cost-decreasing. "Efficiency" refers to the relationship between cost and outcome: efficiency reforms aim at better outcomes for any given level of expenditure. (OECD, 2013b).

20. To this effect, a "statistical emergency" was declared in Argentina on 7 January 2016 effective to 31 December, 2016 (Presidencia de la Nación, 2016), "Instituto Nacional de Estadística y Censo: Declárase en estado de emergencia administrativa al Sistema Estadístico Nacional" *Decreto 55/2016,* Boletín Oficial de la República Argentina, accessed 7 March 2016, available: https://www.boletinoficial.gob.ar/pdf/linkqr/qlfls1dmvmpowxmrdtvreeh2zku0dz09.

21. For example, the Minister of Education has been in his post for eight years prior to which he was Secretary General of the teacher's union (*Unión de Educadores de la Provincia de Córdoba* – UEPC); the Minister of Water, Environment, Energy and Transport is serving a second term, prior to which he was the province's Director for Water and Sanitation, and Undersecretary for Hydrological Resources at the national level; the Minister of Health continues in his post, and is a medical doctor. Many of the current ministers have served under the sitting governor during his past administration (2007-11).

22. OECD dimensions of regional well-being are divided into two categories: material (i.e. jobs, income and housing) and non-material (i.e. health, education, environment, safety, civic engagement, access to services) (OECD, 2014c).

23. The other three provinces are Catamarca, Entre Rios and San Juan.

24. The regulating ordinance indicates that no less than 10% of the municipal budget be set aside for the participatory budget.

25. Under the current administration the Ministry of Public Administration is no longer active.

26. The four values are to promote: i) innovation and technology; ii) access to information and transparency; iii) accountability; and iv) participation.

27. The Association for Public Participation spectrum moves from: i) inform; ii) consult; iii) involve; iv) collaborate; and v) empower.

28. This secretariat is housed within the Ministry for Water, Environment and Public Services.

29. Environment; participative democracy; socioeconomic development; urban development and housing; education; health; budgeting; safety; transparency and access to information; and transport and urban mobility.

30. Other members in Argentina include the cities of Buenos Aires, Mendoza, Rosario, San Martin de los Andes and Santa Fé.

31. The Open Government Principles as established by the Open Government Declaration are to: i) increase the availability of information about governmental activities; ii) support civic participation; iii) implement the highest standards of professional integrity throughout public administration; and iv) increase access to new technologies for openness and accountability (Open Government Partnership, 2015).

32. Information obtained during OECD interviews with officials from the Ministry of Public Administration, 16 November, 2015.

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Annex 3.A1

Institutions with a role in regional productivity and competitiveness

Public institutions	
Ministries	Ministerio de Agricultura y Ganadería (Ministry of Agriculture and Livestock)
	Ministerio de Finanzas (Ministry of Economy and Finance)
	Ministerio de Industria, Comercio, y Minería (Ministry of Industry, Commerce and Mining)
	Ministerio de Inversión y Financiamiento (Ministry of Investment and Financing)
	Ministerio de Vivienda, Arquitectura y Obras Viales (Ministry of Housing, Architecture and Road Works)
	Ministerio de Ciencia y Tecnología (Ministry of Science and Technology)
	Ministerio de Agua, Ambiente y Servicios Públicos (Ministry of Water, Environment and Public Services)
Secretariats	Secretaría de Equidad y Promoción del Empleo (Secretariat of Equity and Promotion of Employment)
Agencies	Agencia Córdoba Turismo (Agency for Tourism Córdoba)
	Agencia Pro Córdoba (Agency ProCórdoba)
Independent provincial entities	Banco de Córdoba - BANCOR (Bank of Córdoba)
	Empresa Provincial de Energía de Córdoba – EPEC (Provincial Energy Enterprise of Córdoba)
	Ente Regulador de Servicios Públicos de Córdoba – ERSeP (Regulatory Entity of Public Services of Córdoba)
Local level	427 Municipal governments
	Agencia para el Desarrollo Económico de la Ciudad de Córdoba - ADEC (Agency for the Economic Development of the City of Córdoba)
Non-public Institutions	
Private sector chambers and professional organisations	Asociación Industriales de la Alimentación de Córdoba – ADIAC (Association of the Food Industry of Córdoba)
	Asociación Cordobesa de Radiofusión por Cable – ACORCA (Association of Cable Broadcast of Córdoba)
	Asociación de Fabricantes de Maquinaria Agrícola y Agro Componentes Provincia de Córdoba – AFAMAC (Association of the Agro-machinery Industry of the Province of Córdoba)
	Asociación de Fabricantes de Cemento Portland - AFCP (Association of Portland Concrete Producers)
	Asociación de Frigoríficos e Industriales de la Carne – AFIC (Association of Fridge and Meat Producers)
	Asociación Provincial de la Industria Lechera – APIL (Provincial Association of the Diary Industry)
	Bolsa y Cámara de Cereales de Córdoba - BCCBA (Stock Market and Chamber of Cereals of Córdoba)
	Bolsa de Comercio de Córdoba – BCC (Córdoba Stock Exchange)
	Cámara Argentina del Maní - CAM (Chamber of Peanut of Argentina)
	Cámara Argentina de la Construcción - CAMARCO (Chamber of Construction of Argentina)
	Cámara de Industriales Metalúrgicos y Componentes de Córdoba – CIMCC (Chamber of Industrial Metallurgy and Components of Córdoba)
	Cámara de Agroalimentos y Bioenergías de la Provincia de Córdoba - CABIOCOR (Chamber of Agrifood and Bioenergy of the Province of Córdoba)
	Cámara de Industrias de la Salud de la Provincia de Córdoba – CAISAL (Chamber of the Health Industry of the Province of Córdoba)
	Cámara de Industrias Plásticas de Córdoba – CIPC (Chamber of the Plastic Industry of Córdoba)
	Cámara de la Madera, Mueble y Equipamiento de Córdoba – CAMMEC (Chamber of Wood, Furniture, and Equipment of Córdoba)
	Cámara Empresaria Minera de Córdoba – CEMINCOR (Chamber of Mining Businesses of Córdoba)
	Cámara Industrial de Aceites Vegetales de Córdoba – CIAVEC (Chamber of the Vegetable Oil Industry of Córdoba)
	Cámara de la Industria del Calzado de Córdoba (Chamber of the Footwear Industry of Córdoba)
	Cámara de Industriales de Premoldeado de Cemento Portland – CIPCP (Chamber of the Preformed Portland Concrete

	Industry)
	Cámara de Industrias Informáticas, Electrónicas y de Comunicaciones del Centro de Argentina – CIIECCA (Chamber of Computation, Electronics and Communications Industries of the Centre of Argentina)
	Cámara de Comercio Exterior de Córdoba - CACEC (Chamber of Foreign Trade of Córdoba)
	Cámara de Comercio de Córdoba (Chamber for Commerce Córdoba)
	Unión Industrial de Córdoba - UIC (Industrial Union of Córdoba)
	Unión Gráfica Argentina Regional, Centro Noroeste - UGAR (Argentinian Regional Graphic Union, Northeast Centre)
	Federación Comercial de Córdoba (Commercial Federation of Córdoba)
	Cámara Empresarial de Desarrollistas Urbanos Córdoba - CEDUC (Chamber of Urban Property Developers of Córdoba)
	Cámara de Turismo de la Provincia de Córdoba (Chamber of Tourism of the Province of Córdoba)
	Cámara de Farmacias de la Provincia de Córdoba (Chamber of Pharmacies of the Province of Córdoba)
Private sector clusters	Cluster Manisero Argentino
	Cluster Córdoba Technology - CCT
	Clúster de Petróleo, Gas y Minería de Córdoba (Cluster of Petroleum and Mining)
	Clúster del Mueble de Córdoba (Cluster of Furniture of Córdoba)
	Cluster Industrial Agroalimentario (Cluster of the Agrifood Industry)
Academia (public and private)	Universidad Nacional de Córdoba (National University of Córdoba)
	Universidad Nacional de Villa María (National University of Villa María)
	Universidad Nacional de Río Cuarto (National University of Rio Cuarto)
	Universidad Tecnológica Nacional (National Technological University)
	Universidad Provincial de Córdoba (Provincial University of Córdoba)
	Instituto Universitario Aeronáutico (University Institute of Aeronautics)
	Instituto Universitario de Ciencias Biomédicas de Córdoba (University Institute of Biomedical Science of Córdoba)
	Universidad Católica de Córdoba (Catholic University of Córdoba)
	Universidad Blas Pascal (Blas Pascal University)
	Universidad Empresarial Siglo 21 (Business University 21st Century)
	Colegio Universitario de Periodismo (University Association of Journalism)
Technical and Innovation Institutes	Instituto Nacional de Tecnología Agropecuaria – INTA (National Institute of Agricultural Technology)
	Instituto Nacional de Tecnología Industrial - INTI (National Institute of Industrial Technology)
CSOs	Fundación Para La Defensa Del Ambiente - FUNAM (Foundation for the Defense of the Environment)
	Junior Achievement Córdoba
	Fundación Educación, Ambiente Y Trabajo – FUNEAT (Education, Environment, and Work Foundation)
	Manos Abiertas (Open Hands)
	Caritas
	Asociación ProDeHU
	Abuelas de Plaza de Mayo Filial Córdoba (Grandmothers of the Plaza de Mayo, Córdoba Branch)
	Techo filial Córdoba (Subsidary Ceiling Córdoba)
	Aldeas Infantiles (Children Villages)
	REMAR
	Fundación Hombre Nuevo (New Human Foundation)
	Fundación Inclusión Social (Social Inclusion Foundation)
	Corazones Solidarios (Caring Hearts)
	Fundación Córdoba Mejora (Córdoba Improves Foundation)
	Asociación Cristiana de Dirigentes de Empresas, Filial Córdoba – ACDE (Association of Christian Business Executive Managers, Córdoba Branch)

Source: Background document provided by Córdoba to the OECD, April 2016.

Annex 3.A2

Attribution of competences across government levels

Category	Area	Area detail	Institutional level with competence			
			Federal	Provincial	Municipal	Private Sector
Wealth and employment	Transport	Public transport	X	X	X	X
		Motorways	X	X		
		Trunk roads	X			
		Local roads		X		
		Traffic control		X	X	
		Airports	X			
		Ports				
	Industrial land	Logistical areas		X	X	X
		Industrial parks		X	X	X
		Enterprise zones		X	X	X
	Energy	Electricity		X	X	X
		Gas	X			
		Petrol	X			
	Communications	Post	X			
		Telephones	X			X
		Internet services	X	X		X
	Public utilities	Water		X	X	X
		Sewage			X	
	Regulation of economic activities	Patents			X	
		Consumer protection	X	X	X	
	Economic promotion	Agencies of productive co-ordination and innovation services		X	X	
		Development of economic clusters		X	X	X
		Promotion and financing economic services	X	X	X	
	Employment	Regulation	X	X	X	
		Promotion and financing emergency plans	X	X		
		Formal training	X	X	X	X
	Tourism	Tourism	X	X	X	X

Social equity	Education	Nursery				X
		Preschool, primary, secondary, education for special and adult groups		X	X	X
		Tertiary (university)	X	X		X
		Professional, vocational, technical training		X		
		Culture		X	X	X
		Public libraries	X	X	X	X
	Health	Primary			X	
		Hospitals (secondary and tertiary levels)		X	X	X
	Public health	Cemeteries			X	X
		Abattoirs			X	
		Markets			X	
		Street vendors			X	
	Housing	Social housing		X		
		Access to new houses		X		
		Neighbourhood development			X	
	Welfare services	Income equalisation	X	X		
		Unemployment protection	X	X		
		Social assistance	X	X	X	X
		Support for disabled persons	X	X		X
	Justice	Jails, prisons		X		
		Protection services for children		X		
		Rehabilitation services		X		

Environment/ sustainability	Urban development planning	Regional territorial planning		X		
		Metropolitan planning		X	X	
		Local planning			X	
		Development control		X		
	Parks	Regional	X	X		
		Metropolitan		X	X	
		Local		X	X	
		Protection areas	X	X		
		Forestation		X		
	Drainage	Construction		X	X	
		Operation and maintenance		X	X	
	Domestic solid waste	Collection			X	
		Final disposal			X	
	Industrial and hazardous waste	Collection			X	
		Final disposal			X	
	Domestic and industrial liquid waste	Collection and final disposal			X	
	Public spaces	Construction and maintenance of public squares			X	
		Recreation and sports facilities		X	X	X
		Public lighting		X	X	
		Signage	X	X	X	
		Urban nomenclature			X	
	Fire protection	Prevention		X		
		Hazard control		X	X	
	Emergency services	Managing disasters	X	X	X	X
		Prevention strategies		X	X	
	Supervision	New buildings			X	
		Quality of services at buildings			X	
		Noxious smells			X	
	Urban security	Prevention		X		
		Police				

Source: Background document provided by Córdoba to the OECD, April 2016.

Chapter 4

An Action Plan for the province of Córdoba

This chapter proposes a tailored action plan laying down some concrete steps that the provincial authorities and stakeholders could follow to implement the policy recommendations suggested in the different chapters of this Review. These actions are conceived as a shared responsibility across public, private and non-profit players over the short, medium and long term. The Action Plan takes account of the restrictions or bottlenecks analysed throughout the report, as well as windows of opportunity stemming from recent political changes and/or ongoing initiatives by the current administration. For each suggested action, a list of champion institutions is proposed, as well as potential indicators to track progress in implementation and relevant international experience.

The Action Plan as an inspiring but flexible framework

The Action Plan is proposed as a tentative "roadmap" that the provincial authorities and stakeholders may wish to follow to support the implementation of the policy recommendations outlined in the Review. The overarching goal of the Territorial Review of Córdoba is to support the design and implementation of public policies that can boost further regional competitiveness and productivity through stronger economic, social, and environmental performance. The Review puts forward policy recommendations that the following Action Plan intends to support:

- **Improve the evidence base to effectively guide decision making (Chapter 1).** The statistical system of Argentina is in crisis, and faces challenges that will take time to address. Coping with these issues requires significant action at federal level, but there is room for innovative and pioneer incentives and practices at the regional level to transition towards the data revolution that many OECD countries have experienced.
- **Strengthen enabling policies for greater competitiveness and productivity (Chapter 2).** Several cross-cutting policies targeted at and making the most of complementarities across the four productive sectors could boost competitiveness, increase Córdoba's engagement in the international markets and help the province upgrade in GVCs. These include investing in infrastructure, favouring access to financing sources for the private sector, boosting secondary education, vocational training, and enhancing the potential for innovation.
- **Strengthening multi-level governance to design and implement a long-term vision and strategy for regional development (Chapter 3).** Overcoming governance challenges faced by the province is essential to implement a regional development strategy for greater competitiveness. This will imply addressing lack of formality that can bring to policy incoherence across sector policies, fragmentation at metropolitan level in the Greater Córdoba which is home to almost 40% of provincial population, deliver quality public services, and engage citizens in policy making to increase accountability.

The Action Plan acknowledges that many drivers to regional competitiveness go beyond provincial competence and can relate to macroeconomic policy. For instance, dealing with the statistical emergency does require federal action; however, the report argues that Córdoba could become an early implementer of the "data revolution" taking place in national and regional statistical offices across several OECD countries. Another example relates to infrastructure development or framework conditions to access credit, which are also both very dependent on the national incentives and policy frameworks. However, the report argues that a dedicated provincial medium to long-term infrastructure strategy would still help maximise investments when current bottlenecks are waved, and consider the potential use of alternative financing instruments at provincial level. With respect to education and innovation, these policy areas fall essentially within the realm of provincial competence, but federal policies in terms of tertiary education and research programmes/fundings for innovation can also largely contribute to better performance at regional level. Last but not least, strengthening multi-level governance and engaging further with citizens is all at reach of the province though largely linked to intergovernmental fiscal transfers (co-participation schemes) for what regards financial resources assigned to sub-national governments to carry out their duties at the appropriate scale.

The Action Plan put forth primarily targets the authorities from the provincial government as well as the provincial private sector, universities, research institutes and NGOs involved in the policy dialogue resulting in this report. The Action Plan provides a skeleton for action. The financial resources, modalities, assessment of trade-offs, and time frame (e.g. sequencing and prioritising) are not specified in the Plan and left to decision makers to decide based on the emerging consensus and political priorities over the short and medium term.

The Action Plan is meant to serve as the beginning of a broader process that should result in specific programmes, reinforcement or redesign of current initiatives or actions, as well as multi-level co-ordination to implement the suggested recommendations. The provincial authorities are best placed to decide which mechanisms are the most appropriate to meet their needs. The successful implementation of the Plan will require strong vertical and horizontal co-ordination, alignment of (often diverging) interests, and co-operation between public, private and non-profit sectors. Options to assign the responsibility of implementing the Action Plan are multiple. Hitting a given target could fall underneath the mandate of a specific Ministry or require cross-sectoral programmes or institutions, such as for instance Strategic Planning Council of Córdoba (COPEC) if it is reactivated for the purpose of medium to long term planning. It is therefore under the provincial government's responsibility to articulate each institution’s roles and responsibilities in the most optimal way, acknowledging the shared responsibility at different levels to boost regional competitiveness and productivity.

A unique window of opportunity to go the extra mile

Since December 2015, the new federal administration has been implementing market-friendly policies, such as waiving trade restrictions, and getting closer to the province of Córdoba after years of tense federal-provincial relations. The new provincial administration is empowered to keep the momentum going and reap the benefits of ongoing and forthcoming structural policies to unleash Córdoba’s potential. For example, shortly after taking office, President Macri removed restrictions to crop and manufacturing exports. These measures extended to corn and wheat production, and included an annual decrease of 5% to the tariffs for soya. In addition to increasing gross exports, this also creates opportunities to broaden the base of trading partners, for example by strengthening ties with MERCOSUR or other Latin America countries (for instance, provincial stakeholders highlighted countries such as Colombia, Peru and the Plurinational State of Bolivia (Bolivia) as favourable markets). Many entities, such as ProCórdoba and Córdoba’s various chambers of commerce and industry, have been biding their time – building capacity, exploring potential markets, and making contacts – in order to be ready to move forward when these restrictions are waved and macroeconomic policy is more favourable.

In addition, in March 2016, and after 15 years of disputes, the new federal government signed a deal with international bondholders that will allow Argentina to return to the financial markets. Since the country’s debt default in 2001 and the subsequent withdrawal of many multinational companies, most investors have perceived Argentina as an unstable and risky country from a political, economic and institutional standpoint. Since then, Argentina has had limited access to international capital markets, with serious implications at provincial level. A direct consequence was that Córdoba had very little room to borrow resources from external investors which has resulted in a huge infrastructure backlog. It is expected that the deal with international bondholders, together

with more favourable macroeconomic policies, will help to ease access to credit in the province for public and private actors, in particular SMEs, which are the backbone and driver of the provincial economy and performance.

Change in Argentina will not be immediate as the existing structures were erected over a decade or more. In addition, while the international financial and trade community has welcomed the change in leadership and the new orientations, the federal government will now have to (re-)build trust among stakeholders and citizens, which will take time. But when this moment arrives and confidence from and in markets comes back, provincial-national co-operation will be essential to co-ordinate strategic public investment that can boost further productivity and competitiveness. In the case of Córdoba, transport infrastructure will need to be addressed as a top priority to lower exports costs.

Shaping the provincial strategy

To make the most of the new context, the province of Córdoba should develop and agree upon an outcome-based, holistic and medium- to long-term vision and strategy for regional development. Such a strategy requires co-ordination across levels of government and consensus among stakeholders from all sectors. There are actions that exceed provincial government's reach and will require agreements with the federal and municipal governments, and other actions that cannot be done without the support of provincial stakeholders. Co-operation with upper and lower levels of government will therefore be essential to formalise and implement any strategic and outcome-driven planning.

Córdoba has invested in four priority sectors (i.e. agriculture and food industry, metal-manufacturing, ICT, and tourism), which would benefit from greater interlinkages and stronger enabling policies. The concrete outcomes Córdoba wishes to realise are hard to identify in terms of social, economic and environmental goals. Formally articulating a strategy and associating this with desired outcomes is needed not only to build government accountability vis-à-vis citizens but also to allocate resources efficiently and/or to catalyse investments needed to reach these goals. Such a strategy could also spell out the complementarities between different policies, programmes and projects – outlining, for example, how one programme may support more than one objective.

The Action Plan also considers systemic ways to transition from a sector-based approach to one that focuses on enabling factors for provincial competitiveness. For instance, from the interactions with stakeholders throughout the policy dialogue, modernising the provincial economy by building on current strengths and at the same time ensuring the benefits of growth are spread among the provincial population were clearly advocated as core ingredients of a provincial-wide, much needed, strategy for regional development.

Table 4.1. **Action Plan**

Formalise a regional development strategy for Córdoba	
Objectives	• Provide a roadmap that policy makers can use to address present and future development challenges • Build consensus among stakeholders on a medium- to long-term vision and needed steps for its accomplishment • Coalesce stakeholder opinion, support decision making, guide prioritisation, set a course of action, and provide clarity with respect to the responsibilities and lines of accountability • Ensure that the resources and capacities inside and outside of government are aligned with priorities and actions. • Build social capital by promoting new forms of subnational governance, fostering co-operation and ties among stakeholders • Build trust among diverse parties and interests to reduce risk at the implementation stage. • Develop a strategic framework that can boost policy continuity and cut across different political cycles.
Current limitations and opportunities	Limitations • Absence of a long-term, formalised strategy engaging all ministries and levels of government towards a clearly identified pathway. • In Córdoba, there are several ministries, agencies and levels of governments relevant for regional development policy, and also numerous municipalities (427) with strong autonomy and few incentive to co-operate Opportunities • The Action Plan could serve as the baseline for the formalisation of the strategy by the relevant provincial authorities, given that it was subject to a stakeholder consultation during the OECD/Córdoba policy dialogue • If/when reactivated, COPEC could help strengthen Córdoba's framework for territorial development as a co-ordinating institution.

Table 4.1. **Action Plan** (*cont.*)

Practical steps	1. Identify the provincial-level entity responsible for formalising a strategic approach to territorial development and ensuring policy coordination and coherence. Several options could be considered, such as: • Establishing special units or agencies that provide planning and advisory support also help ensure policy coherence across sectors. A regional development agency or council could be established in Córdoba in the medium or long run. • Establishing or restructuring ministries and departments with broad responsibilities and powers including regional development that encompass traditionally separate sectors. This also holds benefits in terms of integrated policies and concentration of skills. If re-activated, COPEC, under the responsibility of the Ministry of Finance, could be the platform in the Ministry to meet this need and take the lead in regional policy. • Co-ordinating structures such as interministerial committees and commissions help foster horizontal governance based on the existing government structure and do not require the introduction of a new institution. For Córdoba, an option could be expanding the mandate and ministries involved in the "Productivity Cabinet". 2. Establish a long-term vision for the Province with clear objectives and targets, and through broad stakeholder engagement, requires: • Establishing a strategic vision – "where are we going?" The strategic vision is long term (ten years or more), based on foresight, and reflects the path to a desired or intended future for a country, province or city. It should outline where the province wants to be in a generation, and transcend political parties and election cycles. Ideally, the strategic vision should be developed with the input and consensus of citizens, political parties, the public administration, business and civil society. • Defining strategic policy – "how are we getting there?" It helps establish priorities and identifies how strategic objectives will be realised (usually a high-level strategy and roadmap for the medium term, 3-10 years). In the case of Córdoba's territorial development, this could take the form of a territorial or regional development strategy that supports the long-term vision • Designing sector policies and programmes – "What takes us there?" Sector-driven activities, usually shorter term (1-2 years), which serve as proactive measures to implement Strategic Policy priorities. 3. Ensure effective revenue-generating and investment capacity to support the implementation of the regional development strategy and related policies and programmes. This requires: • The province will need financial resources to implement the programmes required to achieve the objectives of the to-be-developed regional development strategy. A way forward is to attract foreign investment; build foreign and domestic credit opportunities; and re-evaluate budget allocations for public investment.
Monitoring and ongoing initiatives	Indicators • Identification or creation of a co-ordinating body responsible for regional development strategy and related policies. Ongoing initiatives • In 2014-15 COPEC developed a Strategic Plan for the Integrated Development of Córdoba (Plan Estratégico para el Desarrollo Integral de Córdoba – PEDICor), though its implementation and impact has been unclear. Based on a consultative process, stakeholders identified four priorities for the province: 1. Physical capital: housing, public works such as roads and connectivity, and public utilities (gas, water, light and sewage) 2. Human capital: health, environment and education; 3. Economic activity: employment and growth of the regional economy; 4. Social capital: safety, coexistence, strengthening civil society. • The OECD Territorial Review of Córdoba provides policy recommendations to increase the province's competitiveness, both domestically and in the broad regional environment and global value chains. This Action Plan provides a tentative "roadmap" and concrete steps for the provincial authorities and stakeholders to implement the recommendations.

Table 4.1. **Action Plan** (*cont.*)

Relevant international experience	In terms of formalising responsibility for regional development: • Co-ordinating structures: – Korea, Presidential Committee on Regional Development (PCRD) – Norway, Cabinet Sub-Committee on Rural and Regional Policy. • Special units or agencies: – France, Commission for Territorial Planning and Regional Attractiveness. • Ministries, departments and ministers responsible for regional development: – New South Wales Australia, Department of Industry, Skills and Regional Development – Victoria, Australia , Regional Development Victoria (RDV) – New Brunswick, Canada Regional Development Corporation. In terms of central and sub-national supporting bodies for relations across levels of government for regional development • National level: – Council of Australian Governments (COAG). • Metropolitan or regional level: – Western Australian Planning Commission – Urbanism agencies (France). Formalised regional development strategies: • France, Regional Plans for Economic, Innovation and International Development. • Australia, long-term vision setting through the Australia 2020 Summit. The objective was to foster a national conversation on Australia's long-term future and harness the best ideas for building a modern Australia, ready for the challenges of the 21st century.
Leadership / co-ordinating institutions	Leaders • Governor and ministers (as responsible for framing the vision and monitoring, and allocating the responsibility for medium and long-term strategic planning). In co-ordination with: • Actors from all sectors, i.e. private, public, not-for profit, universities, etc.
Modernise the statistical infrastructure of Córdoba	
Objectives	• Support evidence-based policy making and guide public action based on tangible facts and data. • Strengthen transparency and accountability.
Current limitations and opportunities	Limitations • Statistics at national level have not been reliable since 2007, particularly, national accounts and poverty data. The ongoing statistical emergency in Argentina affects provincial levels as well. • Multiple data producers in the public and private sectors, conflicting information, overlaps and duplications. Opportunities • Córdoba could become a pioneer Argentinian province in the data "revolution" taking place among OECD countries. • Strong political will to overcome the statistical emergency and the reform process of INDEC. • Argentina belongs to the coalition of governments "Open Government Partnership", which signals strong impetus for transparency

Table 4.1. **Action Plan** (*cont.*)

Practical steps	1. Maintain and improve some of the traditional statistical methods and programmes of the province • Expand the production of municipal data beyond demography and education data. • Update data on access to and quality of public services. • Enhance the use of disaggregated data to evaluate the performance of selected industries as well as their role in value chains. • Develop a framework and set the missing indicators for measuring multi-dimensional wellbeing at a regional level that aligns with the OECD Regional Well-Being framework. 2. Invest in developing expertise in non-traditional data collection and processing method. • Argentina's national register systems offer good opportunities for statistical uses at provincial level: wages and salaries, business demography, sectoral employment, etc. The province should liaise with the national government to have access to such indicators, as well as the black box used to produce them, to conduct more detailed statistical analysis in Córdoba • Develop capacity and invest in satellite imagery and remote sensing data systems, which offer a wide array of possibilities to produce new datasets • Mobile phone data could be used to produce "commuting flows" for which there is currently no data in the province. 3. Redefine the boundaries of "metropolitan" following a functional approach to identify and address problems of Greater Córdoba at the right scale, in comparison with OECD metropolitan areas • Policy responses should not be targeting only administrative boundaries, but take into account where people work and leave. The OECD redefined the boundaries of functional metropolitan areas through journey to work and travel time data, which could benefit the Greater Córdoba in terms of diagnosis, benchmarking and policy response. • The 10 Local Economic Areas, produced by the national administration could serve as a first approximation to establish functional definitions of urban areas. The Provincial Statistics Office in Córdoba could broaden the datasets produced nationally for LEAs. • Develop indicators at metropolitan level for the environment (e.g. exposure to air pollution by PM2.5, green area per 500 000 inhabitants), economic performance (e.g. labour productivity, GDP of the metropolitan area), and innovation (e.g. patent activity), to allow for international comparability and benchmark the performance of the Greater Córdoba to other peer metropolitan areas. 4. Become an early adopter of innovative approaches and best practices part of the "data revolution" taking place in national and provincial statistical offices across OECD countries. • The province should endorse an "open data" agenda for its information products with an "open by default" policy. A concrete way forward in this direction would be to design and implement a "Córdoba Genial" (Smart Córdoba) agenda for open government data, transparency, and innovation in service development and delivery. • To set an open data agenda the province should first assess where it stands in terms of soft and hard capacity, i.e. human capital, software systems and other infrastructure. • Open data policies imply a number of protocols to increase accessibility of non-confidential data holdings of the public sector. To ensure the maximum benefits from open data, the latter should be: i) accessible to the public; ii) readable by computation software; iii) at the least cost (if not free); and, iv) not subject to any right held by the government that limits data reuse and redistribution.

Table 4.1. **Action Plan** (*cont.*)

	5. Strengthen the role of the provincial statistical office by endowing it with sufficient hard and soft capacity, and enhancing co-ordination with other provincial and national ministries. • The statistical office should be the horizontal co-ordination mechanism across provincial ministries producing data to ensure methodological coherence, policy relevance, use for decision-making and comparability. • Support and co-operate with upper levels of government in the ongoing reform of INDEC to foster methodological consistency across levels of government. • Invest in human capital and skills to develop expertise in non-traditional data collection and processing methods that can help widen the scope of provincial statistics. While doing is, it is key to ensure that technicians can use the new data sources to produce timely, relevant, consistent, comparable and policy-relevant information that can effectively guide decision-making In parallel to the open data policy, increase access to data by improving 'front-office' delivery of services, particularly for vulnerable or disadvantaged groups for which ICT might represent a social or economic barrier.
Monitoring and ongoing initiatives	Indicators to track progress • Increase in personnel and budget in the Provincial Statistics Office. • Number of innovative practices adopted and monitoring education and capacity building programmes and outcomes. • Number of collaborations between the provincial statistics office and public and private research institutes. Ongoing initiatives • In 1999, Córdoba's Ministry of Public Administration launched a process for improving data and information within the government. Under the current government administration, the Secretariat for Innovation and Modernisation (Ministry of Economy and Finance) is responsible for this programme. • The former Ministry of Industry developed an online GIS dataset to match the geographic location of the productive sectors of the province (i.e. agriculture, food industry, metal mechanic industry, ICTs and tourism) with the provincial technical schools. • The Observatory for Employment and Business Dynamics (delineating 85 local functional areas for Argentina, 10 of which in Córdoba) provides a good opportunity to design and implement place-based policies following a "functional approach". It includes information on place of work and place of residence derived from administrative records of registered businesses and their registered labour force. • The Institutional Strengthening Secretariat is conducting an extensive stakeholder mapping to develop different communication channels that better fit stakeholders' needs. Among others, a renewed statistics website with more user-friendly tools, which will also include an "open data" section with the objective to increase transparency.
Relevant international experience	• Statistics Canada is investing in the modernisation of statistical infrastructure and methods. There are major initiatives on the acquisition of administrative data and use of alternative data sources, methods of data collection, and visualisation and dissemination modalities. Local and regional organisations will have a substantial role to play in this modernisation. • The Netherlands innovation programme for its National Statistics Office is based on three pillars: 1. External developments. New output channels are emerging that require attention 2. Technological challenges. New "big data" sources are becoming available, and require new processing techniques 3. Internal ideas. Many employees have ideas to improve existing statistical processes, create new outputs based on the re-use of existing material, or generate synergies across different subject matter domains. • Italy's Statistic Office has conducted research projects on big data, remote sensing data, mobile phones, etc.

Table 4.1. **Action Plan** (*cont.*)

Leadership / co-ordinating institutions	Leaders • Ministry of Economy and Finance (responsible for monitoring) • Provincial Statistics and Census Office In co-ordination with: • Private Research organisations (e.g. chambers of commerce, private universities, (Chamber of Cereals on agricultural statistics). • Public Research Institutes (e.g. INTA, public universities, etc.). • Third sector institutions (i.e. NGOs).
Design and implement an integrated infrastructure development strategy that sets short-, medium- and long-term goals and seeks policy complementarities	
Objectives	• Make the most of public investment by seeking complementarities among sector policies. • Bridge the infrastructure gap to reduce uneven access to public services among departments and increase productivity of firms. • Boost existing/emerging economic sectors and support the development of new sectors that are hampered by infrastructure gaps • Boost high-tech innovation. • Provide local private actors with access to new markets and opportunities.
Current limitations and opportunities	Limitations: • Major public investments go beyond the sole responsibility of the province (e.g. because they require co-funding or removing some macroeconomic barriers having an impact on the investment climate; or because they relate to policy fields shared across levels of government etc.). Opportunities: • Macroeconomic favourable policies under development. • Positive signs of federal-provincial co-operation (e.g. recent investments in the provincial gas pipeline network financed up to a 33% by the federal administration; re-establishment of the Córdoba-Madrid airline connection authorised by the federal level).
Practical steps	• Align provincial and national infrastructure policies and co-ordinate with local authorities in the planning, design and implementation phase. The latter includes co-ordinating transfer of funds (national-provincial as well as provincial-local), geographical reach, prioritisation criteria for projects, or even the design of specific projects will require conjunct action across level of governments • Include infrastructure needs of all relevant sectors that can drive regional economic growth and well-being • Seek the highest value for money through appropriate sequencing and consider low-cost, alternative options including the relevance of multipurpose and green infrastructure • Align infrastructure responses with other policies such as education, social inclusion or innovation policies to make the most out of public investment.

Table 4.1. **Action Plan** (*cont.*)

Monitoring and ongoing initiatives	Indicators • Access to water services (drinking water supply and sewage systems). • Household access to natural gas. • User satisfaction surveys. • Surveys among local officials in each department to identify infrastructure needs. • Survey among the private sector to identify bottlenecks for productivity by department. Ongoing initiatives • Five year Energy Plan • Strategic Infrastructure Plan for Regional Development (2016-2030): infrastructure for connectivity
Relevant international experience	• New South Wales, Australia, the State Infrastructure Strategy 2012-2032. • Basque Country, Spain, the Energy Basque Strategy uses energy policies as a key element for Technology and Industrial Development Strategy.
Leadership / co-ordinating institutions	Leaders • Ministry of Housing, Architecture and Roadwork • Minister of Water, Environment and Public Services • If reactivated, COPEC (could be responsible for monitoring progress). In co-ordination with: • Federal counterparts for infrastructure development. • Ministry of Economy and Finance. • Ministry of Investment and Financing • Ministry of Industry, Commerce and Mining • Local governments. • Private Sector Associations.
Set the framework conditions to facilitate access to financing for private sector initiatives with a view to foster competitiveness of SMEs in domestic and international markets.	
Objectives	• Attract FDIs and benefit from its spillover effects. • Strengthen linkages of Multinational Enterprises with the province. • Stimulate access to credit for SMEs.
Current limitations and opportunities	Limitations • Macroeconomic policies condition the investment climate at provincial level and there is limited room for manoeuvre at provincial level besides setting the needed framework to be ready to reap benefits when macroeconomic conditions are favourable. Opportunities • Current shifts in macroeconomic policies will likely facilitate access to international financial markets and rebuild trust among investors. • MNEs in Córdoba could further engage with local value chains.

Table 4.1. **Action Plan** (*cont.*)

Practical steps	• Develop a provincial "roadmap" with steps to follow for potential investors and newcomers in order to attract FDIs. It should outline the administrative steps for MNEs to follow and provide a presentation card for potential investors, emphasising favourable fiscal conditions, subsidies, hard and soft assets • Strengthen the connection of MNEs to local value chains in the province through the provision of services and intermediate goods • Support the implementation of the provincial Credit Guarantee Scheme in addition to tackling financial illiteracy, reducing asymmetry of information and data, and promoting an "entrepreneur culture". • Promote and incentivise the use of alternative and innovative financial instruments for SMEs, including venture capital instruments through fiscal incentives to investors. Control mechanisms will be key to ensure the correct use of fiscal exemptions when implementing these types of financial instruments
Monitoring and ongoing initiatives	Indicators • Number of foreign companies newly established in the province. • Percentage of intermediate goods and services supplied by provincial firms to MNEs. • Number of loans guaranteed by the CGS yearly. • Number of new start-ups and monitoring their development. Ongoing initiatives • Fiscal incentives provided by the Law of Industrial Promotion, which promotes industrial development through fiscal benefits in gross income tax, property tax and stamp tax. • The Guarantees of the Centre Scheme (CGS) is an initiative from the private sector to develop a Credit Guarantee Scheme in the province of Córdoba. It aims to ease financial constraints for SMEs and start-ups by providing with loan guarantees to these firms. • Emprende INNdustria is a provincial public programme that facilitates access to financing for entrepreneurs by pairing them with "mentor" companies. The "mentor" company supports the entrepreneur with financing and knowledge transfer on management, technical capacity and other services. In exchange, the provincial Ministry provides tax exemptions of 125% of the amount financed to the entrepreneur.
Relevant international experience	• In Korea, the SME training consortia aim to increasing linkages between SMEs and MNEs through Human Capital training. • In Germany, the Brandenburg Institute for Entrepreneurship and SMEs supports entrepreneurship education. • In Chile, the Partial Credit Guarantee Fund (FOGAPE) is a recognised best practice of the successful implementation of a CGS. • Start-Up Chile is a programme created by the government that seeks to attract early-stage, high-potential entrepreneurs to bootstrap their start-ups using Chile as a platform to go global. • The UK has some of the best fiscal incentives for private equity investors, particularly fit for pre-seed, seed, and start-up capital. • France has implemented a new integrated initiative led by the Banque Publique d'investissement (the national long-term investment agency) whose ambition is to mobilise nearly EUR 1 billion over the next five years to support the tourism economy, with three main targets: 1) accommodation; 2) equipment and infrastructure; and 3) businesses.

Table 4.1. **Action Plan** (*cont.*)

Leadership / co-ordinating institutions	Leaders • BANCOR. • Ministry of Economy and Finance (responsible for monitoring). • Ministry of Investment and Financing. • Ministry of Industry, Commerce and Mining. • CGS champion institutions: Union Industrial de Córdoba and Asociación de Cooperativas Argentinas. In co-ordination with: • Agencia ProCórdoba. • Private sector associations.
Strengthen the quality of secondary and vocational education to promote inclusion and meet private sector skills-demand	
Objectives	• Promote inclusion; reduce inequalities – better match skill supply with private sector demand.
Current limitations and opportunities	Limitations • Public universities are a federal competence in Argentina where the province has little room for manoeuvre. Opportunities • The province has full competence and room for manoeuvre in early-stage, basic, secondary and vocational education.
Practical steps	• Develop a medium- to long-term strategy for skills supply, in co-operation with the Council of Technical Education and Employment, based on skills forecasting models and in coordination with economic and industrial policies. Although it is critical to meet short-term demands, sustainable and continuous skill supply will depend on being ready for future demands • Encourage students to enrol in STEM diplomas (science, technology, engineering, mathematics) through the modernisation of curricula, updated teaching methods and promote these study paths among women. Fast-changing sectors should have curricula that adapt along with the development of new technologies in order to attract students. • Consider developing targeted programmes in the Provincial University of Córdoba to satisfy needs of provincial companies that are not met by national and private universities. For instance, the Provincial University of Córdoba could evolve into a leading technical centre, given that this is the area with the largest skill-gap.
Monitoring and ongoing initiatives	Indicators • ONE indicators on education quality. • Completion rates for primary, secondary, and tertiary education. • Drop-out rates for primary, secondary, and tertiary education. • Enrolment in initial education. Ongoing initiatives • Pact for Quality Education in Córdoba (1999). • Comprehensive Assistance Program of Córdoba (PAICOR). • Programme for Inclusion and Completion (PIT). • First Step Programme (PPP) (active since 1999). • Private sector initiatives, e.g. Prodismo's technical training programme on metallic moulds and matrixes.

Table 4.1. **Action Plan** (*cont.*)

Relevant international experience	• UK Commission for Employment and Skills conducted a National Strategic Skills Audit in 2010, combining quantitative and qualitative methods in order to incorporate a broader "scenario-based" approach to assess future skills needs. • Belgium, England, Lithuania, and Portugal are some examples of different approaches to promote STEM students. • Successful VET systems: • Germany, access to university for VET graduates formally enhanced in 2009 and strongly supported by government campaigns • Netherlands, the schooling system is characterised by a high degree of early streaming • Switzerland, involvement of professional organisations (trade and employer organisations and trade unions) in VET policy making is required by law. • Sao Paulo, Brazil invested massively in VET through the Centre Paula Souza for professional basic levels to secondary schools and higher education.
Leadership / co-ordinating institutions	Leaders • Provincial Council for Education Policy • Provincial Council for Technical Education and Employment • Ministry of Industry, Commerce and Mining. In co-ordination with: • Provincial Technical Education and Employment Council. • Provincial University of Córdoba. • If reactivated, the COPEC (could have a monitoring role). • Ministry of Education • ProCórdoba Agency • Private Sector Associations.
Design and implement a dedicated regional innovation strategy to modernise productive activities towards value-added niches and keep up the pace of growth.	
Objectives	• Innovation to become the regional development engine for Córdoba. • Focus resources and investments where there are comparative advantages and encourage complementarities across sectors. • Increase the value added of the existing provincial productive sectors.
Current limitations and opportunities	Limitations • National budget for innovation tends to be low. Opportunities: • Strong and longstanding entrepreneurial spirit and innovation capacity of provincial stakeholders and several public-private cooperation mechanisms and platforms in place.

Table 4.1. **Action Plan** (*cont.*)

Practical steps	• Recognise the relevance of transformation towards a smart strategy linking the provincial productive sectors, and identify vectors for the province to modernise and diversify the provincial economy in a joint action between public, private and academic sectors. • Create a mix of innovation instruments that fits Córdoba's territorial specificities and the capacity of the government to implement it. Also, ensure these innovation instruments do not become a tool targeting few firms or individuals, but that the benefits spread and reach other actors. A policy mix should combine more than two instruments and serve the purpose to several sectors. • Support the use of instruments for protection of intellectual property by addressing the administrative and financing bottlenecks. More credit or micro-credit initiatives and offsetting up-front costs payable through a percentage of royalties over a period of time could help. Entrepreneurship education programmes can help bridge capacity gaps.
Monitoring and ongoing initiatives	Indicators • Trend of R&D Investment • Public funding resources for Innovation in Córdoba. • Surveys on awareness and beneficiaries of financing innovation programmes in the province of Córdoba. • Use of intellectual protecting instruments. • R&D personnel with respect to total employment. Ongoing initiatives • Several sources of public funding for innovation in Córdoba: – Federal level: National Agency for Science and Technological Promotion (ANPCyT) grants the FonCyT, FONTAR, FONSOFT, and FONARSEC – Provincial level: Ministry of Science and Technology (Ministerio de Ciencia y Tecnología) grants the FONTEC, PRODIS, I + A and I + S. • On-going initiative aiming to strengthen the links between the industry and the research community, based on two programmes: – research projects - demand and opportunity-oriented, targeted to the productive sectors and promoting greater interaction between these sectors and the research and scientific communities – projects of recently created research groups with mentors, to create knowledge and technological advances that are transferable to, or applicable in, the province
Relevant international experience	• The Basque Country, Spain, is a success story whereby a traditional industrial manufacturing area was repackaged as an attractive and dynamic destination. • In Bergamo, Italy, the industrial sector has experienced important structural changes with a shift to higher value added and more technology-intensive activities has led to a larger contribution to international global value chains. • Tampere, Finland, is a successful case for shifting innovation strategy from a focus on a few core clusters to one based on cross-sector innovation platforms.

Table 4.1. **Action Plan** (*cont.*)

Leadership / co-ordinating institutions	Leaders • Ministry of Science and Technology. • Ministry of Industry, Commerce and Mining. • Ministry of Education. In co-ordination with: • Ministry of Economy and Finance. • Private Research Institutes (e.g. chambers of commerce, private universities, etc.). • Public Research Institutes (e.g. INTA, public universities, etc.). • Agencia ProCórdoba. • Private Sector Associations.
Enhance accountability, monitoring and performance management	
Objectives	• Complement informal networks with formal structures and clear accountability mechanisms • Help government prioritise policy and service programming and spending according to place-based preferences and needs. • Build accountability mechanisms that can foster transparency on decision making and strengthen compliance.
Current limitations and opportunities	Limitations • In Córdoba, there is no clearly defined Centre of Government body (CoG) that could provide policy oversight • The province's ability to measure policy performance is challenged on three fronts: 1. Lack of quality data at national and provincial levels 2. Lack of performance indicators despite the desire to understand performance within Córdoba's ministries and agencies 3. Weak monitoring and evaluation culture. Opportunities • Ministry of Government appears naturally placed to serve the role of a centre of government • Several initiatives towards performance management, which should be up-scaled.

Table 4.1. **Action Plan** (*cont.*)

Practical steps	1. Build a strong Centre of Government (CoG) to ensure coherence and coordination in achieving Córdoba's strategic objectives across ministries and public agencies, and between levels of government • There is a range of options for CoG structures within the OECD countries, including at the sub-national level in federal states. A common feature is that they tend to include the body or bodies that serve the Head of Government and/or Head of State, and are often supported by the Ministry of Finance. It is important to ensure that the diverse secretariats within a ministry are working toward the same overall objective(s) in a coherent and co-ordinated fashion. • This has to be supported by clear sector policy, planning and co-ordination at the ministerial level as well as at the provincial level. This is increasingly the task of the Centre of Government, which is often best placed to ensure that priorities are pursued in a coherent and co-ordinated manner. 2. Improve monitoring and performance management practices to determine whether or not a strategy or policy is achieving results or if it needs adjustment or replacement. Concrete actions include: • Identify results based indicators and ensure monitoring and evaluation mechanisms are in place to track outcomes • Build capacity for objective setting and establishing outcome-based indicator systems. This should come together with improving data and information at the provincial level. • Create space (e.g. through a dedicated website) to communicate and share progress on objectives and indicator results with stakeholders and citizens, thereby supporting greater government transparency and accountability • Introduce programme and/or spending reviews for ministerial or agency initiatives. These can provide insight into what is best supporting the achievement of Córdoba's territorial ambitions, and how funds are being spent with respect to these ambitions • Continue with the plan to introduced results-based management techniques. Potentially pilot the initiative in one or two key ministries before rolling it government-wide.
Monitoring and ongoing initiatives	Ongoing initiatives • The General Secretariat of Government, with the assistance of the Institutional Strengthening Secretariat, supports the different provincial ministries to develop more effective, efficient and simple administrative procedures for the implementation of projects or programmes. The objective is to minimise overlaps and duplications and to foster a better use of public resources. • The Ministry of Education is developing a self-assessment tool to measure the province's performance against specific criteria or standards (e.g. enrolment, completion, dropout rates, grade repetition, etc.). This is being done in response to national and international evaluations that are released two years after data is collected, which is too long of a time frame to identify what needs to change and to make the necessary adjustments. • The Institute for Economic Research provides several contributions to data and evidence bases. In 1994, the Institute started publishing its annual Argentina Economic Balance Report; and since 2008 it is also publishing the Provincial Competitiveness Index. As of 2015, the Institute is in the process of building an observatory for public service delivery and the business environment in three cities (Córdoba, Rio Cuarto and Villa Maria).

Table 4.1. **Action Plan** (*cont.*)

Relevant international experience	CoGs at subnational level in OECD federal countries: • Ontario, Canada, the CoG lies within the Cabinet Office, which provides the Premier with advice and analysis to support the government in achieving its priorities • New Brunswick, Canada, the Executive Council Office is mandated to provide secretariat and administrative services for the Executive Council (Cabinet), the Policy and Priorities Committee and ministers with policy co-ordination responsibilities. It is also responsible for reviewing all proposals for the development or amendment of government policy and co-ordinating the development of new policy proposals; for reviewing regulatory and legislative proposals that impact government policy; and for monitoring ongoing progress in reaching government objectives • Queensland, Australia, the Department of the Premier and Cabinet assists and advises the Premier and Cabinet, and provides leadership for the public sector in quality service delivery. Its functions include: co-ordinating initiatives that advance government policies and priorities; leading policy co-ordination across government; supporting Cabinet and Cabinet Committee decision making; managing the State's relationships with other governments or government bodies, including the Council of Australian Governments (COAG), Australia's leading intergovernmental forum (State of Queensland, 2016). • Victoria and Western Australia, Australia: the Departments of the Premier and Cabinet in Victoria and in Western Australia play similar roles as in Queensland in their respective States Monitoring and Performance management best practices • Scotland, national strategy structured around five objectives, which established a series of 16 national outcomes articulating what Scotland wished to achieve over the subsequent 10 years. It then monitors performance through 50 indicators. • Norway, KOSTRA system used for performance monitoring of local services, it is an electronic reporting system for municipalities and counties. • Province of Ontario, Canada, Municipal Performance Measurement Program (MPMP): accountability mechanism to help local authorities make more informed decisions.
Leadership / co-ordinating institutions	Leaders: • Governor • Ministry of Government, Ministry of Economy and Finance, General Secretariat of Government In co-ordination with: • Provincial Statistics and Census Office • All other ministries • Private Research organisations (e.g. chambers of commerce, private universities, Chamber of Cereals on agricultural statistics) • Public Research Institutes (e.g. INTA, public universities, etc.). • Third sector institutions (i.e. NGOs).
Strengthening multi-level governance practices	
Objectives	• Break silos and mitigate institutional fragmentation. • Pool resources and capacity at the relevant scale. • Foster policy coherence and complementarity across rural and urban areas • Facilitate access to finance and public investment for infrastructure development, operation and maintenance. • Align divergent objectives towards common outcomes • Ensure equitable, effective and efficient public services delivery.

Table 4.1. **Action Plan** (*cont.*)

Current limitations and opportunities	Limitations • Strong autonomy of (427) municipalities in the provincial Constitution, which are in higher number than other Argentinian provinces. • No incentives for inter-municipal co-operation. Opportunities: • Political momentum where many municipal leaders are realising that they lack sufficient resources to deliver quality public services to their citizens and may wish to consider synergies with neighbouring municipalities.
Practical steps	• Adopt a functional approach to Greater Cordoba, looking beyond the administrative borders that conforms each municipality to have a more accurate view of the metropolitan area based on where people work and live. • Address institutional fragmentation by promoting and rewarding an integrated approach policy development and implementation. This can help align action and economic resources among ministries and municipalities. • Make better use of existing co-ordination mechanisms to improve provincial and municipal dialogue and co-operation, not only for service delivery but also to identify common needs and interests that could then spur co-operation • Broaden the menu of co-ordination mechanisms used to include strategic planning requirements, performance measurement, and performance management for example. • Consider establishing an association of municipalities that can coalesce interests and priorities, and act as a voice for the province's 427 municipalities • Reinvent the Roundtable for Provincial and Municipal Governments with an eye on ensuring its relevance to all municipalities regardless of size or political leaning. • Identify relevant incentive mechanisms for inter-municipal co-operation, including with the City of Córdoba. Such mechanisms could include fiscal incentives and/or performance indicators. • Continue promoting "urban agreements" (*convenios urbanísticos*) to support inter-municipal activity in service delivery along municipal "corridors". • Establishing the appropriate governance structure is a medium term endeavour, but consideration should be given to establishing one or several "inter-municipal authorities". The work undertaken by IPLAM and the "urban agreements" could provide a basis for such an undertaking.
Monitoring and ongoing initiatives	Indicators • Co-operation agreements signed for the delivery of public services. • Soft initiatives of inter-municipal co-operation. Ongoing initiatives • Córdoba's Institute for Metropolitan Planning (Instituto de Planificación Metropolitana – IPLAM) is working with the Ministries of Infrastructure and of Environment to develop inter-municipal plans to address service delivery challenges in Greater Córdoba, particularly with respect to transport. • "Urban agreements" to support inter-municipal activity in service delivery. For instance, in Valle de Punilla, Tarifa Solidaria programme assists less favoured families by providing them with benefits and exemptions in electricity and water services and in income-tax.

Table 4.1. **Action Plan** (*cont.*)

Relevant international experience	• France uses Project Contracts (Contract of Project) to bring together State (including European Structural Funds) and regional funding to finance projects that can help leverage other objectives. • France uses the Fund of Community Solidarity as an intra-metropolitan equalisation scheme that provides additional funds for municipalities willing to co-operate with each other. • Vancouver, Canada has a broad agreement between the three levels of government (local, state, and federal) which encompasses three main components: health and safety, economic and social development, and community capacity-building. • Effective metropolitan governance reforms were carried or are underway in: – Barcelona, Spain – France – Montreal and Toronto, Canada – London, the UK – Västra Götaland (Gothenburg), and Skåne (Malmö), Sweden.
Leadership / co-ordinating institutions	Leaders • Governor • Municipality of Córdoba. • Minister of Water, Environment and Public Services. • If/when reactivated, COPEC (could have a role in monitoring). In co-ordination with: • Ministry of Housing, Architecture and Roadwork. • Ministry of Economy and Finance. • Municipal governments. • Instituto de Planificación Metropolitana de la Provincia de Córdoba (IPLAM). • Roundtable for Provincial and Municipal Governments.
Engaging citizens for greater transparency, accountability and quality service provision	
Objectives	• Identify needs in a bottom-up fashion and guide public action accordingly. • Foster innovation in service delivery practices. • Foster citizen buy-in of a given project or policy, creating a sense of "ownership" that can support effective implementation. • Gain expert insight and create opportunities for citizens to better understand policy and service options and contribute to them. • Raise awareness on certain risks and costs.

Table 4.1. **Action Plan** (*cont.*)

Current limitations and opportunities	Limitations • Strong degree of "personalism" relying on longstanding public-private co-operation through organised structures, networks and constituencies (e.g. clusters), which leaves little room for broader "public" engagement. Opportunities • Willingness of the civil society to contribute to the policy cycle. • Active networks and NGOs in the province. • Argentina is a member of the coalition of governments having endorsed the Open Government Partnership, of which citizen engagement is a strong component.
Practical steps	• Continue developing governmental modernisation good practices that support transparency and accountability. These include the public purchasing and contracting portal, the citizen budget, "Digital Citizen" portal, ISO standards, and budget transparency. • Strengthen "two-way" citizen engagement practices by increasing citizen participation in the policy making, policy dialogue and policy evaluation processes. – Consider a process similar to the City of Córdoba's *Plan de Metas* introduced by civil society, and adapted for the provincial level. – Consider working with the Our Córdoba Citizen Network or a similar organisation to build and publish a set of baseline indicators for the Province that is akin to what was developed for the City of Córdoba. • Identify opportunities to engage citizens in service production and delivery, building on the example of the Northwest Development Plan • More actively, regularly and formally consult with civil society organisations to identify programming needs and developing relevant sector policies.
Monitoring and ongoing initiatives	Indicators • Clear understanding of the engagement process in terms of line authority, level of engagement, proposed timeline, targeted objectives, expected outcomes, use of inputs and code of conduct. • Informed and transparent identification and selection of stakeholders to be involved in the engagement process. • Mapping of unheard voices and vulnerable groups to ensure the representativeness of all categories. • Identification of new players and/or stakeholders to be considered. Ongoing initiatives • Our Córdoba Citizen Network presented to the mayor of Córdoba a proposed "Plan of Objectives" for the administration's consideration and adoption. • Northwest Development Plan (Fundación BANCOR): using service delivery and infrastructure development to build inclusiveness and teach skills. • The Institutional Strengthening Secretariat is working on projects that are oriented to increase citizen participation and transparency, e.g. a new web platform (Participación Ciudadana) that will allow any citizen to introduce views and suggestions about different public programmes and projects. This will be done through virtual forums and focus groups (e.g. the Citizen Virtual Fora and Citizen Panels).

Table 4.1. **Action Plan** (*cont.*)

Relevant international experience	• Chile, Ministry of Housing and Urbanism launched a nation-wide programme, Recuperación de Barrios: Mi Querido Barrio, aimed at recovering disadvantaged neighbourhoods through community engagement. • In France the Economic, Social and Environmental Council is a constitutional consultative assembly. It aims to promote co-operation between diverse social and professional interest groups, ensuring also that they are part of the public policy process. It is comprised of 233 members, all active in civil society and appointed for a five year term. • Stockholm, Sweden, has helped citizens make choices and increase transparency of available services through the "Compare Services" website. This online tool has permitted Stockholm residents to compare the quality of local public services offered by the city. The tool also incorporated contact information for the city's various units. • Canada, the Common Measurements Tool (CMT) was first designed in 1998, and has become an internationally recognised innovation in public management. It is used at the federal, provincial and local levels to evaluate citizen satisfaction with services delivered in person, by Internet or by telephone, and creates the space for active listening, learning and adjustment from the public sector, creating a dynamic and positive feedback loop. • Methodologies for citizen participation: – Citizen Fora: New Orleans, Louisiana. – Citizen juries: Victoria, Australia, and the United States Environmental Protection Agency (EPA). – Dialogue processes: Bilbao, Spain. – Consensus conferences: Denmark, and Norway. – Citizen panels: Bristol, England. – Participatory strategic planning: Ponders End, North London. – User panels: Age Concern Scotland's Fife User Panels.
Leadership / co-ordinating institutions	Leaders: • Governor. • Ministry of Social Development. • Ministry of Government. • Minister of Water, Environment and Public Services. • Ministry of Economy and Finance. In co-ordination with: • Municipalities. • Public and private universities and research institutes. • Civil society organisations. • Private sector associations.

Annex 4.A1

Stakeholders consulted during the policy dialogue

Institution	Name
Agencia Córdoba Turismo (Agency for Tourism Córdoba)	Julio A. Bañuelos
	Marcelo A. Valdomero
Agencia Pro Córdoba (Agency ProCórdoba)	Luis Gilli
	Roberto Rossotto
	Jorge Marcotegui
ACAV – Asociación Cordobesa de Agencias de Viaje (Córdoba Association of Travel Agencies)	José Alejandro González
BANCOR– Banco de Córdoba (Bank of Córdoba)	Victor Manuel Penida
	Claudio Fernando Monetto
	Juan Manuel Iturria
	Eduardo J. Gauna
	Ramiro Sosa Navarro
BCCBA – Bolsa y Cámara de Cereales de Córdoba (Stock Market and Chamber of Cereals of Córdoba)	Luis Macario
	Gonzalo Agusto
	Silvina E. Fiant
BCC – Bolsa de Comercio de Córdoba (Córdoba Stock Exchange)	Florencia Costantino
	Matías Agustín Vicente
	Emmanuel Cuesta
CABIOCOR – Cámara de Agroalimentos y Bioenergías de la Provincia de Córdoba (Chamber of Agrifood and Bioenergy of the Province of Córdoba)	Juan Carlos Giaccone
CAM – Cámara Argentina del Maní (Chamber of Peanut of Argentina)	Guillermo J. Olivera (late)
Cámara de Comercio de Córdoba (Chamber for Commerce Córdoba)	Norberto Delfino
	Cristian Pastore
CIMCC – Cámara de Industriales Metalúrgicos y de Componentes de Córdoba (Chamber of Industrial Metallurgy and Components of Córdoba)	Pablo Camacho
CIIECCA – Cámara de Industrias Informáticas, Electrónicas y de Comunicaciones del Centro de Argentina (Chamber of Computation, Electronics and Communications Industries of the Centre of Argentina)	Joaquin Asselle
	Pablo Bozzano
Caritas – Caritas Arquidiocesana de Córdoba (Caritas Archidiocesan of Córdoba)	Claudio Daniel Priotti
	Mariangeles Sangoy
CEMINCOR– Cámara Empresaria Minera de Córdoba (Chamber of Mining Businesses of Córdoba) UIC– Unión Industrial de Córdoba (Industrial Union of Córdoba)	Jose Diaz
CEPREDE – Centro de Estudios para la Prevención del Delito (Centre for Crime Prevention Studies)	Claudio Stampalija
CCT – Cluster Córdoba Technology	Diego Casail
	Nahuel Di Paolo
CPCIPC – Consejo Profesional de Ciencias Informáticas de la Provincia de Córdoba (Professional Association of Computer Science of the Province of Córdoba)	Fernando Hugo Loza

Institution	Name
DGEyC – Dirección General de Estadística y Censos (General Directorate for Statistics and Census)	Hector Conti
Fluorita Córdoba S.A. (private company)	Juan Manuel Martinez
UIC– Unión Industrial de Córdoba (Industrial Union of Córdoba)	
Former Governor of the Province of Córdoba	José Manuel de la Sota
Former Minister of Finance of the Province of Córdoba	Ángel Mario Elettore
Former President of the Agency for Tourism Córdoba	Gustavo Santos
Former Minister of Industry, Commerce, Mining and Technological Development of the Province of Córdoba	Guillermo C. Acosta
Former Minister of Public Administration of the Province of Córdoba	Veronica Bruera
Governor of the Province of Córdoba	Juan Schiaretti
Grupo ARCOR (private company)	Raul Salazar
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IPLAM Córdoba – Instituto de Planificación Municipal Ciudad de Córdoba (Institute for Municipal Planning of the City of Córdoba)	Elvira Fernandez
INTA – Instituto Nacional de Tecnología Agropecuaria, Estación Experimental Agropecuaria Manfredi) (National Institute of Agricultural Technology - Agricultural Experimental Station Manfredi))	Aquiles Salinas Eduardo Ramón Orecchia
JA – Junior Achievement Córdoba	Agustín Heredia Barión
KOLEKTOR(private company)	Cristian Karsten
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Manos Abiertas	Susana Vázquez de Molina Raul José Migueltorena
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Ministerio de Agua, Ambiente y Servicios Públicos (Ministry of Water, Environment and Public Services)	Fabián López Javier Britch Edgar Manuel Castello
Ministerio de Ciencia y Tecnología (Ministry of Science and Technology)	Walter Robledo Mario Buteler
Ministerio de Desarrollo Social (Ministry of Social Development)	Sergio M. Cornejo
Ministerio de Educación (Ministry of Education)	Delia Provinciali Carlos Alberto Sánchez
Ministerio de Finanzas (Ministry of Economy and Finance)	Osvaldo Giordano Horacio Malbrán Mónica Zornberg Carlos E. Gonzalez María Laura García Andrés Pérez Jose Antonio Molino Heber Farfán Luciana Pérez Simes Martín Manchado Facundo Nicolás Barrionuevo Franco Carlos Boneu Ignacio Gei
Ministerio de Gobierno (Ministry of Government)	Juan Carlos Massei Sebastián Serrano
Ministerio de Industria, Comercio, y Minería (Ministry of Industry, Commerce and Mining)	Roberto Hugo Avalle Victor Lutri Pablo de Chiara Aldo A. Bonalumi José Sánchez Rial
Ministerio de Inversión y Financiamiento (Ministry of Investment and Financing)	Roque M. Spidalieri
Ministerio de Vivienda, Arquitectura y Obras Viales (Ministry of Housing, Architecture and Road Works)	Leandro García

Institution	Name
Municipalidad de Córdoba (Municipality of Córdoba)	Ramón Javier Mestre Mónica Esther Ferla Juan Domingo Giunta Silvia E. Mira Victor Hugo Romero Gustavo Ariel Guelbert Omar Gastaldi
Municipio de La Carlota (Municipality of La Carlota)	Fabio Guaschino
Municipio de Río Primero (Municipality of Río Primero)	Pedro Schiavoni Claudio Reviglio
Municipio de San Agustin (Municipality of San Agustín)	Iván Ortega
Municipio de Santa Eufemia (Municipality of Santa Eufemia)	Gerardo Mario Allende
Prodismo Argentina (prodismo, private company)	Maria Pedrosa
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Secretaría General de la Provincia de Córdoba (General Secretariat of the Province of Córdoba)	Juan Ferreiro
Universidad Blas Pascal (Blas Pascal University)	Oscar Gencarelli
Universidad Católica de Córdoba (Catholic University of Córdoba)	Teresa B. Olivi Jorge Orlando Perez María Laura Porrini
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