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MEXICO

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OECD Economic survey: Mexico 2007 – ADDENDUM

The *Economic Survey of Mexico* was finalized in July 2007. The OECD Economic and Development Review Committee discussed a draft on 2 July 2007 and approved the final Survey, which was revised in the light of the discussion, on 18 July 2007.

The Survey has not been updated to reflect new developments that have occurred in Mexico since the finalization of the Survey in July. Prominent among these has been the approval by Congress of a tax reform bill on 14 September 2007.

The tax reform is a key element of the broader public finance reform which was presented by the government in June 2007. The public finance reform included four main pillars: *i)* strengthening of the tax administration; *ii)* improving the institutional framework for public spending; *iii)* reviewing the fiscal relations across levels of government; and *iv)* engaging in a tax reform that strengthens public finances and improves the stability of revenue. A detailed review of the proposed reform is provided in Chapter 2 of the Survey with an assessment and recommendations on its various components.

The major components of the approved tax reform are the following:

1. *The IETU (Impuesto Empresarial a Tasa Unica)* is introduced. It is an income tax on firms and professional activities to be applied on the firms' revenues from the sale of goods, the provision of services and the temporary grant for the use of goods, after deduction of capital spending. Similar to the originally proposed CETU (see Chapter 2, Box 2.2 in this Survey), the IETU acts as a minimum tax for the income tax. The tax will be compared with the firm's income tax and the income tax withheld by the firm for third parties, such as salaries, wages, and compulsory social contributions paid by the firm, and the higher of the two taxes will be paid. The Mexican asset tax is abolished. The rate for the IETU has been set at 17.5% (rising gradually from 16.5% in 2008 and 17% in 2009, to 17.5% in 2010). This is slightly below the rate which was proposed initially for the CETU (19%).
2. *A 2% tax on cash deposits* greater than US$2 500 is introduced (this threshold is slightly higher than the original proposal of US$2 000). Formal businesses and professionals can credit their payments of this tax against their other tax payments.
3. *The fiscal regime for the state oil company PEMEX is changed:* the change is aimed at reducing the taxes that PEMEX pays on extracted hydrocarbons from 79% to 74% in 2008 (this was not in the original proposal). The tax will be further reduced by an annual 0.5% in 2009-2011 and by 1% in 2012. In 2008, this change is estimated to provide around US$2.8 billion in extra resources for PEMEX in 2008 and up to around US$5 billion in 3 to 4 years. In addition, the company has to carry out a program to improve operating efficiency to international standards and funds must be spent on research and modernization rather than on current expenses.

4. A new *tax on petrol and diesel* of 5.5% is introduced to be phased in over 18 months (this was not in the original proposal). The revenue from this tax will be allocated in its entirety to state governments.

Coming after a long period of stalemate on tax reforms, this tax bill is to be welcomed. It helps to strengthen Mexico's public finances by reducing the dependence on oil revenue and providing more stable sources of revenue to support essential spending needs. The tax reform is expected to raise around 2.3% of GDP by 2012. This is a significant amount, even though somewhat below what was expected from the original proposal (around 2.9% of GDP).

As indicated in the Survey, additional tax measures should be considered in the longer run, notably on the consumption tax front, where VAT remains an area of concern because of the large number of exemptions and zero rated goods and services that introduce distortions and complicate tax administration.

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This Survey *is published on the responsibility of the Economic and Development Review Committee of the OECD, which is charged with the examination of the economic situation of member countries.*

The economic situation and policies of Mexico were reviewed by the Committee on 2 July 2007. The draft report was then revised in the light of the discussions and given final approval as the agreed report of the whole Committee on 18 July 2007.

The Secretariat's draft report was prepared for the Committee by Bénédicte Larre, David Haugh and Bruno Rocha under the supervision of Stefano Scarpetta. Research assistance was provided by Roselyne Jamin.

The previous Survey of Mexico *was issued in November 2005.*

BASIC STATISTICS OF MEXICO

2006

THE LAND

Area (sq. km)	1 964 375
Agriculture area (sq. km) (1990)	394 000
Inhabitants in major metropolitan areas (millions), 2005:	
Mexico City	19.3
Guadalajara	4.2
Monterrey	3.7

THE PEOPLE

Population (thousands)	104 748
Inhabitants per sq. km	53.3
Annual population growth (1990-2006)	1.6
Employment[1] (thousands)	42 342

PRODUCTION

Structure of production (per cent of total, 1993 prices):	
Agriculture	5.2
Industry	25.9
of which: Manufacturing	18.8
Services	68.8
GDP (US$ billion)	839.7
GDP per capita (US$, current prices and current PPPs)	11 547
Gross fixed capital formation (per cent of GDP, 1993 prices)	21.8

THE GOVERNMENT

Public sector indicators (per cent of GDP):	
Public sector expenditure	24.6
Public sector total revenue	24.7
Oil-related revenue	9.4
Net debt of public sector (December)	20.3

Composition of Parliament (December):	Senate	Chamber of Deputies
PAN	52	206
PRI	33	106
PRD	26	127
Other	17	61
Total	128	500

FOREIGN TRADE

Exports of merchandise (per cent of GDP)	29.8
Main exports (per cent of total):	
Manufactures	81.1
Petroleum products	15.6
Agriculture	2.7
Imports of merchandise (per cent of GDP)	30.5
Main imports (per cent of total):	
Intermediate goods	73.6
Capital goods	11.9
Consumer goods	14.4

THE CURRENCY

Monetary unit: peso	
Currency units per US$, average of daily figures:	
Year 2006	10.9031
June 2007	10.8378

1. People economically active according to results of the *Quarterly National Employment Survey*.

Executive summary

Over the past decade, Mexico has made significant progress towards macroeconomic stability and has launched important structural reforms to further open the economy to trade and investment and improve the functioning of markets for goods and services as well as to develop the financial sector. These efforts have yielded relatively good performance. After a strong 2006, output growth is expected to be close to potential, between 3½ and 4% over the next two years. Potential GDP growth, however, is much too low to bridge the wide gap in living standards with wealthier OECD countries and tackle the still widespread poverty. To move the economy onto a higher and sustainable growth path, a renewed effort at reform on a broad front is required.

Strengthening public finances remains a priority. *The fiscal position is good, and the 2006 Budget and Fiscal Responsibility Law has contributed to further strengthening the fiscal framework. However, the underlying situation of public finances is not yet comfortable given the heavy reliance of the budget on uncertain oil revenue. Measures aimed at increasing public spending efficiency are necessary. But a far-reaching tax reform also remains a priority to increase resources for supporting essential spending needs. Moreover, fiscal relations across levels of government should be reviewed to strengthen sub-national governments' accountability. The Mexican Government recently submitted to Congress a comprehensive public finance reform which would imply significant progress if approved.*

Further international trade and investment liberalisation together with regulatory reforms are required. *Mexico has undertaken substantial trade reforms, including regional trade agreements with many countries, and tariffs* vis-à-vis *other countries have been reduced although they remain above levels prevailing in the OECD. Further tariff reduction would likely bring substantial gains since it would create new opportunities for firms to access competitive inputs and much-needed technologies. It is also important to reduce non-tariff barriers, including inefficient customs procedures and irksome technical requirements, which hamper trade flows. Likewise, there is scope to ease restrictions on foreign direct investment, in particular in telecommunications, domestic land transport, coastal shipping and airports.*

Mexico also needs stronger competition and better regulation to boost productivity and growth. *Significant progress has already been made, but there is scope to improve regulations and the enforcement of competition policy. Competition in postal services, natural gas and electricity is still hampered by unduly restrictive regulations. In airports, railways and telecommunications, adequate regulations for access pricing to key facilities are required to encourage the entry of new participants and enhance their ability to compete. The sector regulators do not always have sufficient authority to be effective. Finally, the enforcement of competition policy and sector regulations is often hindered by time-consuming litigation.*

Labour market and social policies have an important role to play. *Open unemployment is low, but many workers are engaged in low-productivity and unrewarding jobs. A review of the tax-benefit package is required, in particular to improve the efficiency and reliability of social security services. This would contribute to strengthening incentives to work in the formal economy, especially*

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for low-paid workers. A better balance should also be found between labour market flexibility and worker protection in case of job loss. Moreover, stronger co-ordination between labour and social policies, as well as greater efforts to enhance human capital, are needed to effectively assist the most vulnerable individuals and pull people out of the poverty trap.

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Assessment and recommendations

Mexico's growth remains insufficient to narrow the income gap

Mexico has implemented a wide range of reforms to liberalise the economy and open it to foreign trade and investment, starting in the late 1980s. Its macroeconomic performance has improved significantly and GDP growth averaged 3.6% per year since the 1995 peso crisis. In 2006, growth reached a robust rate of 4.8%, underpinned by buoyant exports and strong investment. However, activity is expected to slow this year and next, with GDP growth around its potential rate, estimated to be between 3½ and 4%. This growth rate, given population growth of around 1.3% per year, is too low to allow convergence of Mexico's income per capita towards the living standards of the more advanced OECD countries. In 2005, the average income of the Mexican population was still one of the lowest in the OECD and only about one-fourth that of the United States (in purchasing power parity). While labour utilisation is not far from the OECD average, labour productivity has grown at too slow a pace to catch up from its initial low level.

Mexico's macroeconomic policy framework is generally sound

Sound monetary and fiscal policies have contributed to macroeconomic stability. On the monetary policy front, the Bank of Mexico has achieved a high degree of credibility and inflation expectations have converged towards the Bank's target. However, a series of supply shocks since the middle of 2006 have led to an upturn in inflation. Headline consumer price inflation has been hovering at just over 4% (year-on-year) since September, above the central bank's target of 3% and at the top of its variability interval of plus or minus 1 percentage point. Core inflation also increased, while inflation expectations remained broadly unchanged at 3½ per cent. The bank responded with a pre-emptive move by raising its interest rate in April, in order to prevent the upturn in inflation from feeding into inflation expectations. The projected slowdown in activity is likely to ease inflationary pressures. Until this occurs, a tight monetary stance should be maintained. On the fiscal policy front, Mexico has achieved a good track record in attaining budget targets for many years. Higher oil-related revenues since 2002 helped bring the public sector borrowing requirement to below 1% of GDP in 2006. Moreover, the Budget and Fiscal Responsibility Law, which came into effect in 2006, has contributed to further strengthening the fiscal framework. However, the underlying situation of public finances is not yet comfortable because of the heavy reliance of the budget on oil revenue, part of which is volatile and uncertain. At the same time, the budget is exposed to growing demands for essential spending in education, health, poverty alleviation and infrastructure.

The key policy objective is to foster productivity gains and put the economy on a higher growth path…

Mexico can count on several assets to boost productivity and output growth: a relatively young population; geographical proximity to – and a free trade agreement with – the largest market in the OECD; a solid macroeconomic policy framework; and a healthy financial system. However, a number of structural weaknesses have to be addressed, in particular, the low level of human capital, a large informal sector, and widespread poverty. Furthermore, poor physical infrastructures (including transport, telecommunications, energy and water), restrictive regulations and insufficient competition in some sectors are hindering productivity growth. Large firms are likely to find a way around costly administrative burdens and manage to overcome infrastructure lags. But many smaller firms face severe constraints to investment and expansion. The benefits that the economy at large can draw from trade openness and spill-over effects from foreign direct investment (FDI) can be further enhanced. *The reform process, which slowed in recent years, should be stepped up, in particular by further opening the economy to reap the full benefits from international integration and taking complementary measures that enhance infrastructure, improve the business environment and improve the prospects for workers to move to more productive jobs.*

… by acting forcefully on a broad front

In its agenda for structural reform, the new administration has identified ensuring fiscal sustainability and strengthening economic growth as priorities. Indeed, the underlying weakness of public finances requires a broad strategy with corrective actions on both the spending and tax sides. Boosting Mexico's growth potential is also a challenging task that requires taking action in all areas of public policy, including education, which was covered in the special chapter of the 2005 *Economic Survey*. Stronger economic growth will help reduce poverty, but targeted programmes for poverty alleviation are also needed to pull people out of the poverty trap. This report focuses on four main challenges that Mexico needs to address in order to lift per capita GDP growth, raise living standards and reduce poverty faster:

- Strengthening public finances.
- Maximising the gains from integration in the world economy.
- Strengthening competition and improving infrastructure.
- Enhancing the adaptability of the labour market while providing effective social protection.

These policy priorities are among those identified as key drivers of growth across OECD countries in the *Going for Growth* exercise.

Public finances should be put on a stronger footing

Mexico has gained a solid reputation for fiscal rectitude, and the new fiscal responsibility law is expected to facilitate prudent fiscal management. It establishes strict budget rules and defines new guidelines for allocating excess revenue and drawing from the various

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stabilisation funds (the States Revenue Stabilization Fund, PEMEX Investment Stabilization Fund and the Oil Stabilization Fund). Also important to improving the soundness of public finances has been the reform of the federal government employees' pension system (ISSSTE), on which the government managed to build a consensus and which was approved in March 2007. The reform substantially reduces the government's pension liabilities and allows portability of pension rights between the government and the private sector. *Building on it, the government should now reform the other social security sub-systems of government agencies and state-owned companies. Other key reforms are needed to reduce the dependence of the budget on oil revenue and address fundamental weaknesses in public finances.* Aware that the current fiscal settings fall short of what is needed to support the growth process, the government submitted to Congress in June 2007 a wide-ranging public finance reform. The reform package includes four main pillars:

- Improving tax administration in order to facilitate tax compliance and to fight tax avoidance and evasion more effectively.
- Establishing an institutional structure that guarantees more efficient and transparent spending at the three levels of government.
- Redefining fiscal federalism by providing states and municipalities with better tools and incentives and promoting responsibility and accountability at all levels of government.
- Setting the foundations for a tax system that allows the substitution of oil revenues with more stable sources of income.

If approved, this reform would represent a significant step forward. It would lay the ground for additional measures that may be required in the longer run to further strengthen public finances.

Strengthening tax administration

Despite recent improvements, tax compliance remains relatively cumbersome and costly, especially for self-employed professionals and small and medium-size enterprises. Moreover tax evasion remains high. Measures have been proposed to facilitate voluntary compliance with tax obligations and tackle evasion, smuggling and informality. *Moving in this area is important for the success of the overall public finance reform, as it would raise the perception of fairness in taxation and make the reform package more effective.*

Increasing public spending efficiency

As part of its reform package, the government is proposing to strengthen the system of performance evaluation for public programmes. Building on progress achieved over the years in budgeting and public management, the plan is to introduce mechanisms for a more systematic and objective evaluation of the impact of government programmes, combined with measures to modernise public management and rationalise public services. *Achieving efficiency gains in public spending at all levels of the public sector would go some way to limiting new funding needs. It would also contribute to improving the quality of public services, while enhancing the fiscal position.* Two areas for reform on the spending side can illustrate this point. *First, in education, a larger share of spending should be allocated to non-wage items that are important for the quality of education services, while teachers' training and selection need to be strengthened. Rebalancing the allocation of spending and ensuring that the financial* *incentive scheme in place for teachers serves its purpose are some of the options to improve education outcomes. Second, subsidies which prevail in many areas (such as water, electricity and gasoline) should be reduced.* They are costly for public finances, tend to be regressive and distort incentives. *Removing subsidies and using part of the savings for direct cash transfers to the neediest would achieve several policy goals simultaneously:* i) *encouraging investment in areas of vital importance for growth and living standards* (e.g. *water);* ii) *improving income distribution by increasing the progressivity of public spending; and* iii) *increasing incentives for consumers to be more efficient.*

● Revamping relations with sub-national governments

Fiscal relations across levels of government are another area where there is scope to improve the efficiency of public spending. The devolution of spending responsibilities to states and municipalities has been rapid, the process intensifying in recent years as states received a proportion of higher-than-budgeted revenue for investment. Generous adjustments in federal transfers have reduced sub-national governments' incentives to use their taxing powers and raise their own revenue. *In line with recommendations made in the OECD Economic Survey of Mexico, 2005, the reform proposal seeks to modify the formulas for the allocation of federal transfers to sub-national governments to better reflect objective needs and outcome evaluation. Furthermore, sub-national governments would be given more room to raise their own taxes. This last point is fundamental to increase states' accountability. Improving the quality of information on spending and outcomes at the sub-national levels of government, as included in the proposal, would also help promote accountability by increasing the transparency of spending.*

● Moving ahead with the tax reform and improving tax compliance

To strengthen public finances and improve the stability of revenue, *there is a need to restrict the numerous exemptions or special regimes and broaden the overall tax base.* The government's proposal envisages introducing a minimum general income tax on firms and professional activities, which would tackle the exemptions, tax deductions and preferential regimes that currently create uneven incentives and complicate the administration of the income tax. Together, the proposed tax administration measures and tax reform are expected to generate additional revenues of close to 3% of GDP by 2012. *In the longer run, consideration should be given to further broadening the tax base on the VAT side, which is plagued by exemptions and a large proportion of zero-rated goods and services. This would reduce the distortions on the economy and bring in additional tax revenue while also simplifying administration. As part of the VAT reform, measures may have to be taken to provide some compensation to low-income households. Measures will also be needed to raise the very low proceeds from the real estate tax (administered by municipalities) to levels observed in other OECD countries.* Such a move would contribute to raising overall tax revenues in a fair way and it would increase taxing powers of sub-national governments.

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Modernising the corporate governance of PEMEX

To ensure the best returns form Mexico's oil resources and production stability in the medium-term requires improvements in the efficiency and financial performance of PEMEX, as well as adequate investment decisions and operation. Mexico should reform the corporate governance of PEMEX to strengthen the incentives and accountability for maximising the company's efficiency. Future oil production largely depends on the development of new projects requiring major investment. A new fiscal regime was introduced in 2006, so that PEMEX would have additional resources. It will be important to assess whether these resources are sufficient for the company to undertake adequate oil-field maintenance and development. *Many improvements could be made even within the current constitutional framework. Government's interference in management of the company should be minimised. The company's own social security regime should be reformed to bring it in line with that of the private sector (and the new civil servants regime).* Finally, the existing public works contracts that engage the private sector in production projects appear to be insufficient for PEMEX to access the technology it needs and to help manage risk exposure better. In this context, and *while recognizing that more fundamental reforms are not on the agenda, legal changes will likely be required – sooner or later – to allow joint ventures with private companies in exploration and production from deep water oil reserves.*

Further opening the economy to trade and investment

Over the past twenty years, Mexico's development strategy has been to open the economy to foreign trade and investment. The process has led to some structural changes in the production sector and a gradual shift in the economy's trade specialisation towards medium and high-technology products. The presence of foreign firms, through spill-overs and modern management practices, has brought substantial benefits, mostly in manufacturing, but also in services such as banking. The example of several fast-growing OECD countries shows that Mexico could gain even more by combining competition-enhancing reforms with greater trade integration and FDI inflows. A reduction of remaining barriers to trade and FDI would encourage a more efficient allocation of resources, give access to lower-price, higher-quality, inputs for domestic firms and increase competition in the domestic market, thereby raising productivity and long-term growth.

● Lifting tariff and non-tariff barriers

Mexico has reduced its most favoured nation (MFN) tariff barriers over the past years and has concluded twelve regional trade agreements. However, average MFN tariffs remain well above levels prevailing in the OECD and many non-OECD middle-income countries. *Although many tariff lines were reduced in September 2006, there is scope for further action.* Potential gains for Mexico's productive sector would be substantial, since the tariff reduction would create new opportunities for firms to access cost-competitive inputs. By limiting the scope for corruption and fraud at borders, it would reduce private sector transaction costs. *It is also important to reduce non-tariff barriers, including complex customs procedures and burdensome technical requirements which hamper Mexico's trade.* At the same time, there may be a need to introduce measures to help labour market adjustments. In particular, time-limited, targeted policies may be considered to ensure that the most vulnerable population groups do not bear too high costs. However, the most promising option is to improve the functioning of the labour market more generally (see below).

● Easing FDI restrictions and maximising benefits

Mexico has made significant progress in lifting restrictions to foreign direct investment (FDI), and gross FDI inflows, after peaking in the early 2000s, have stabilised at a solid level – close to 2% of GDP – over the past few years. However, *there is scope to further ease restrictions, particularly in some services and infrastructure sectors, including telecommunications, domestic land transport, coastal shipping and airports*. Lifting ownership restrictions on foreign investment in these sectors would help to increase FDI inflows and boost productivity by promoting technological spill-overs. *To maximise benefits from higher FDI, broad policy measures are required to improve the business environment, including for smaller firms, and to upgrade human capital*. Such moves would help linkages between foreign firms and suppliers to develop more deeply into the domestic economy, thereby maximising technological spill-over effects. Higher foreign investment in services and infrastructure sectors, such as transport, telecommunications and the energy sector, would contribute to improving the quality and price of services used as inputs by Mexico's business sector, thereby helping their competitiveness and making the country even more attractive to FDI. More generally, further strengthening of the rule of law would create a better environment for domestic and foreign firms alike.

Further strengthening competition

Mexico has also made much progress in enhancing competition domestically; by creating pressure on firms to innovate, this will be a major source for economic growth. But in many areas, in particular network industries, more competition is needed. To this end, a number of broad issues related to competition policy and the regulatory framework should be addressed. Competition in some key sectors – such as postal services, natural gas and electricity – is still hampered by unduly restrictive regulations. Moreover, there are sectors where competition-enhancing regulations are not effective or enforceable. In airports, railways and telecommunications, for instance, adequate regulations for access pricing to key facilities are required to encourage the entry of new participants or give them the ability to compete. The sector regulators do not always have sufficient authority to obtain from industry participants the information they need in order to be effective. Finally, the enforcement of competition policy and sector regulation is often hindered by time-consuming litigation (*amparos*). *Improving regulations and the enforcement of competition policy is a priority. The Federal Competition Commission (CFC) should be provided with more adequate resources and co-operation between sectoral regulators, the government and the CFC should be strengthened. Furthermore, amparo rights should be reviewed and specialised courts with economic expertise should be created*. The government is considering undertaking a review of existing laws and regulations to eliminate unnecessary restraints of competition. The experience of other countries, such as the broad competition policy review conducted in Australia over a period of several years, suggests that such a comprehensive review is an important step to promote competition, a key driver of economic growth. The OECD *Competition Assessment Toolkit* can provide a framework for this exercise.

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• Enhancing transport infrastructure

The efficiency, quality and price of transportation are important factors influencing the cost-competitiveness of Mexican firms, the attractiveness of the country to foreign investors, and consequently Mexico's productivity growth. The road network and trucking are plagued by inefficiencies and there are border issues that need to be addressed. The government is committed to further developing road infrastructure through public-private partnerships and concessions for toll roads. *Clarifying long-term government plans would help private sector involvement. Scarce public resources should be invested in areas that are less attractive to private investors, but may be economically justifiable to facilitate inter-and intra-state commerce, as well as better integrate remote rural areas*. To further promote trade with the large US market, *an agreement for a pilot project on the US-Mexico cross-border trucking was signed in February 2007, and it needs to be implemented*. In railways, past privatisation has led to productivity gains, lower prices and quality increases, but disputes between private concession holders over trackage rights have prevented the nationwide development of traffic and interlinear transport across the whole network. *Stronger regulations are required for setting trackage and interconnection prices. Measures to improve port efficiency are also needed as this would bring large benefits in terms of trade flow increases*.

• Imposing effective competition in telecommunications

There is scope to impose effective competition in the telecommunication networks with a view to further reduce prices and improve the quality of services. Despite large reductions in telephone charges, Mexico remains one of the OECD countries with the highest charges, especially for business use. In the mobile telephone market, in particular, the dominant firm is using its market power to squeeze out other players. The government is committed to increasing effective competition. *Essential measures include improving mandatory access to the local loop (which is important for broadband development), regulating fixed-to-mobile termination charges and introducing mandatory roaming for smaller mobile companies to use the largest firm's network at a regulated price. The sectoral regulator, COFETEL, needs greater independence from leading companies in the sector. It should be given by law the power to set access prices to the local loop and other key network facilities. COFETEL should be held accountable to the government for the design and implementation of access pricing rules that are pro-competition*. Clarity in the law and regulations is of prime importance to reduce the scope for excessive use of *amparo* proceedings, which have frequently inhibited enforcement.

• Restructuring the electricity sector

It would be appropriate to engage in a process of restructuring of the electricity sector, to improve its efficiency and the competitiveness of the economy as a whole, while at the same time strengthening incentives for generation and transmission investment so as to keep pace with projected demand over the medium term. The objective is to provide businesses with an increasing and reliable supply of lower-cost energy. Some useful steps can be taken to promote efficiency in the state-owned companies within the current constitutional constraints. *In particular, clear separation of the generation from the transmission company should be carried-out. An electricity market should be set up and it should be run by a* *system operator working as an independent entity from the dominant state-owned company, CFE. To further improve investment incentives and efficiency, consideration will have to be given to changing the legislation at some point to allow private investors to sell power directly in the wholesale market.*

Improving labour market outcomes and reducing poverty

A well functioning labour market and effective social polices are also essential to promote stronger and more equitable growth. Open unemployment is low, but there is a high incidence of informal and low-productivity jobs. Promoting the creation of more – and especially more productive – jobs requires action on a broad front, including human capital formation and improvements in the business environment, as well as reforms in labour market and social policies. *First, there is a need to improve the prospects for workers to move to more productive jobs by upgrading skills and competences. Second, greater labour market flexibility coupled with effective protection in case of job loss (for instance through individual savings accounts) would enhance labour market efficiency. Third, a range of actions is required to fight exclusion and widespread poverty.*

● Upgrading skills and competences

The education system can play a vital role in helping Mexico's modernisation and enhancing its capacity to meet the rising and changing demand for skills in the new global environment. Poor education outcomes do not result from a lack of spending but from the sector's low efficiency. *Educational resources need to be better allocated; incentives for teachers to perform well should be strengthened. Furthermore, measures to improve the education system's performance have to be complemented by renewed efforts to upgrade the workforce competences through adult training.* Policy makers should focus on promoting privately-provided training and financial support should continue to go to trainees or firms to stimulate the demand for training, rather than financing training providers.

● Enhancing the attractiveness of formal sector employment

Tackling the problem of informality also requires labour market measures to strengthen the incentives for formal employment. Two reforms undertaken in the beginning of 2007 are expected to improve the functioning of the formal labour market. First, the reform of the public sector pension system (ISSSTE), by allowing portability of pensions across sectors, will facilitate labour mobility. Second, the pension savings account reform (SAR), which aims at reducing fund managers charges, is expected to enhance the net returns on private pension funds, thereby helping to make formal sector employment more attractive. But more has to be done. Because policies are inter-related, a comprehensive reform strategy is essential to increase incentives for formal sector employment. *Priorities include*:

- *Reviewing the tax-benefit package, in particular to improve the efficiency and reliability of social security services, as this would enhance incentives to formal sector employment, especially for low-paid workers.*

- *Increasing labour market flexibility, by broadening the legal ground for dismissal, while improving the effective protection of workers. To facilitate mobility in the formal sector, consideration should be given to replacing severance payments with a system of individual savings accounts. This would reduce transaction costs while increasing income security.*
- *Broadening the scope for temporary contracts and part-time work- this would help the creation of jobs in the formal labour market and promote female participation in particular.*
- *Strengthening control over compliance with tax and social security obligations, although this can only be a part of the strategy.*

Providing effective social protection and fighting exclusion

A reduction in poverty levels has been achieved over the past few years. But poverty remains widespread and social policies are not always effective. On the one hand, there is a contributory social security system which covers only about half of the population. It is neither equitable nor efficient. Because benefits delivered exceed contributions, it has been subsidised by general contributions. On the other hand, the population which is not covered by social security has access to poor quality state health services. The basic health insurance, *seguro popular*, was created to extend the coverage of health insurance and reduce the risk of catastrophic out-of pocket health care spending for the uninsured. In the long-term, moving towards a unified system integrating state health services and the social security system would be appropriate to improve efficiency and equity. In the short-term, strong action is required both in the social security system and for the more vulnerable uncovered population. *In the contributory health systems, measures should be taken to improve efficiency in service delivery and ensure financial soundness. For the non-uninsured population, further widening of Seguro Popular is appropriate, as done for instance with the recent creation of the health insurance for the youngest generation, provided reliable budget funding is available.* Beyond health care provision, as the budget constraint is eased, more measures will have to be introduced to ensure that the most vulnerable population groups have access to adequate nutrition and basic education services. *Income support for targeted families through the conditional cash transfers programme* Oportunidades *has shown good results and it should continue. The programme's effectiveness should be further enhanced by increasing the quality of basic health and education services.* Small-scale social programmes were created in 2007, but it is unclear whether the financial resources will be available on a steady basis. More generally, *it would be appropriate to rationalise social programmes in place, based on systematic evaluation,* and to improve the cost-effectiveness of social assistance as a whole, while ensuring that programmes preserve incentives to work.

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OECD Economic Surveys: Mexico

Chapter 1

Economic performance and key challenges

Past reforms to liberalise the economy have paid off. Mexico's GDP per capita has increased and broad macroeconomic stability has been achieved. Although its fiscal GDP position is good, Mexico has to reduce the heavy reliance of the budget on oil revenue. Furthermore, living standards remain well below those in other OECD countries, and current GDP growth is still not high enough to ensure rapid convergence. Mexico needs to introduce further structural reforms to lift per capita GDP growth, raise living standards and reduce poverty faster. This chapter identifies four key challenges that Mexico faces in achieving these goals: i) *strengthening public finances;* ii) *making the most from integration in the world economy;* iii) *improving infrastructure through greater competition and better regulation; and* iv) *fostering the creation of more and better jobs and fighting poverty.*

Over the last 20 years, Mexico has implemented a wide range of reforms to liberalise the economy and improve macroeconomic management. These reforms have had a good return, allowing macroeconomic stability and a stronger growth performance. Currently, inflation is low, the budget deficit is close to balance and the current account deficit is small and easily financed by foreign direct investment inflows. In the ten years since the 1995 peso crisis, Mexican GDP per capita grew at an average of 2.5% per year, which is comparable to average growth in the OECD over the same period.

Despite this progress, the average income of the Mexican population was still only one-fourth that of the US income level (in purchasing power parity terms) in 2005, and a significant proportion of the population lives in poverty. The economy is still not expanding rapidly enough to converge towards living standards in the richer OECD countries (Figure 1.1). The overall challenge for Mexico is to build on its success to date and promote higher per capita income growth to lift living standards and reduce poverty faster. The experience of other countries shows that this is possible. Several OECD countries, which had been lagging behind, such as Ireland, Korea, Hungary, Poland and the Slovak Republic, recorded strong growth in the past decade (1995-2005), making clear progress towards convergence to the benchmark country, the United States.

After reviewing the short-term outlook, this chapter discusses how to lift Mexico's growth performance in the medium-term. Macroeconomic stability in Mexico provides a solid platform and an important opportunity to deepen and broaden the structural reform. In achieving this, Mexico must face a number of challenges, including: *i)* strengthening public finances durably; *ii)* making the most from integration in the world economy; *iii)* improving infrastructure through greater competition and better regulation; and *iv)* fostering the creation of more and better jobs and reducing poverty.

The short-term outlook

The current expansion, which began in 2002, continued throughout 2006, when GDP grew a solid 4.8%, despite a slowdown in the second half of the year. Private investment, in particular, was an important driver of growth, as solid export volume growth and reduced political uncertainties after the elections boosted business confidence. After a slight slowdown at the beginning of 2007, in response to slower growth in the United States, the short-term outlook is for the economy to grow at around potential, estimated to be between 3½ and 4% (Table 1.1).

Sound monetary policy, conducted within an inflation-targeting framework, has made an important contribution to current macroeconomic stability. The Bank of Mexico's credibility has grown over time, and inflation expectations have converged down towards the Bank's inflation target of 3% *per annum* (with a variability interval of plus or minus 1 point).[1] The difference between expectations and the inflation target is of the same order of magnitude in 2007 as in other OECD countries that have an inflation targeting framework, including the United Kingdom and Australia. Consumer price inflation turned up, however, after mid-2006, reflecting a series of supply shocks affecting some food items (Figure 1.2).

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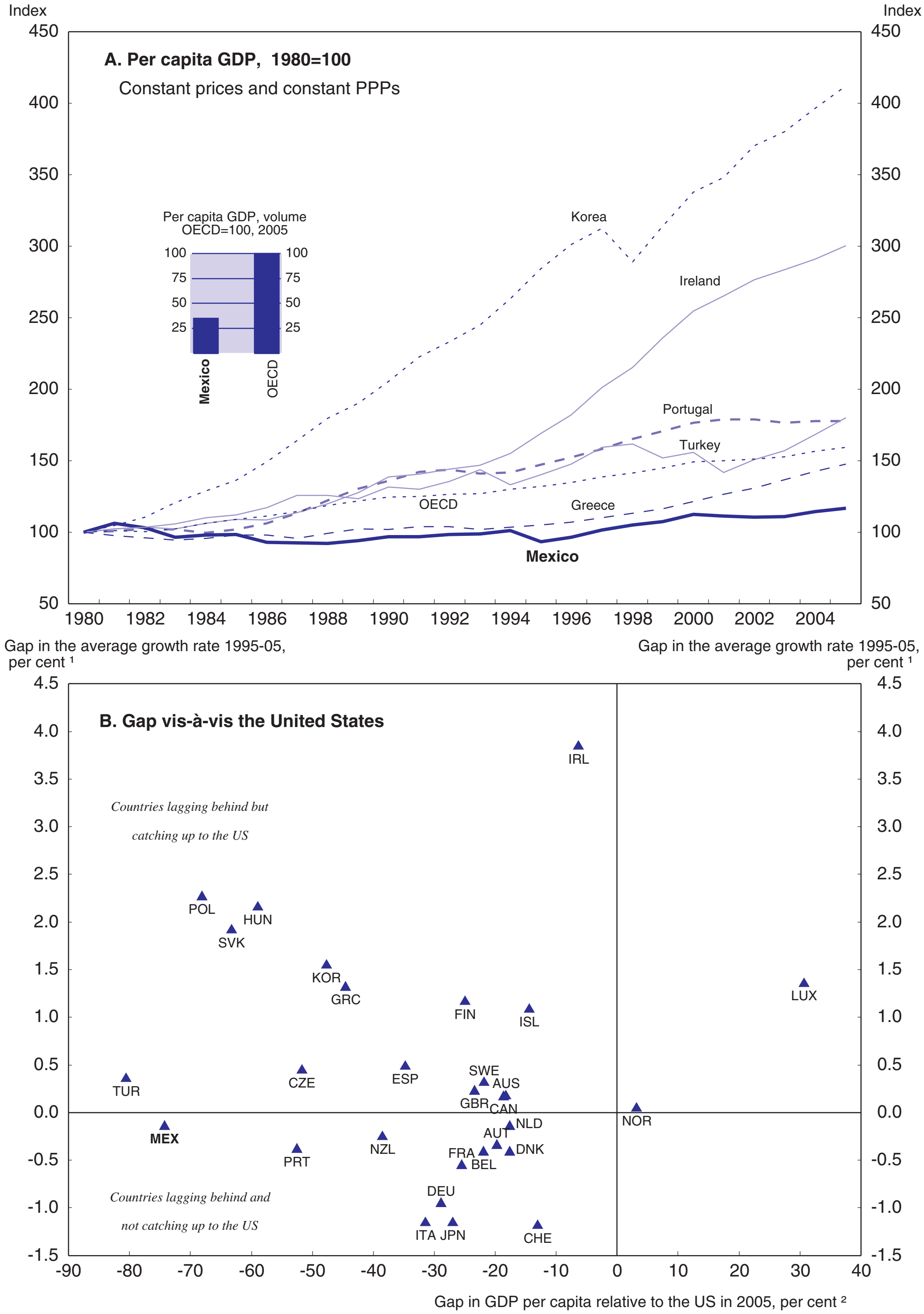
Figure 1.1. **Mexico's growth performance in comparison**



1. The average growth rate of GDP per capita is calculated on the basis of volumes data.
2. The level of GDP per capita is calculated on the basis of 2005 PPPs.

Source: OECD, *National Accounts* database, *Going for Growth 2007*.

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Table 1.1. **Short-term economic outlook**

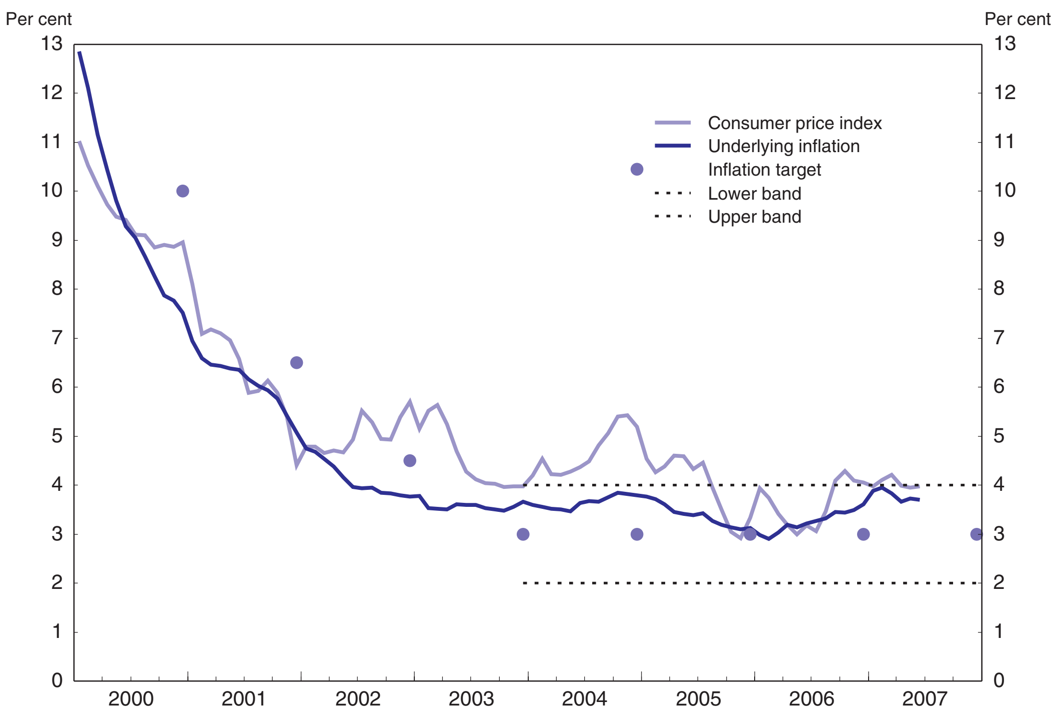
	2003	2004	2005	2006	2007	2008
	Current prices MXN billion	Percentage changes, volume (1993 prices)				
Private consumption	4 736.8	4.1	5.1	5.0	3.4	4.2
Government consumption	855.7	–0.4	0.4	6.0	–0.1	0.3
Gross fixed capital formation	1 304.9	7.5	7.6	10.0	6.4	6.5
Final domestic demand	6 897.5	4.3	5.2	6.1	3.7	4.3
Stockbuilding[1]	111.2	0.1	–1.6	–0.7	0.1	0.0
Total domestic demand	7 008.6	4.4	3.5	5.4	3.8	4.4
Exports of goods and services	1 916.8	11.6	7.1	11.1	5.3	5.8
Imports of goods and services	2 030.0	11.6	8.6	12.2	6.1	7.1
Net exports	–113.3	–0.3	–0.8	–0.8	–0.6	–0.8
GDP at market prices	6 895.4	4.2	2.8	4.8	3.4	3.7
GDP deflator	. .	7.4	5.5	4.5	2.0	3.7
Memorandum items:						
Consumer price index	. .	4.7	4.0	3.6	4.2	3.5
Private consumption deflator	. .	6.5	3.3	3.4	4.1	3.5
Unemployment rate[2]	. .	3.0	3.5	3.6	3.9	3.7
Current account balance[3]	. .	–0.9	–0.6	–0.1	–0.8	–1.3

1. Contributions to changes in real GDP (percentage of real GDP in previous year), actual amount in the first column.
2. Based on National Employment Survey.
3. As a percentage of GDP.

Source: OECD *Economic Outlook 81* database (June 2007).

Figure 1.2. **Inflation performance**

Percentage changes over 12 months



Source: Banco de México.

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Core inflation has also been increasing, reaching close to 4% in March 2007. Interest rates declined over the 12 months to April 2006, then remained broadly stable until the first quarter of 2007. The Bank decided to raise its interest rates by a quarter of a percentage point at its April 2007 meeting as a preemptive action, to prevent the upturn in inflation from feeding into inflation expectations. Following the change, short-term interest rates moved up to around 7¼ per cent. This tightening is expected to bring inflation down to below 4%, within the Bank's variability interval, by the end of the year. Monetary policy should nonetheless remain forward-looking, maintaining a tight stance as long as needed to bring inflationary pressures down.

The nominal and real exchange rates have remained fairly steady over the past four years. The pressure for an appreciation stemming from the brisk growth in worker's remittances and the upward trend in oil prices has been offset by slower growth of manufactured exports, which make up the bulk of exports. The management of oil revenues has helped avoid introducing greater variability in the exchange rate and, potentially, additional upward pressure on the real exchange rate (Box 1.1).

The budget for 2007 targets a balanced budget and a public-sector borrowing requirement (PSBR) of 1.7% of GDP (excluding non-recurrent revenue). The outlook is for stable government consumption in volume terms and a very moderate increase in public investment. The current account deficit was close to zero in 2006, reflecting high oil revenue and continued high migrants' remittances. A small widening of the current account deficit is expected over the next two years to around 1.3% of GDP by 2008.

Box 1.1. **Managing oil revenue flows**

From 2002 to the end of 2006, oil prices have risen significantly, with the WTI spot price in dollars per barrel doubling – and reaching US$62 dollars per barrel in December 2006.[1] As a large oil exporter, Mexico has seen a sizeable increase in its revenue from oil exports. In this context, it has been facing the challenge of taking full advantage of high oil-related revenue and allocating it to saving and investment. Issues relating to fiscal rules and the management of oil revenue windfalls are addressed in Chapter 2 of the *Survey*. High oil prices have also contributed to the continued rapid accumulation of international reserves, which have reached record levels in recent years. This box focuses on central bank management of oil revenue flows and changes to reserve management in response to the rising costs of holding large foreign reserves.

Oil revenue and sterilisation operations by the central bank

Oil revenues flow into Mexico through the following channel: PEMEX, Mexico's state-owned oil monopoly, must sell the proceeds from its oil exports to the central bank.[2] To prevent these operations from increasing peso liquidity, the central bank sterilises the impact on the monetary base of these purchases of international reserves.

Given the sterilisation mechanism, and as a result of the recent increase in foreign currency inflows, Mexican international reserves have risen from around US$50 billion at the beginning of 2003 to US$75 billion in March 2007. The increase in foreign reserves has helped to enhance investors' confidence in the Mexican economy and has allowed the Mexican public and private sectors to access international financial markets under more favourable conditions. However, the accumulation of foreign reserves comes at a cost to the central bank, since the Bank of Mexico pays higher interest rates for its liabilities (bonds or monetary regulation deposits) than the rates it receives from its investment of international reserves in foreign markets although this gap has narrowed recently owing to increases in international interest rates.

Box 1.1. **Managing oil revenue flows** *(cont.)*

Changes in the central bank's foreign exchange market operations

Following the 1995 crisis, the Bank of Mexico introduced a scheme to accumulate foreign reserves. It stopped using the mechanism in 2001. In May 2003, the central bank changed its operating method on the foreign exchange market. To slow down the speed of foreign reserves accumulation and reduce the cost of carrying international reserves, the central bank started implementing daily auctions to sell part of the inflows that would otherwise increase the reserves. The mechanism was designed to operate automatically without regard to the level and trend of the exchange rate. Every quarter, the Bank of Mexico announces the dollar amount that it will auction to the market during that particular quarter. The amount of reserves to be sold daily is determined by the amount accumulated in the previous four quarters. Every quarter, the central bank sells an eighth of the international reserves accumulated during each of the previous four quarters. In this way, after a year, the Bank has sold 50% of the amount accumulated over a specific quarter.[3] Only domestic credit institutions are allowed to buy in the auctions.

The advantage of the mechanism is that it is not discretionary and it is not aimed at influencing the exchange rate. At the same time, by selling only part of the accumulated reserves to the market and letting foreign reserves accumulate, the central bank continues to mitigate the pressure for the exchange rate to appreciate, which would take place if PEMEX directly sold its foreign currency revenues to the market. This mechanism also smoothes the flow of US dollar sales to the market compared to direct sales by PEMEX and therefore contributes to reduce exchange rate volatility.

Use of international reserves in debt reduction operations

As part of the public debt management strategy, external debt has been replaced by domestic debt. During the third quarter of 2006, the Ministry of Finance purchased US$12.4 billion from the Bank of Mexico to prepay foreign debt. This, combined with other transactions, led to a fall in the Bank's international reserves of US$11.4 billion in the same period. The Ministry funded this purchase with the issuance of peso-denominated debt in the domestic market. Simultaneously, the central bank used the proceeds from the sale of international reserves to withdraw an equivalent amount of its own peso liabilities. As a result of these operations, the stock of international reserves and of central bank peso liabilities decreased, reducing the size of the Bank's balance sheet and its costs.

Fiscal rules

In addition to the monetary policy strategies, fiscal policy has also played a role in managing higher oil revenue flows and preventing overheating in the economy. The Federal Government has introduced fiscal rules and mechanisms to manage higher-than-budgeted revenue (the share of total budget revenue related to oil reached 40% in 2006, part of which is affected by oil price changes). The fiscal framework was strengthened with the new Budget and Fiscal Responsibility Law applicable since 2006. The rules to distribute revenue windfalls, in particular, have been slightly modified. After adjustment for a number of possible surprises, revenue in excess of the budget projection is used to smooth transfers to states and municipalities, a share also goes to their investment programmes, and funds are transferred to PEMEX for investment and to the Oil Stabilization Fund. These rules allow the transfer of current extra revenue from the state's oil assets into the future, while helping to reduce the possible impact of excess spending on domestic activity.

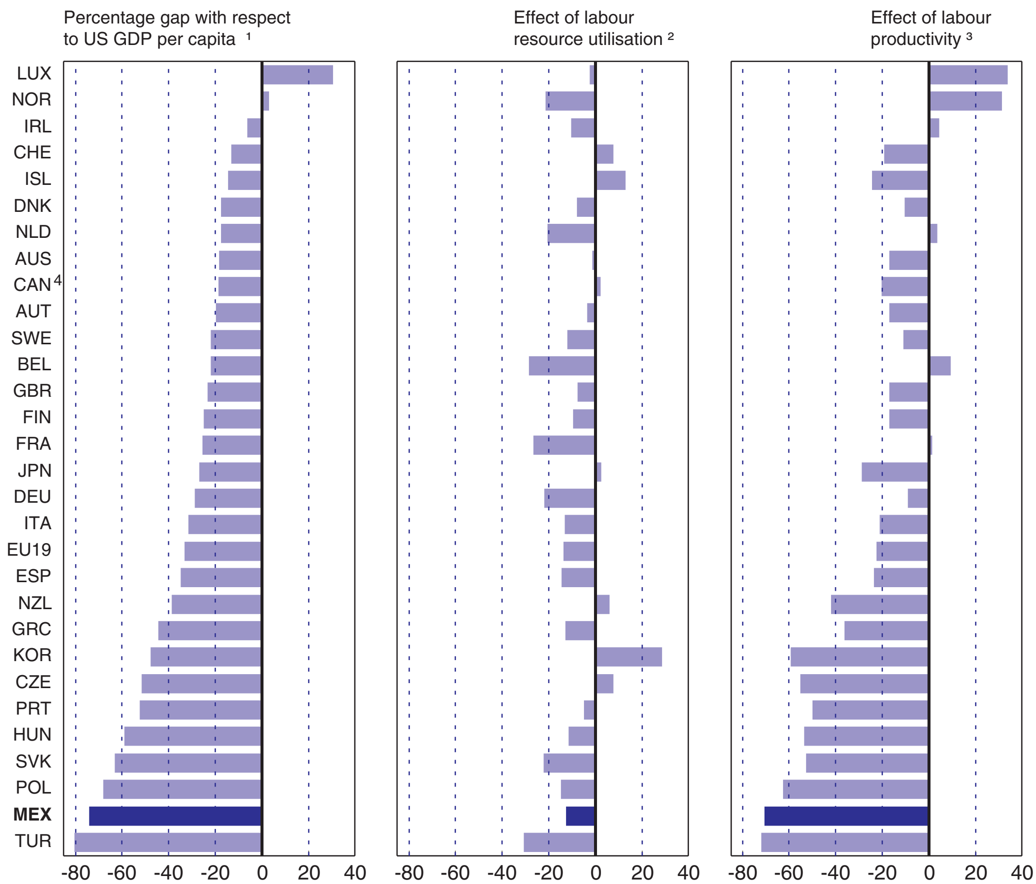
1. The price of the Mexican oil mix which is lower, has moved in parallel from US$21.52 in 2002 to US$49.63 per barrel in December 2006.
2. The contribution of PEMEX to the federal government is made up of various duties and taxes. See Chapter 2, Annex 2.A1, on PEMEX fiscal regime.
3. The calculation of the reserves to be auctioned does not take into account the change in reserves of previous quarters due to selling through this mechanism. In order to determine the amount of the daily auction, the amount of dollars to be auctioned during the whole quarter is divided by all the working days of the quarter.

Lifting Mexico's growth performance over the medium term

Mexico is projected to grow at around potential in the short-term, but this will not be sufficient to rapidly close the gap in living standards with richer countries. The main challenge for Mexico is indeed to lift its performance over the medium-term. Mexico's GDP per capita gap relative to the United States is mostly accounted for by low labour productivity and, to a lesser degree, relatively low labour utilisation (Figure 1.3). Reflecting high poverty levels and a limited range of social benefits, participation of the younger and older people in the labour force is greater than in most other OECD countries, but female participation remains relatively low in international comparison. A broad range of policies are required to improve labour productivity performance, including: enhancing educational outcomes; upgrading physical infrastructure; facilitating trade and FDI; increasing competition; lowering the costs for doing business; addressing rigidities in the formal labour market, which push many into informal activities; and creating a more effective social safety net to fight poverty and exclusion. These policy priorities are among those identified as key drivers of growth across OECD countries (OECD 2007, *Going for Growth*).

Figure 1.3. **The sources of persisting real income differences**

2005



1. Based on 2005 purchasing power parities (PPPs).
2. Labour resource utilisation is measured as total number of hours worked divided by the population.
3. Labour productivity is measured as GDP per hour worked.
4. Data for Greece do not take into account the 25% upwards revision to the level of GDP announced in 2006.

Source: OECD, *Going for Growth* 2007.

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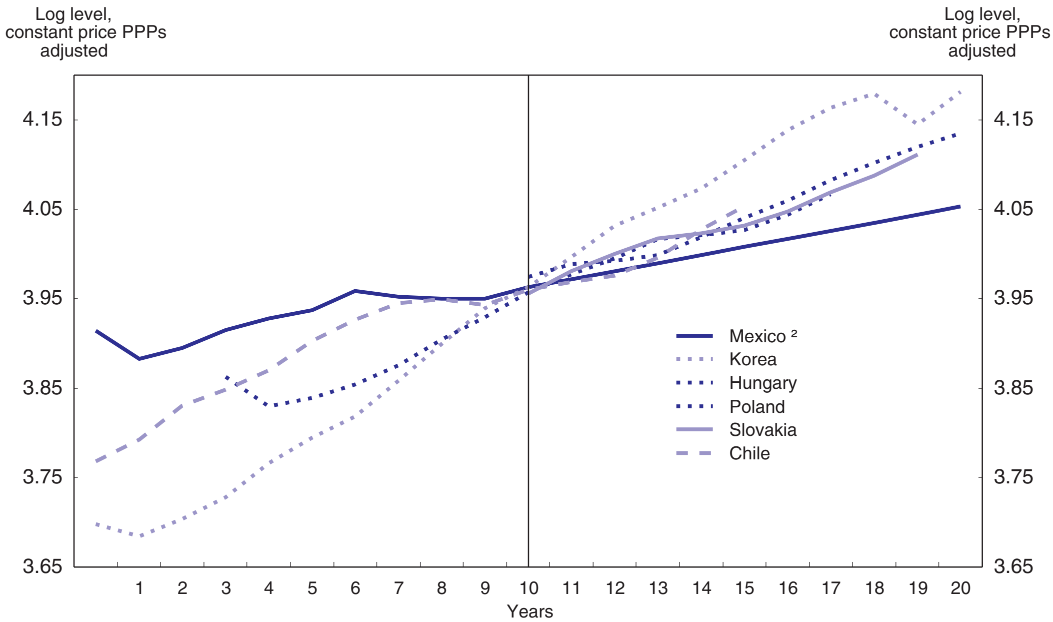
Figure 1.4 shows the growth path of GDP per capita in Mexico, a set of OECD countries (Korea, Hungary, Poland, Slovakia), and one other Latin American country (Chile) that have experienced significant convergence towards living standards in richer countries. The figure focuses on the growth path of these countries from the point in time when they were at approximately the same level of development as Mexico today. It also shows Mexico's growth path if it continues to grow at the same pace as in the period 1995-2004. Although Mexico has made significant progress in lifting GDP per capita, the catching-up countries have been on a much higher growth trajectory.

Figure 1.4. **Benchmarking GDP per capita performance**[1]



1. Year 10 corresponds to 2004 for Mexico; for other countries, it is the year in which GDP per capita is at approximatively the same level as Mexico's in 2004. That year is 2000 for Chile, 1989 for Korea, 1993 for Hungary, 1997 for Poland and 1995 for the Slovak Republic.
2. After 2004 (year 10) Mexico per capita GDP is plotted, assuming it grows at the average rate over the nine previous years (1995-2004).

Source: OECD, *National Accounts* database.

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Across a variety of indicators, Mexico compares well with these countries when observed at the time when they had a similar GDP per capita as Mexico (Table 1.2). Macroeconomic stability is more solidly established in Mexico, as evidenced by lower inflation, compared with the other countries. The Mexican economy is relatively open, as measured by the trade-to-GDP ratio. Moreover, total education spending as a percentage of GDP is similar to that of comparator countries. Mexico also has the advantage of a higher FDI capital stock than the other countries in the comparison, except for Chile.

By contrast, the converging countries were performing better than Mexico across a range of factors that have been shown to be important for growth. Mexico's weaknesses relative to the sample of catching-up countries include having a weaker rule of law, higher tariff barriers, lower gross FDI inflows, poorer infrastructure indicators, and a lower proportion of the population having attained secondary education.[2] Moreover, the share of education spending on non-wage items (which are relevant for the quality of teaching) is

Table 1.2. **Selected indicators for Mexico and five converging countries**

The reference year is chosen as the year at which GDP per capita are about the same level

Reference year	Mexico	Poland	Slovak Republic	Korea	Hungary	Chile
	2004	1997	1995	1989	1993	2000
GDP per capita (US$ based on 2000 PPPs)	9 178	9 068	9 111	9 189	9 436	9 120
Openness [(exports + imports)/GDP][1]	53.0	37.4	100.0	32.3	60.5	44.0
Inflation	4.7	14.9	9.8	8.6	22.5	3.6
Investment ratio as % of GDP[2]	19.3	20.0	27.0	37.4	20.8	23.2
Total tax as % of GDP[3]	18.3	35.2	38.0	17.3	46.2	17.9
Rule of law[4]	–0.40	0.66	0.21	0.85	0.71	1.21
Average applied tariff, %[5]	15.8	9.8	8	14.9	8.5	9
FDI stock as % GDP (inward position)	27.0	9.3	6.6	11.0	14.2	60.7
FDI gross inflow as % of GDP[6]	3.0	3.3	5.4	0.7	6.3	3.4
Infrastructure[7]	58	36	33	38	30	32
Poverty: as % of population with income below US$2 per day[8]	12	< 2	3	< 2	< 2	10
Dependency ratio (minus 15 and 65 over)	37.6	33.1	33.5	31.4	32.7	35.0
Secondary educational attainment as % of population aged 25 and over[9]	31	48.5	47.5	53.9	31.8	36.0
Total public expenditure on education as % of GDP (all levels)	5.8	5.3	5.0	4.1	5.4	4.2
Share of compensation of staff as % of total spending (primary, secondary and post-secondary non-tertiary education)	94	71	75	72	78	68

1. Three-year average, ending reference year, except for Slovak Republic (1997) and Hungary (1994).
2. Three-year average, ending reference year.
3. For Mexico, including oil-related revenue.
4. Weighted average of indicators with a scale from –2.5 (weak) to +2.5 (strong).
5. Unweighted average applied tariff.
6. Average annual inflow, from year subsequent to reference year up to 2004, except Mexico 1995-2004.
7. Rank in IMD World Competitiveness Surveys, from best to worst.
8. Poland, 1998; Slovak Republic, 1996; Korea, 1998.
9. As percentage of population aged 25 to 64 for Mexico and as a percentage of the population aged over 25 for the other countries.

Source: World Bank; OECD.

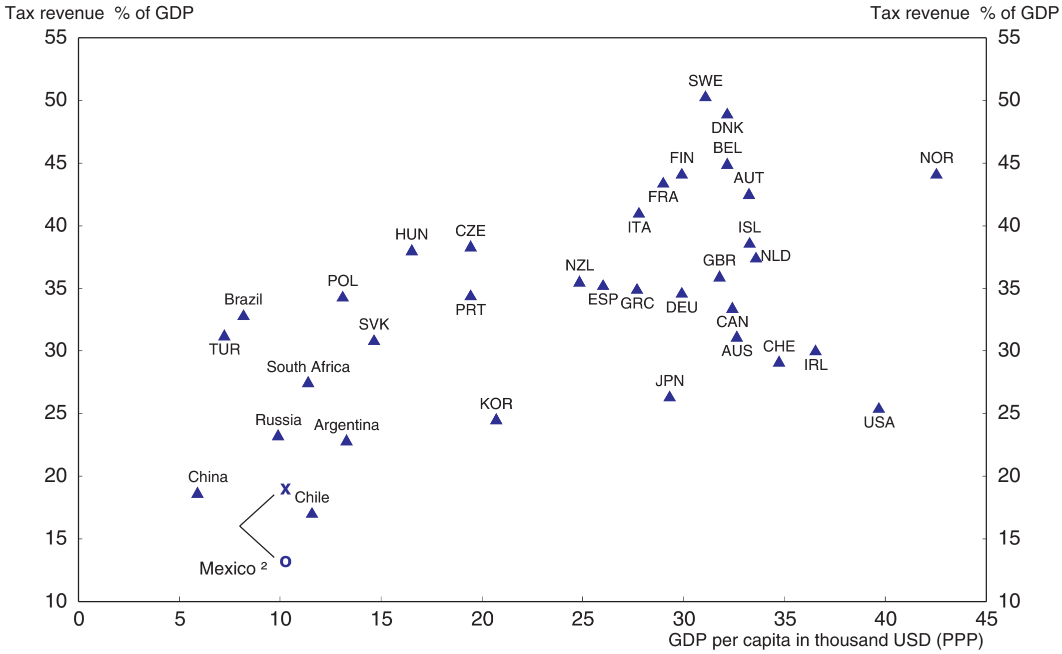
lower in Mexico than in the other countries. And poverty is more widespread in Mexico than in the other countries included in the comparison. This highlights the need for further structural reform on a wide front in Mexico to boost economic growth and achieve convergence towards living standards in richer OECD countries.

Strengthening public finances

Mexico's fiscal framework is generally sound and the more so thanks to the recent introduction of the Budget and Fiscal Responsibility Law. The authorities have a good track record in attaining budget targets. Even the wider definition of the deficit has come down, with the PSBR at 1.2% of GDP in 2006. The public debt is also low by OECD standards.

The main fiscal policy challenge is about preparing for the future. Non-oil tax revenue as a share of GDP is very low by international standards (Figure 1.5), and there are concerns about the large dependency of the budget on oil revenue, which is volatile and uncertain. In 2006, oil-related revenue accounted for around 40% of total revenue. In order to maintain a sound financial position, the government needs to take action to strengthen the reliability of its revenue sources and the efficiency of its spending. Moreover, increasing tax revenue by broadening the base will also be important to durably finance development

Figure 1.5. **Tax revenue and the level of income in comparison**[1]



1. 2004 or nearest year available. Government revenue including social security contributions. Unweighted average for OECD. Public sector for Brazil. Central government only for Chile.
2. Government revenue (including social security): with oil revenues of the federal government (x) and without this component (o).

Source: OECD, *Revenue Statistics* database; OECD, *National Accounts*; Mexico, Ministry of Finance; World Bank.

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priorities such as upgrading human capital (education and health) and infrastructure and reducing poverty. These programmes are needed to lift Mexico's growth performance in the medium term and they require steady financing sources.

There are two sources of uncertainty about oil revenue: first, the oil price level; and second, the national production capacity. Rising oil prices have provided a boost to government revenues since 2002, but oil prices are volatile and uncertain. The present fiscal arrangements allow for short-run smoothing of oil revenue arising from price swings, but the framework needs further improvement to handle persistent price swings. The rising oil price over the past several years has led to the oil price assumption set in budget projections moving up in line with the longer-term price trend, leaving the budget vulnerable to possible large swings in the other direction.

Oil revenue is also vulnerable to production changes. Large payments to the government over the years have left PEMEX without sufficient resources for investment in exploration and production, so that production levels have started to decline.[3] Mexico's future production is dependent on how the development of new fields proceeds. Current oil reserves will only last ten years at present extraction rates if no investment is made, so that new exploration work is vital for oil supply security over the longer-term. This will require new technology (deep water drilling) and capital spending. The reform to the PEMEX tax regime, in force since 2006, has provided some financial relief but careful monitoring will be needed to ensure that the company has sufficient financial resources for exploration and production. The legal and regulatory settings in place for investment in the sector are too restrictive. Requirements to comply with ordinary public works procedure and limits on joint ventures by PEMEX reduce the scope for the company to make investments according to best commercial practice. Mexico must improve the investment framework that applies to PEMEX and the company's corporate governance.

Excluding oil revenue, the tax/GDP ratio is extremely low, reflecting a narrow tax base because of numerous exemptions, deductions and special regimes applying both to direct taxation and the VAT regime. In addition, widespread informality, the skewed income distribution, combined with weak tax administration and the complexities in the tax system, make tax collection particularly difficult. A widening of the tax base and strengthening of tax collection are essential to reduce dependence on oil revenue.

In parallel to a tax reform that increases revenue and reduces distortions, continued action to increase the efficiency of public spending is needed. Despite some decrease in past years, price subsidies remain substantial, including for electricity, gasoline and water. These subsidies are costly and ineffective. They interfere with price signals for efficient consumption and investment and are regressive in incidence since upper-income deciles capture most of the distributed subsidies. In other important spending areas there is also room to increase the efficiency of spending – in education, for instance, where appropriate measures could help get more value for money. The cost-effectiveness of spending could also be improved in the development of infrastructure by state and local governments where accountability is weak. Chapter 2 reviews fiscal policy issues overall, and discusses the following key points:

- further improving tax administration;
- improving public spending efficiency at all levels of government;
- increasing state and local government's accountability;
- strengthening tax revenue through a reform that widens the tax base;
- reforming the corporate governance of PEMEX, improving the framework for investment decisions, and eventually allowing joint ventures.

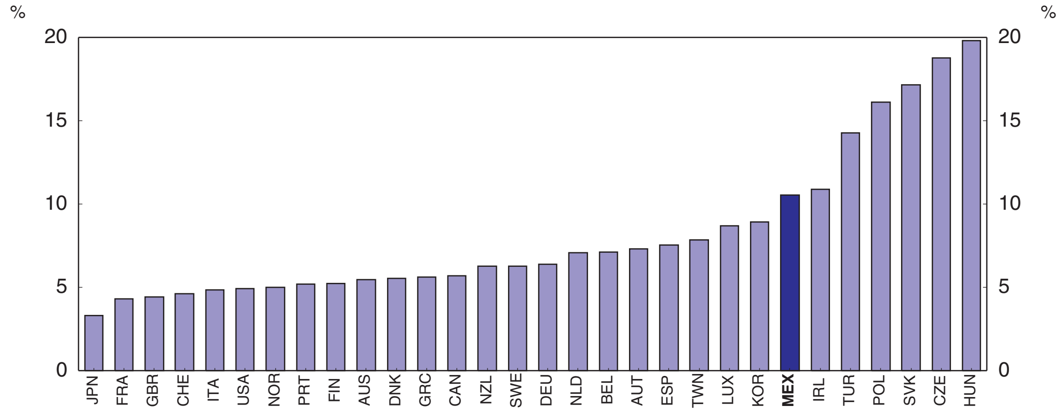
Making the most from integration in the world economy

Empirical evidence supports a positive and strong connection between trade and growth.[4] Mexico's openness-led growth strategy has resulted in a solid growth performance for a period of over ten years, with Mexico experiencing only a small recession in the early 2000s as a normal cyclical development. Total exports expanded by close to 9% per year in volume on average from 1995 to 2005, keeping up with export market growth. By 2006, total goods and services exports had reached the equivalent of 28% of GDP.

Helped by the entry in force of the North American Free Trade Agreement (NAFTA) with Canada and the United States, manufactured goods exports, which account for the bulk of Mexico's goods exports, have expanded by 11% per year in dollar terms on average in the ten years to 2005, compared with 6% for the OECD on average (Figure 1.6).[5] However, Mexico's results were below those of the strongest exporters among OECD countries (Czech Republic, Hungary, Ireland, Poland, Slovak Republic and Turkey). Mexico's manufactured exports to its main export market, the United States, have exhibited a changing performance over the past decade. Significant market share gains were recorded from 1994 to 2001, in value terms; but losses were recorded in the following four years. Since then, Mexico's performance improved again, though it is too soon to assess if this reflects special factors or a structural improvement.

Figure 1.6. **Manufacturing export growth in comparison**[1]

Average growth rate, 1996-2005



1. Manufacturing is defined using the Harmonised System categories. For some countries the period is shorter due to unavailability of data.

Source: OECD, *International Trade Statistics.*

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The loss of market share in the early 2000s reflected to some extent the rapid growth in other countries' exports to the United States (China's in particular). This in itself is not a cause for concern; other countries' market shares must necessarily fall as a consequence of rapid export growth from a large country, but these will be smaller shares of a larger market. International trade is not a zero sum game but a positive sum game: as China continues to grow and its exports increase, its imports will also increase, leading to an expansion of the total international market in which countries trade. But for Mexico to benefit from global expansion implies a deep restructuring and adjustment in the composition of exports.

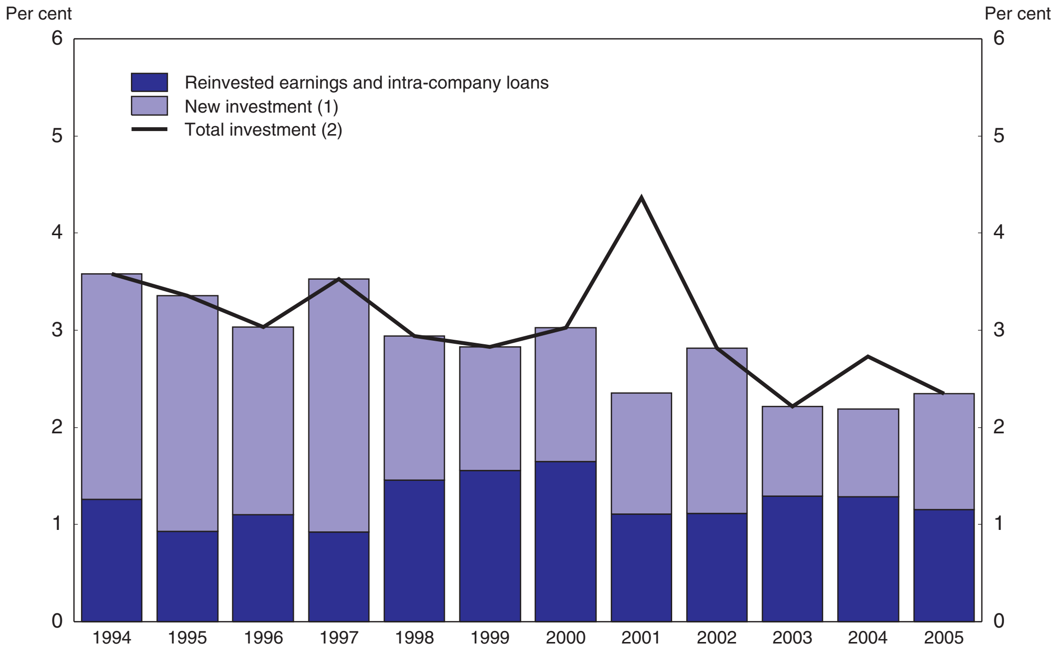
Greater openness to trade and FDI can help Mexico take full advantage of expanding international markets, boost productivity and per capita GDP growth rates, and allow a rapid convergence to living standards prevailing in higher income countries. The challenge is to lift Mexico's export growth further towards rates observed in more rapidly converging economies. Mexico's numerous regional trade agreements (RTAs), its proximity to the United States and rising comparative advantage in more advanced manufacturing put the economy in a strong position to further increase its trade performance. It is important to co-ordinate policy action across a range of areas with the objective of facilitating trade flows. Large improvements have been made in trade policy and tariffs have come down; but on a combined measure of both tariff and non-tariff barriers, Mexico remains relatively protected compared with other OECD countries and developing countries (Chapter 3). Trade growth would be enhanced by easing restrictions to trade, but also by relaxing some of the restrictions on foreign direct investment, as well as improving transport and other infrastructure.

In the past ten years, Mexico has recorded large inflows of FDI, which continued even during the 1995 currency crisis. Over the following period, between 1996 and 2000, gross FDI inflows averaged around 3% of GDP per year, representing a significant source of investment capital (Figure 1.7). Since 2000, however, inflows have slowed, stabilising at around 2% of GDP per year.

Reducing barriers to FDI and increasing the scale of inflows back to earlier levels would be beneficial for Mexico's future growth performance. FDI is closely related to goods trade and, in non-manufacturing, commercial presence is one of the main modes of cross-border

Figure 1.7. **Gross foreign direct investment in Mexico**

Per cent of GDP



1. Excludes the sale of Banamex in 2001 and the sale of BBVA-Bancomer in 2004.
2. Includes the sale of Banamex in 2001 and the sale of BBVA-Bancomer in 2004.

Source: Secretaría de Economía, Dirección General de Inversión Extranjera.

StatLink http://dx.doi.org/10.1787/104040613574

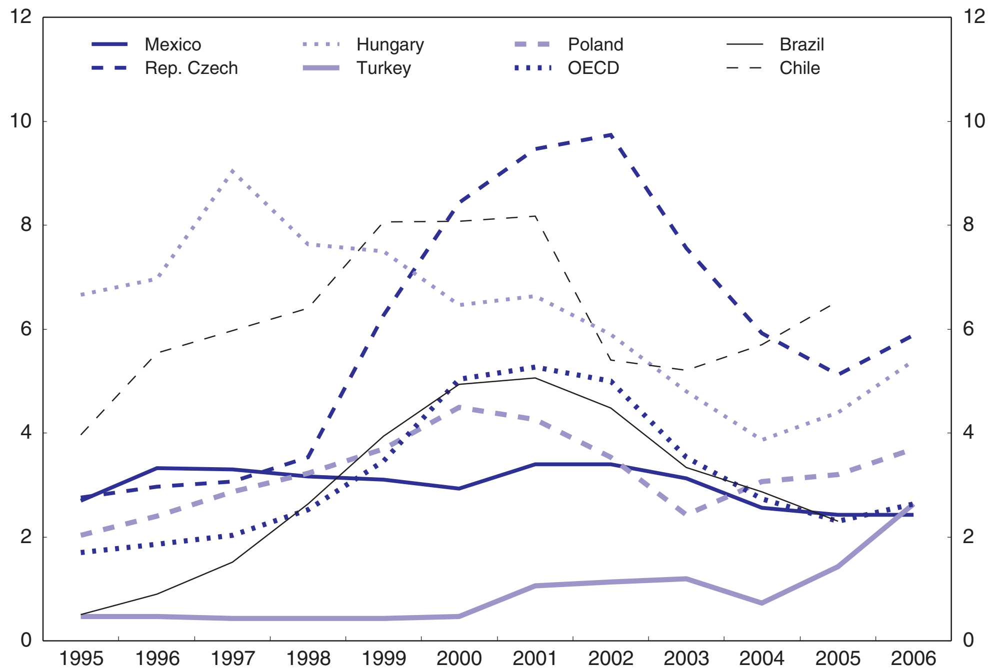
service supply. Higher FDI increases competitive pressures in the economy. Furthermore, FDI is also an important vehicle for technology transfer and a stimulus to innovative activity (Nicoletti *et al.*, 2003). Through all these channels (competition, trade, competition, technology transfers), FDI is considered to be an increasingly important driver of growth (OECD, 2002, 2002a). There is also wide empirical evidence showing that FDI boosts labour productivity, both directly by augmenting the capital stock and indirectly by inducing greater domestic capital investment (Ramirez, 2006).

In international comparison, Mexico fares relatively well, with gross FDI inflows close to the OECD average in more recent years (Figure 1.8). However, several catching-up OECD countries have been able to record much higher FDI inflows relative to GDP than Mexico: for instance, from 2000 to 2006, Hungary had a FDI/GDP ratio of 5% per year, the Czech Republic 7% and Ireland close to 11% per year. This suggests that if a number of bottlenecks were overcome, Mexico would be able to attract significantly higher FDI inflows than at present, given its assets – for example its geographical position, regional trade agreements, the relatively large size of its economy and the abundance of labour.

An important impediment to higher FDI flows to Mexico originates in formal barriers that are still in place. The OECD's FDI Regulatory Restrictiveness Index shows that Mexico's barriers to foreign ownership and other barriers against foreign investment are among the highest in the OECD and higher than in other Latin American countries (Chapter 3). Mexicos restrictions are clearly inhibiting FDI. Easing them would be particularly beneficial since they are concentrated in infrastructure sectors that provide important inputs across the entire economy.

Figure 1.8. **Gross foreign direct investment compared**[1]

As per cent of GDP



1. Three-year-moving averages. Estimates for 2006 are based on the first three quarters of the year.

Source: World Bank and OECD.

StatLink http://dx.doi.org/10.1787/104085373138

One of the important benefits of FDI comes from technological spill-overs that materialize through linkages between foreign and domestic firms. Strong linkages have developed over the years in manufacturing industries, such as the automobile and auto parts branch. For these linkages to develop more deeply into the domestic economy, it is important that local suppliers can meet the quality standards of foreign investors and imitate and adopt foreign technology.[6] Chapter 3 examines trade and FDI policy and discusses the following points in more detail:

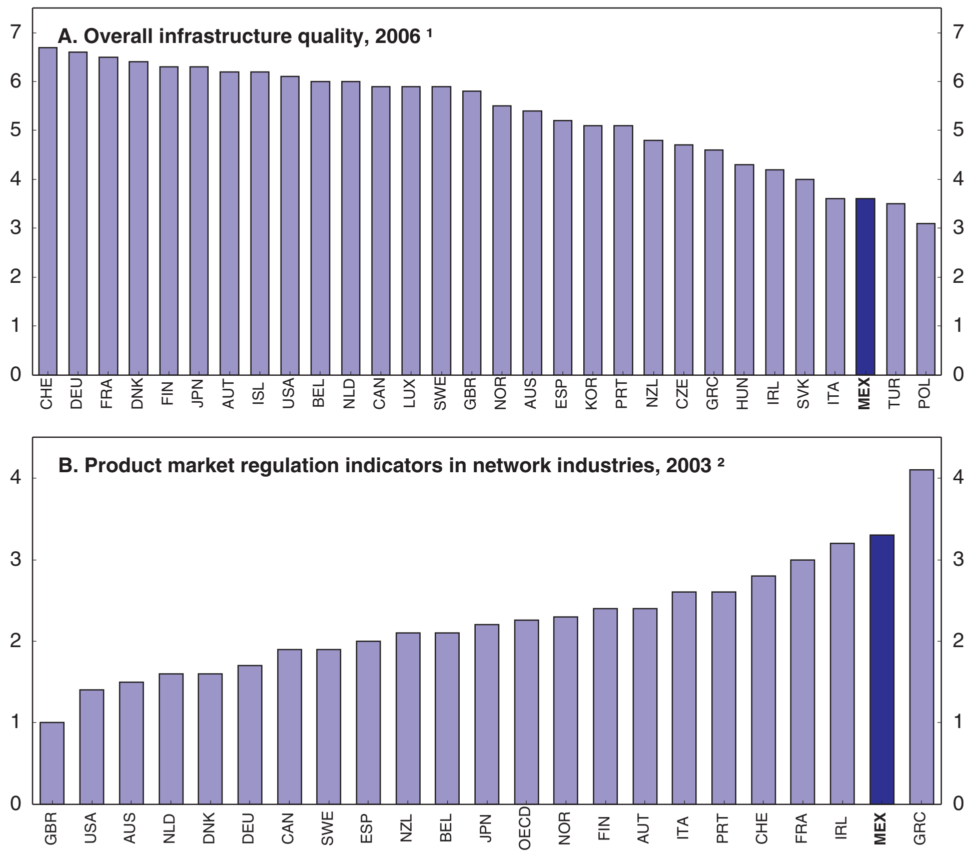
- improving Mexico's trade performance, by reducing tariffs and non-tariff barriers to trade;
- attracting FDI on a larger scale, by easing foreign ownership restrictions on investment in services and infrastructure sectors, sectors which are important for Mexico's business sector at large;
- maximising the gains from FDI by strengthening links between FDI investors and domestic firms to promote technological spill-over effects, which requires adequate framework conditions for businesses.

Improving infrastructure

More efficient infrastructure would improve the efficiency of overall activity in Mexico's domestic market as well as its international trade performance and contribute to increasing Mexico's attractiveness to foreign investors. Reforms have been made in several transport areas, starting with a wave of privatisation and concessions in the early 1990s, which has seen notable increases in productivity, for example in railways and ports. However, there are still problems to be addressed in several transport sectors as well as in inter-modal transportation. Inadequate and inefficient transport infrastructure undermines the business sector's performance and limits Mexico's natural geographical advantage in trade with the rest of North America. Of particular concern are inefficiencies at the land border between the United States and Mexico, the underinvestment in the road network, inefficient procedures at ports in moving cargo from storage to land transport, interconnection difficulties in railways and constraints on air cargo growth. In addition, businesses should have access to reliable, low-cost energy supply (*e.g.* electricity and natural gas) and telecommunication services. Despite past reforms and price declines of several services, competitive forces need to be strengthened as evidenced by electricity and telecommunications prices, which remain high in comparison with other OECD countries. There is a need for stronger competition and better regulations in the economy at large and in infrastructure sectors in particular.

From an international perspective, the quality of infrastructure in Mexico is low (Figure 1.9, Panel A). The low quality of infrastructure also extends to water; there are large physical losses and distributed water is unsafe, so that many Mexican families have to pay

Figure 1.9. **Infrastructure indicators**



1. Response to *Survey* question: "General infrastructure in your country is (1 = underdeveloped, 7 = as extensive and efficient as the world's best)".
2. The scale of indicators is 0 to 6, from least to most restrictive. Energy, transport and communication. OECD aggregate is unweighted average and covers 22 countries only.

Source: World Economic Forum, *The Global Competitiveness Report*, 2006-07; *OECD International Regulation* database and OECD estimates.

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for bottled water. Tariffs are set below the level required to repay investment costs, which discourages private investment; and the collection of tariffs is inadequate. Improvements in water infrastructure are required for the population's welfare, in particular for low-income families who should be able to rely on clean supplies of water at low cost. Adequate water supply is also an important element of the business environment, and manufacturing in particular (Annex 4.A1 in Chapter 4 discusses water infrastructure issues).

An important way to lower prices and increase efficiency of infrastructure in Mexico is to strengthen the competition and regulation framework. Progress has been uneven in this area. On the one hand, regulations in place are relatively stringent in international comparison (Figure 1.9, Panel B) and unnecessarily restrict competition in key network industries. On the other hand, industry regulations that should facilitate competition are inadequate. Access to key network assets, which in several cases is controlled by dominant incumbents (state-owned or private), remains difficult, and this inhibits new entry and hampers competition. The challenge in these areas is to develop pro-competitive industry regulations reflecting best practices and to address the various obstacles preventing effective enforcement of competition policy. Chapter 4 discusses competition and regulation issues that remain to be addressed, with a focus on infrastructure sectors. It identifies factors behind the poor quality of transport infrastructure and the high costs of electricity and telecommunications services, making specific recommendations on how to promote competition and improve regulations in these sectors. The following points are discussed:

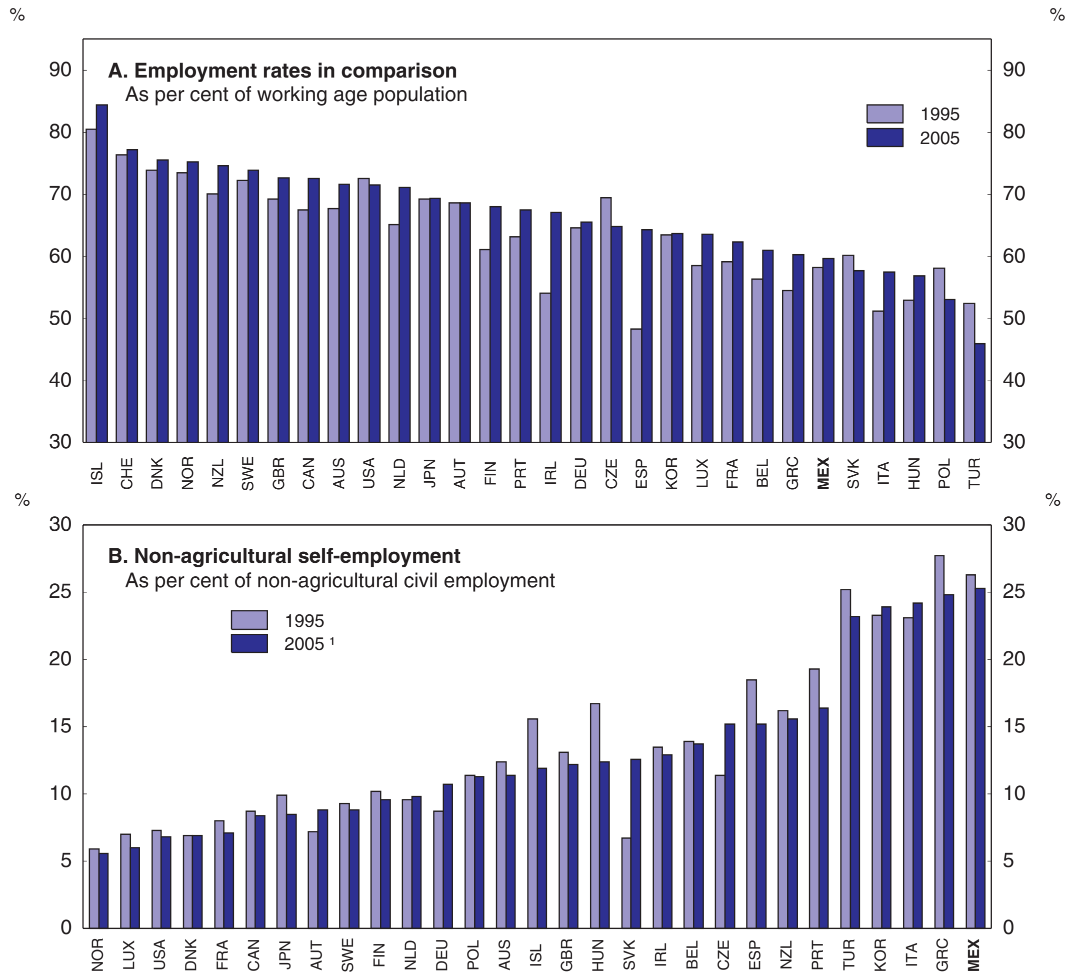
- improving access of competitors to key network facilities and better enforcing competition law and regulation, which are relevant for all network industries;
- strengthening competition and improving regulations in specific sectors, notably roads and trucking, railways, ports, aviation, telecommunications and energy.

Creating more and better jobs and fighting poverty

Mexico faces important labour market and social challenges. The labour market is characterised by a rapidly growing labour force and low open unemployment, but many low productivity (and low pay) jobs. Employment rates are below average, while the share of self-employment is one of the highest in the OECD (Figure 1.10). Since there is no unemployment benefit, many workers who lose their jobs or new entrants in the labour force cannot remain without a job for long, and so they migrate to the United States or accept any job available in the informal sector.[7] Informal employment has grown in tandem with total employment over the years, and it remains large at around one-quarter of total employment. Informal employment is, for many workers, associated with social hardship, scarce training opportunities and poor job security.

The large proportion of low-productivity jobs often – but not exclusively – found in the informal sector to a large extent reflects inadequate human capital, as measured by average years of schooling among the working-age population (Figure 1.11). While much progress has been made in increasing enrolment rates, drop-out rates remain high and education outcomes are weak. Because of its inadequacies, the education system has not been able to generate large intergenerational increases in educational attainment. As shown by many converging countries in the OECD, fast progress in education achievements brings large benefits in terms of economic growth. It will take time before the returns from improved education are reaped, which makes it all the more compelling to act without delay.

Figure 1.10. **Labour market indicators**



1. Belgium, 1999; Luxembourg, 2002; Netherlands, 2002.

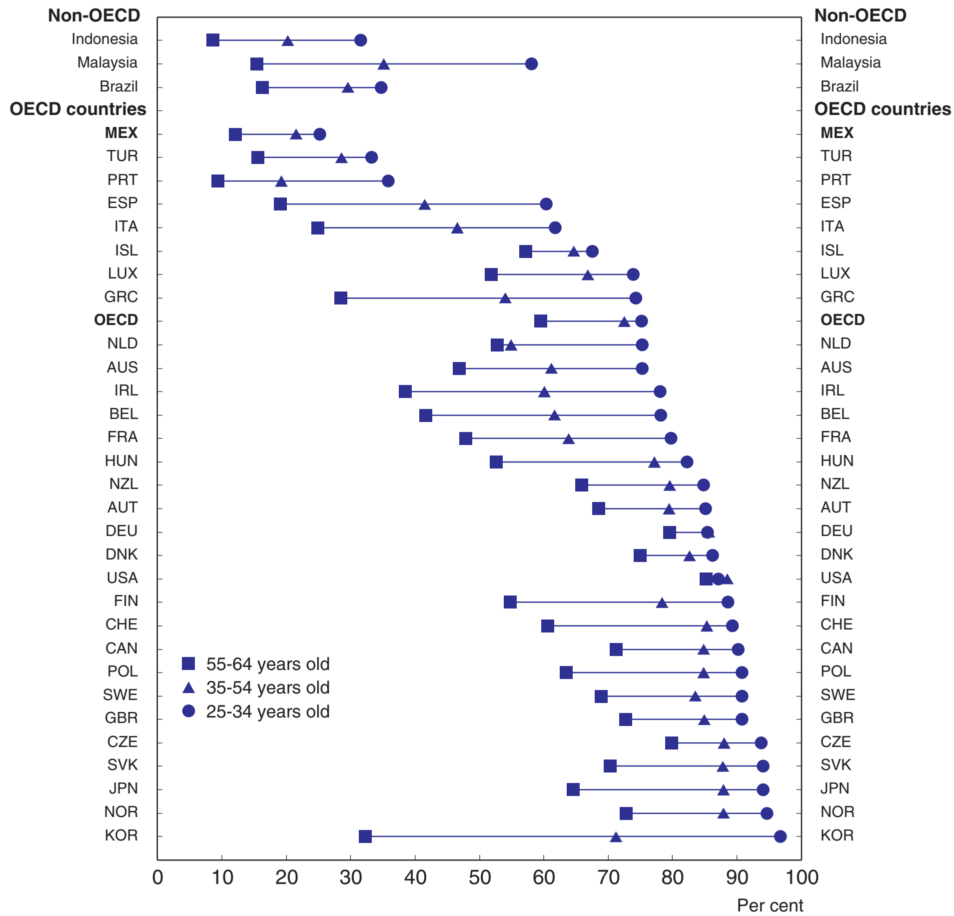
Source: OECD, *Main Economic Indicators* and *ELS* database.

StatLink http://dx.doi.org/10.1787/103733715656

As many current workers left school with low education levels, human capital development also involves training those workers who have already left school and retraining them. Increasing the competences of the Mexican workforce would improve the labour force's flexibility to deal with trade-related and other structural shifts in demand patterns and prices. It would also contribute to attracting higher-technology foreign investment in manufacturing and services. There is clear international evidence that the type and location of foreign investment is strongly influenced by the availability of human resources. An overall better-educated workforce is also more able to adapt to technological change and is generally more innovative. Yet, Mexico is one of the OECD countries with very low training participation, particularly among the low-skilled. Increasing participation in adult training at all levels and improving the effectiveness of training provided would help address the human capital shortage and contribute to the expansion of the more modern and innovative part of the economy.[8]

Figure 1.11. **Educational attainment of the working-age population**

Population with at least an upper secondary qualification, 2003[1]



1. Per cent of each age group. 2002 for Czech Republic, Iceland, Italy and Netherlands.

Source: OECD, *Labour Market Statistics* database.

StatLink http://dx.doi.org/10.1787/103777387247

A number of factors, in addition to low educational achievements, have contributed to the development of informal activities. Of particular concern among these are: the poor efficiency and reliability of social security services; strict Employment Protection Legislation (EPL), large and uncertain severance payments in particular; and the piecemeal approach followed in introducing several social benefits, which are now available to the uninsured population, thus reducing incentives to formal sector employment, especially for low-paid workers. A comprehensive reform strategy will have to be adopted to make formal employment more attractive.

Measures are also needed to facilitate the eventual entry of the poorest members of Mexican society into the formal labour market and allow durable exit from poverty. Poverty creates a vicious circle whereby people do not have the resources to improve their education and health levels and so are very likely to remain in poorly paid informal jobs. Furthermore, without an adequate safety net the probability of individuals falling into low income (often informal) employment is greater.

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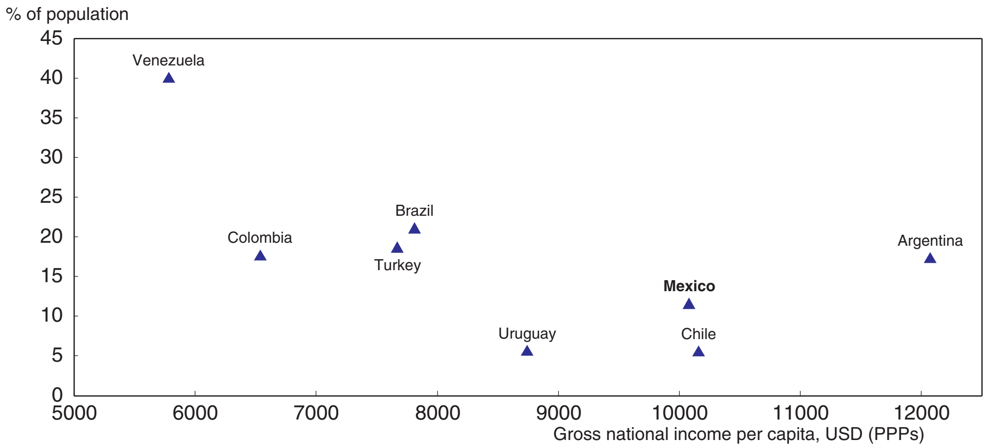
The inadequate social safety net in Mexico leaves a large proportion of the population unprotected against health risks. Over the past ten years, significant progress has been made in reducing poverty levels and related social hardship. However, with 12% of the population still living on an income of less than US$2 per day, the scale of poverty remains critical in 2004 (Figure 1.12). The share of population under the "food poverty" line, according to the national definition (*i.e.* income necessary to buy a basic basket of food) was still close to 18% in 2004. Increasing economic growth is a necessary condition for making further progress, but it is not sufficient. Direct assistance through targeted programmes is also needed. An important objective of the poverty reduction strategy has appropriately been to encourage the acquisition of increased human capital (including both education and health). This approach has been complemented by efforts to protect the most vulnerable segments of the population against health hazards.

Figure 1.12. **Incidence of poverty in selected countries**[1]



1. Share of the population living with less than US$2 per day (PPPs), 2004 or closest year available.

Source: World Bank, *World Development Indicators* database.

StatLink http://dx.doi.org/10.1787/103783104271

As demonstrated by the proportion of the budget allocated to social programmes, poverty alleviation and social protection are a priority of the government. But part of the scarce public resources for social development is spent on inefficient and fragmented social security systems which are regressive and benefit specific groups, leaving the most vulnerable half of the population without a safety net. In the long-term, it would be desirable to integrate contributory schemes, which are currently under-funded, into a unified national health and social support system. This can only be a long process, requiring a long-term strategy. As a start, measures should be taken to address the lack of efficiency in the current contributory schemes and improve their financial health, with a view to freeing scarce public resources that are being diverted from more essential purposes.

Chapter 5 discusses the following main areas for improving the adaptability of the labour market, making formal sector employment more attractive and fighting poverty and exclusion:

- improving the competences and adaptability of the labour force;
- enhancing the attractiveness of social security services and improving their cost efficiency so as to enhance incentives for formal employment;

- increasing labour market flexibility while improving the effective protection of workers, for instance, by replacing severance payments with a system of individual savings accounts;
- strengthening the effectiveness of support for the neediest, by adjusting the main conditional cash transfer programme, widening basic health coverage, and better co-ordinating and rationalising the smaller assistance programmes in operation;
- providing more efficient and equitable healthcare and pensions to those who work in the formal sector and are insured, increasing parity of treatment between public and private sector employees, and freeing scarce public resources to ensure that the basic needs of the population at large are addressed.

Conclusion

The Mexican economy exhibits a high and enviable degree of macroeconomic stability. The fiscal framework has been recently strengthened and fiscal management is sound. However, because public finances depend excessively on oil revenue they are not robust enough to meet the requirements for ensuring faster GDP growth. A solid and reliable revenue base is required to fund essential investments in health, education and infrastructure. The government must take urgent action to increase tax revenue and reduce distortions, thereby reducing reliance on oil revenue. And it should manage its oil assets with a long-term perspective.

Despite reasonable growth in per capita GDP for the past ten years or so, Mexico has not managed to converge to the living standards of other wealthier OECD countries and poverty levels are still high. Mexico needs to introduce further structural reform to raise per capita growth rates faster so as to promote solid improvements in living standards. This is illustrated by experience of OECD countries that have been catching up. Mexico has the advantage of being close to the world's largest economy, so that the benefits from reforms may even be higher than in some other countries. OECD work on growth also underlines the strong complementarities between structural reforms. For instance, product market deregulation delivers larger benefits when education outcomes are higher. The full benefits from reducing trade and FDI barriers will not be realised without improvements in transport and other infrastructure, progress in human capital formation and a more flexible workforce (see Annex 1.A1). Lifting per capita growth rates is necessary for reducing poverty, but the scale of the problem in Mexico requires targeted assistance. Reducing poverty through programmes that encourage acquisition of better health and education will not only increase the well-being of the poorest in Mexico, but also enable a broader share of the population to take advantage of work opportunities and participate in the process of economic growth.

Achieving these goals will not be easy: a common difficulty across all these challenges is the political resistance to change. The quality of a reform is important, but may not be enough to get approval. Communicating the need for reform on a broad front, informing voters about the benefits and costs of reform, and building up relations and frameworks for interaction between the Executive and the Legislature in Mexico are prerequisites for moving ahead with policy reform and effective implementation.

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Notes

1. A number of studies confirm the success of Mexico in inflation targeting. For example: de Mello and Moccero (2006) find the combination of inflation-targeting monetary policy with a floating exchange rate has effectively anchored inflation expectations; Ramos-Francia and Torres-Garciá (2006) find price-setting behaviour is becoming more forward-looking than in the past; Capistrán and Ramos-Francia (2006) and Chiquiar and Noriega (2007) find inflation is now less persistent than in the past.
2. The education attainment of the Mexican population shown in this comparison is biased in favour of Mexico, since the measure for Mexico considers the population aged 24 to 64, while for the other countries it refers to the population 25 and over.
3. Over past years, investments have been made through public-private financing schemes with deferred budget impact (PIDIREGAS), which have been helpful in somewhat easing financial constraints. While in the case of PEMEX these schemes are associated with positive net worth projects, care has to be taken because they involve debt obligations for the public sector.
4. Winters (2004) reviews a wide body of literature and concludes that trade openness raises incomes.
5. Manufactured exports are discussed in more detail because they constitute the bulk of Mexico's goods exports. Furthermore, they are demand-driven and, therefore, market share performance is relevant. By contrast, commodities and agricultural goods are mainly supply-driven so that a falling market share may reflect Mexico's supply capacity constraint rather than how well Mexico's firms are competing in the United States and other markets. Oil exports typically account for around 10% of total goods exports although in 2006, because of higher oil prices, their share had risen somewhat.
6. There is evidence of strong links developing between FDI investors and domestic suppliers (tier 1), but fewer linkages between these tier 1 suppliers and other domestic suppliers (tiers 2 and 3).
7. In the absence of unemployment benefits in Mexico, labour moves between the formal sector and the informal sector or underemployment in response to the cycle or structural shocks. And around 1.5 million Mexicans attempt unauthorised cross-border crossings to the United States annually of which about one-third are successful (*i.e.* an annual outflow of close to 0.5% of the population).
8. Already an increase in the supply of well-qualified Mexican engineers is attracting additional foreign investment in advanced manufacturing and design sectors, for example, in jet engine design and aircraft system testing (see *Business Week*, 2006).

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ANNEX 1.A1

Progress in structural reforms

This table reviews recent action taken on past OECD recommendations for structural reform. More detailed recommendations based on analysis in this *Survey* are listed in the relevant chapters.

Recommendations	Action taken since the previous *Survey* (November 2005)
TRADE AND FOREIGN INVESTMENT	
Gradually reduce applied most favoured nation tariffs.	Cuts to intermediate input tariffs made in September 2006.
Reduce non-tariff barriers including: streamlining customs and technical and labelling standards; eliminating exclusive entry ports, reference prices and special registration lists for imported goods.	Programme to improve customs procedures, in progress.
Reduce foreign ownership restrictions.	Some restrictions on investment in the financial sector eased.
Encourage linkages between foreign and domestic firms.	Supplier development programme expanded.
COMPETITION, REGULATION AND INFRASTRUCTURE	
Undertake a broad review across the economy of legal restraints at both the federal and state levels on competition.	No action.
Improve enforcement of competition law and increase the resources and powers of the Competition Authority (CFC) to promote competition.	Competition Law changes in 2006 giving the CFC power to issue binding decisions on secondary regulations.
A. Energy	
Electricity: Increase competition in electricity generation, encourage private sector investment.	No action.
Gas: Continue liberalisation and opening up of the sector.	Ongoing.
Oil: Reform the governance and operation of PEMEX and the fiscal regime that applies to PEMEX.	Changes made to PEMEX Fiscal Regime in 2006, reducing the effective tax burden on the company.
B. Telecommunications	
Facilitate new entry and improve the regulatory framework to enhance competition.	Issued licences to cable TV companies to provide telecommunications services.
Promote broadband including unbundling the local loop, regulate mobile phone termination charges and introduce mandatory roaming for small companies to use the largest firm's network at a regulated price.	No action.
C. Transport	
Border and trucking: Improve efficiency at the US-Mexico border.	Pilot programme agreed to allow cross-border trucking. To be implemented.
Airlines: proceed with privatisation of Aeromexico and Mexicana as separate entities.	Mexicana privatised in 2006; Aeromexico to be done.
Roads: encourage private sector investment.	New PPP and concession programme for roads launched.
Railways: introduce and independent rail regulator and new access pricing rules to resolve interconnection disputes.	No action.
Ports: improve port efficiency including improving wharf to land transport transfer and customs procedures.	Programme to improve customs procedures, in progress.

Recommendations	Action taken since the previous *Survey* (November 2005)
PROMOTE A BUSINESS FRIENDLY ENVIRONMENT	
Facilitate entry and exit of firms.	Ongoing extension of fast track system for start-ups (SARE).
Reduce business costs.	In progress
ENHANCING HUMAN CAPITAL	
A. Increase coverage of post compulsory education	
Facilitate access of poorer students to upper secondary education.	Extension of *PROGRESA/Oportunidades* to upper secondary has a positive impact.
Increase fees for tertiary education while developing an unsubsidised student loan market and increasing the scope of scholarships for low income students.	No recent action.
B. Increase quality of education services	
Modernise curricula and better integrate them between levels.	Ongoing.
Evaluate schools and publish results.	In progress, but implementation should be stepped up.
Review incentives for teachers.	No recent action.
C. Facilitate the transition from school to job	
Consider the introduction of apprenticeship contracts or alternation programmes.	No action.
Further strengthen vocational education.	Ongoing.
D. Adult training	
Continue implementation of skill standardisation and certification.	Recognition of prior learning is implemented on a large scale.
Strengthen public training programmes.	Ongoing.
Upgrade entrepreneurial competences in small and medium-size enterprises.	Implementation is progressing and range of training programmes has been widened.
LABOUR MARKETS	
A. Increase the flexibility of employment regulations	
Ease employment protection provisions while putting in place minimal revenue support in case of job loss.	No action.
Introduce probation period, to facilitate job creation through long-term contracts.	No action.
Broaden scope for using short-term contracts.	No action.
Broaden scope for using part-time contracts.	No action.
Review overtime remuneration.	No action.
B. Review tax and benefits	
Increase IMSS efficiency.	Ongoing, but implementation should be stepped up.
Increase attractiveness of individual pension savings (SAR).	SAR Reform (April 2007), putting emphasis on rates of return and transparency.
Bring in line public sector pension schemes with private sector.	ISSSTE reform for federal government (March 2007) is a 1st key step, improving sustainability and facilitating labour mobility.
Reform public housing fund (INFONAVIT).	No action.
Review social contribution rates, rather high at the low end of the salary scale.	No action.
Avoid use of payroll tax.	Payroll tax eliminated at federal level (in 2003); still in place at state level.

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Chapter 2

Putting public finances on a firmer footing

Mexico has shown responsibility in fiscal policy, and its headline fiscal position is good. However, the underlying situation of public finances is not yet comfortable because of the heavy reliance of the budget on uncertain oil revenue. As a consequence, fiscal policy is heavily influenced by world oil prices and the sustainability of national oil production. At the same time, there are increasing demands made on the budget for development priorities in the areas of basic infrastructure, education, health and poverty alleviation, which require reliable financing. Increasing the efficiency of public service delivery is a sine qua non for fiscal policy to support the catching-up process, but it will go only part of the way to meeting increased budgetary demands. Mexico's tax/GDP ratio is one of the lowest in the OECD and a far-reaching tax reform is a priority in order to increase revenues while reducing distortions. A review of fiscal relations across levels of government is also needed to improve the division of powers and responsibilities and strengthen sub-national governments' accountability. The new government is planning a broad public finances reform, which is promising. Passing the required reforms and implementing them remains a major challenge.

Mexico has a good fiscal record

Mexico has shown responsibility in fiscal policy. Budget deficit targets have been attained and its headline fiscal position is good. The revenue increases produced by rising world oil prices since 2002 have helped bring public finances into balance. Even the wider definition of the budget deficit – which includes the cost of banking sector rescue package and of public-private schemes, PIDIREGAS[1] – has come down, with the public sector borrowing requirement (PSBR) down to 1.2% of GDP in 2006 (Figure 2.1). The broad public debt has come down to about 35% of GDP. Its structure has been strengthened by a reduction of foreign indebtedness and a lengthening of the average maturity of debt instruments.

Recent years have been a test on fiscal discipline, when faced with high oil revenue

Over the past five years, Mexico has benefited from rapidly growing oil prices and rising oil revenue. The reference oil price used for the budget has been constantly raised since 2002, but oil revenue turned out to be higher than budgeted every year because prices had risen to above the reference price (Figure 2.2). In particular, high – and partially unexpected – revenue were recorded in the past two years.

Abundant fiscal resources in 2005 and 2006 have allowed additional public spending while reducing the public debt and transferring resources to the oil stabilisation fund. Budget rules have been applied for several years, supporting fiscal discipline and helping to protect the budget against the volatility of oil prices: in particular, rules have been in place since 1998 to adjust spending in case of revenue surprises, and since 2000 to allocate extra revenue in case of windfalls. Furthermore, a formula was introduced, although it was not mandatory, to set the annual oil reference price on a technical basis. This has helped fiscal management, and extra revenue has generally been spent wisely or saved.

The fiscal framework was further strengthened in 2006, with the new Budget and Fiscal Responsibility Law. The new law establishes strict budget rules in the law and a formula to calculate oil-related revenues. It also defines new guidelines for allocating excess revenue and drawing from the various stabilisation funds (the States Revenue Stabilization Fund, PEMEX Investment Stabilization Fund and the Oil Stabilization Fund). The new law is expected to establish good budget practices more firmly, ensuring that extra resources of a non-recurrent nature are oriented to non-recurrent spending, to be saved or invested. This is appropriate since oil wealth, as a non-renewable resource, should be used for investment (including human capital formation) so as to enhance growth potential.

Prudent assumptions underlie the 2007 budget

Budget targets were easily met in 2006. Higher-than-projected revenue allowed increases in spending and a reduction in the deficit, as well as additional transfers to the oil-stabilisation fund, to the PEMEX investment fund and to states and local governments for infrastructure. The PSBR (including the cost of bank restructuring and public-private

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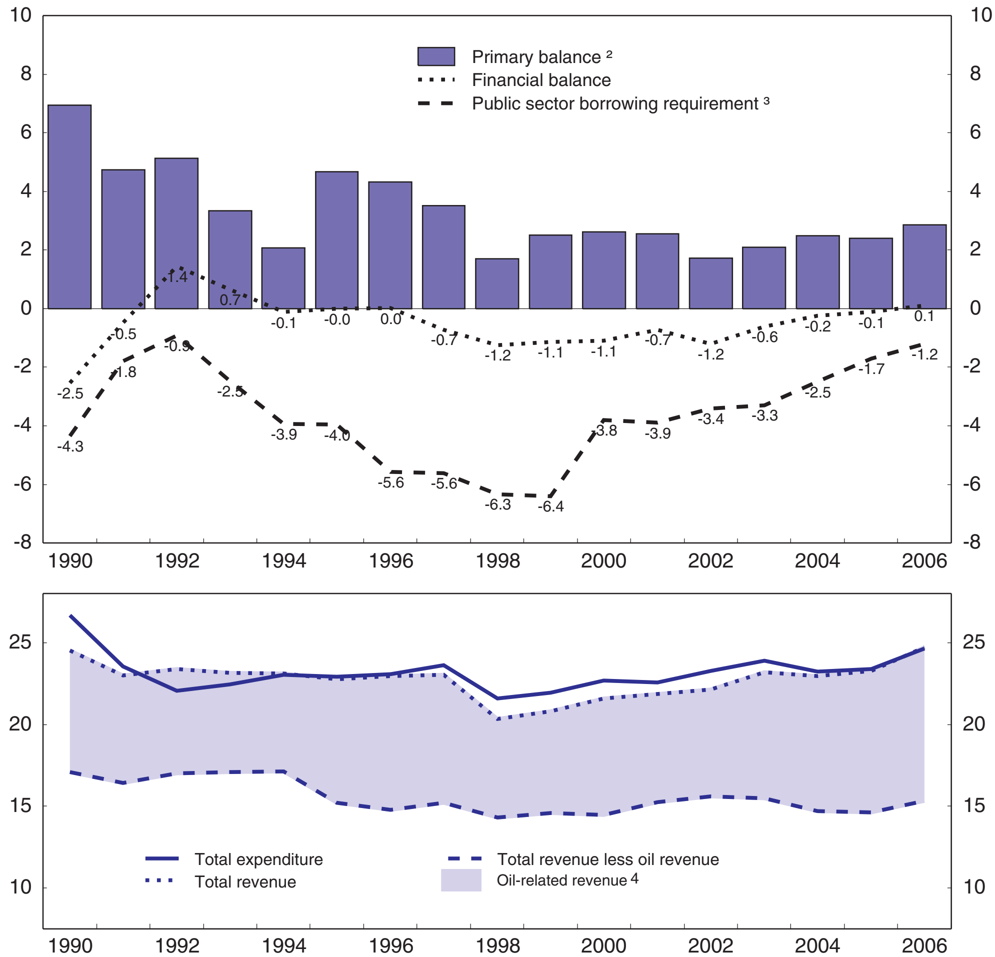
Figure 2.1. **Public sector budget aggregates**[1]

Per cent of GDP



1. The public sector comprises federal government and public enterprises under budgetary control.
2. The primary balance is the financial balance less net interest payments (such as PEMEX). Financial intermediation by development banks is not included.
3. Public sector borrowing requirement (PSBR) includes net costs of "PIDIREGAS", inflation adjustment to indexed bonds, imputed interest on bank-restructuring and debtor-support programmes and financial requirements to development banks. Non-recurrent revenues (privatisation) are not included. Further adjustment to include the net non-recurrent capital costs of the financial sector support programmes would increase the PSBR.
4. Includes oil extraction royalties, VAT and excise taxes on oil products.

Source: Ministry of Finance; Banco de México; OECD, *Economic Outlook* database 81.

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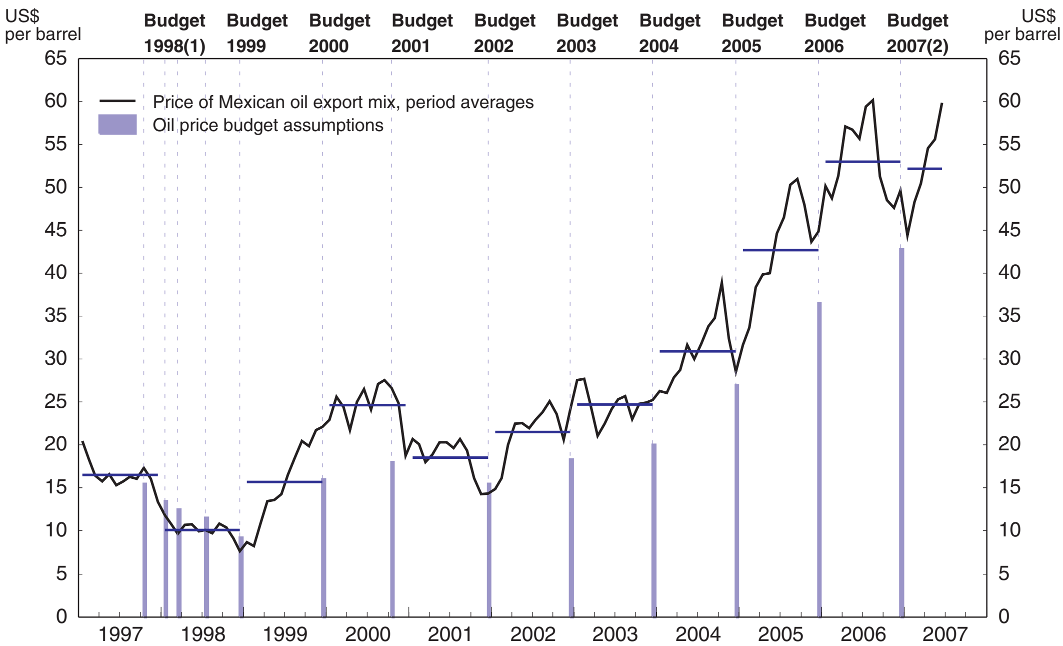
investment projects but excluding non-recurrent revenue) was down to 1.2% of GDP, half a percentage point below the 2005 outturn.

With a lower oil price reference and oil export volume built in the 2007 budget, public spending is projected to be constrained. The 2007 budget projections target a balanced budget, with a PSBR at 1.7% (excluding non-recurrent revenue). A reduction of oil-related revenues of a little more than 1% of GDP is incorporated in the budget projections, based on a (prudent) oil price assumption of 42.8 d/b for the Mexican export mix, roughly equivalent to 50-51 d/b for world oil prices. The prudent assumptions for oil prices and export volumes underlying the 2007 revenue projections are appropriate given prevailing uncertainties.[2]

Figure 2.2. **The oil prices and budget assumptions 1997-2007**



1. Three adjustments were made to the 1998 budget assumptions in the course of 1998.
2. According to the approved budget for 2007.

Source: Ministry of Finance; PEMEX.

StatLink http://dx.doi.org/10.1787/104203287600

In case of revenue windfalls, the new Fiscal Responsibility Law defines specific rules to distribute extra revenue. In particular, after adjustment for a number of possible surprises, windfalls have to be allocated to three stabilisation funds (40% for the oil stabilisation fund, 25% to the states revenue stabilisation fund, 25% to the PEMEX investment stabilisation fund), and the rest is to be transferred to the states for investment spending. The large share allocated to investment in case of revenue windfalls is appropriate, given outstanding needs, provided several conditions are filled. First, at all levels of government, investment projects should be set within multi-year budget planning, to avoid the inefficient and costly "stop and go" approach that has often characterised the past when investment was adjusted in accordance with oil revenue surprises. Second, the accountability of sub-national governments, which have been receiving increasing resources, has to be strengthened. Whether or not oil windfalls materialise again in 2007 will depend not only on world oil price developments, but also on the production capacity of PEMEX and Mexico's oil exports volume.

The underlying fiscal position is not yet comfortable

More reliable revenues are needed to support long-term economic growth

Non-oil revenue is low relative to GDP, and Mexico's tax/GDP ratio is one of the lowest in the OECD. Even including oil-related revenue (close to 40% of the total), budget revenue is very low in international comparison (Figure 1.5 in Chapter 1). This reflects the narrow tax base associated with numerous tax exemptions and special regimes, which make tax collection difficult. The heavy reliance on uncertain oil revenue and the narrow tax base makes fiscal policy too sensitive to the oil cycle and unable to properly smooth the business cycle. Furthermore a number of structural weaknesses have yet to be addressed. First, under the existing budget constraints, some spending needs are not met, among which physical and social infrastructure in health and education services, which are important factors for long term growth. Second, off-budget operations have been contributing to spending pressures. Third, the way states deal with transfers earmarked for investment (whether budgeted or funded by windfall revenue) is difficult to assess, although it is highly relevant to gauge the effective capital formation in the country.

There are development priorities in education, health, poverty alleviation and basic infrastructure (roads, water, sewage, etc.). Some of these recurrent spending needs have to be financed by permanent sources of revenue that are not affected by the changes in oil revenue. Spending for poverty alleviation for instance needs to continue on a large scale and its source of financing has to be stable. There is a long list of areas where additional spending is required, some of it having already been committed.

- In education, increasing cohorts are being enrolled in secondary schooling and basic investment shortages need to be addressed. Considering quantitative improvements only, additional spending of about 1½ per cent of GDP is required.[3] Increases in the system's efficiency, which could be obtained through appropriate reforms are also needed.
- In health, the widening of the *seguro popular* (basic health insurance) has a substantial budget cost. The programme, which insures the "uninsured/uncovered" population, had an estimated cost of 0.8% of GDP per year, when in full operation, with the objective of reaching a full coverage of the targeted population by 2010. The on-going expansion is rapid.[4]
- Population ageing puts pressures on the budget through the pension regimes of various government employee categories. The reform of the federal government employees' pension regime, ISSSTE, has reduced liabilities (Box 2.1); but reforms of other public pension systems, including those for state employees and PEMEX employees, remain to be done.

Box 2.1. **Reforming the government employees social security system (ISSSTE)**

A pension reform of federal government employees (ISSSTE) was passed in March 2007. By tightening eligibility rules and generosity of benefits, it significantly reduces the federal government's pension liabilities. With the reform, the present net value of contingent liabilities is expected to decline from 57% to around 35% of GDP. Pension contributions will be channeled to individual accounts, allowing portability. The transition generation receives a bond recognising their accrued pension rights as debt – maturing at the time corresponding to the retirement age of the worker. This will allow inter-temporal distribution of the impact of the transition on public finances.

The annual deficit of ISSSTE, absorbed by the government, was growing at a constant and alarming pace – up from 10.3 billion pesos in 2000, it reached about 37.7 billion in 2006 and was expected to reach some 55 billion pesos in 2009, in constant 2006 pesos.

Besides the federal government ISSSTE scheme, most states have their own ISSSTE pension systems for their employees. The social security institute, IMSS, for its own staff (including its medical staff) and state-owned companies also have their own social security sub-systems. Building on the recent ISSSTE reform, which covers a large share of public sector employees, these schemes will also have to be reformed.

- In the private sector employee pension scheme, IMSS, based on individual savings accounts, the minimum guaranteed pension is often higher than savings, creating a liability for the budget – although recent measures were taken to improve rates of returns on savings account.[5]
- The cost of amortising long-term infrastructure projects built under the hybrid PIDIREGAS schemes is substantial, reaching between ½ and 1% of GDP per year for some time ahead.[6]
- In social policies, new programmes were introduced in 2007, requiring some additional financing.

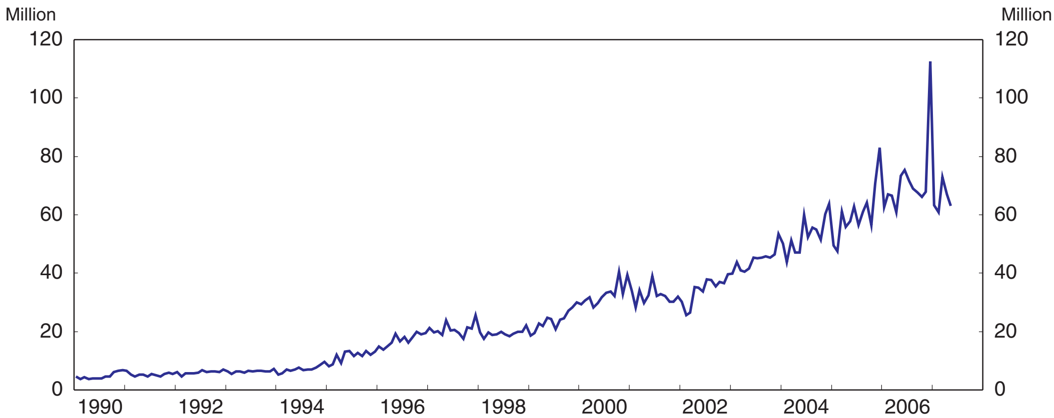
The total of additional spending required (including spending already committed) amounts to several percentage points of GDP.

How large will oil-related revenue be in the longer run?

A major challenge for public finances in Mexico is how to reduce dependence on oil revenue in the medium term. Oil revenue followed an upward trend over the past four years or so, but volatility has increased and there are growing uncertainties about future oil revenue (Figure 2.3). In the recent past, uncertainties were typically related to the duration of the high price environment.[7] Today the speed of depletion of Mexico's oil reserves has become another critical issue.

Figure 2.3. **Public sector oil revenues**

Monthly oil revenues in pesos



Source: Ministry of Finance; PEMEX.

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Production from the main extraction fields has already started to decrease (see PEMEX oil production in Annex 2.A1). Oil production in the years to come depends heavily on the development of new extraction projects, which will require significant investment resources as well as new technologies and the application of best practices. These investments in new production fields are essential, but there is also a need to reduce the dependency of the budget on oil revenue without delay. Advertising prospects of declining production and the depletion of proven oil reserves could help the public understand the underlying fragility of public finances.

Whatever the factors affecting fluctuations in oil revenue, it is important to reduce the impact on the budget by strengthening the more stable tax revenue component. The formula to set the oil reference price in the Budget and Fiscal Responsibility Law is an improvement. It can be further improved by reducing the influence of temporary hikes in oil prices. For example, it may be appropriate to define a prudent long-term reference price for oil and maintain it for several years. As set in the current guidelines, the extra revenues arising from prices above the reference are to be used in ways that improve public sector net worth – *i.e.* capitalising the Oil Stabilisation Fund, reducing the public-sector debt, financing pressing infrastructure needs at the federal, state and local government levels and strengthening the financial position of PEMEX itself. With these rules in place, legislators and the public at large are likely to understand that additional revenue from a predictable source is required to finance higher spending of a recurrent nature. They also have to be convinced that additional public resources will be used in an efficient manner, which certainly requires close monitoring and evaluations as well as policy measures to improve the quality of spending and the impact of programmes.

Large-scale investment in PEMEX exploration and production is needed

Oil revenue has been extracted from the state-owned oil company, PEMEX, in a manner that is reducing the long-term return from this revenue source. Until now, raising investment in the oil sector has meant either fiscal policy tightening or issuance of public debt – through PIDIREGAS schemes. The new tax regime for PEMEX is an improvement and, according to new budget rules, PEMEX will get a larger share of any revenue windfalls. But more should be done, along the following main lines of action:

- Reforming the corporate governance of PEMEX to strengthen incentives for maximising the company's efficiency and introducing more independent commercial experience on the Board. The accountability of the company's Board and management should also be increased.
- Improving the framework for PEMEX investment decisions.
- Assessing whether the additional resources PEMEX gets with the newly introduced fiscal regime are sufficient for the company to undertake adequate oil-field maintenance and investment.
- Restrictions on PEMEX entering into joint ventures will have to be eased even if this requires changes in legislation. This will be important to enable the company to access the technology it needs and help it to better manage risk exposure in developing deep water resources, which are large and difficult projects.

A detailed discussion on PEMEX is included in Annex 2.A1.

Measures to strengthen public finances should not be delayed

Aware of the importance of strengthening public finances to avoid problems in the future, the government submitted to Congress in June 2007 a comprehensive public finance reform, which includes four main pillars: *i)* strengthening of the tax administration to facilitate tax compliance and tackle tax avoidance and evasion more effectively; *ii)* establishing an institutional structure for systematic impact evaluation of public programmes at the three levels of government to improve spending efficiency; *iii)* reviewing relations between levels of government, so as to promote responsibility and accountability at each level; and *iv)* engaging in a tax reform that seeks to reduce the dependence on oil revenue and reinforce more stable sources of revenue. The broad approach that is being followed is appropriate and can help to overcome political resistance against one element of the reform or another. If approved, the reform would imply significant progress in strengthening public finances.

Further improving tax administration

As in other OECD countries, Mexico's tax administration (SAT) faces many challenges: there are the day-to-day requirements of helping to achieve budget revenue targets and providing adequate services to taxpayers, against a backdrop of significant and diverse non-compliance issues, and the on-going need to develop a competent and trustworthy workforce, information technology services, and internal financial management. Mexico also faces some additional – although not unique – challenges. There is a considerable number of individuals who should be, but are not, registered for tax purposes and overall revenue leakage is substantial. Tax revenue collection is seriously affected by weak compliance, even in the formal sector. At the same time, in international comparison, the administration appears to be understaffed.[8] Audit activities are relatively small in scale – and have been on a declining trend in recent years. A related issue is the substantial level of unpaid tax debts which is very high in international comparison (reaching 34% of annual revenue collected in 2004, compared with less than 10% for Brazil and Spain and about 13% for Hungary).

The government's proposal includes some measures to facilitate voluntary compliance to tax obligations as well as measures aimed at reducing tax evasion and taxing the informal sector, including the following: *i)* a simplification of the personal income tax regime (the fiscal subsidy that currently mitigates inequality created by the non-taxation of fringe benefits will be incorporated into a single tax rate, a measure expected to be revenue neutral); and *ii)* the introduction of a new tax on cash deposits over 20 000 pesos per month (about 2 000 US$), which will be recoverable against the income tax.[9] By raising the perception of fairness in taxation, the tax administration measures are important for the success of the overall public finance reform.

Seeking efficiency gains in public spending

Efficiency gains in spending are needed at all levels of government. They can go some way towards limiting new funding needs.[10] Two main examples among the various areas to be addressed can illustrate the need to implement efficiency-enhancing reforms. In the education sector, in particular, measures are needed to increase efficiency and improve the quality of teaching.[11] The most promising options include:

- making better use of existing evaluations to influence policy decisions;
- further strengthening teachers' selection and training, and ensuring that the existing financial incentive scheme (*Carrera Magisterial*) promotes good performance;
- raising the share of educational funding that goes to non-wage expenditure, which international experience has shown to be essential to the quality of teaching;
- better balancing of education spending across education levels, giving more priority to secondary schooling, in particular upper secondary, where more and better services have to be offered to coming cohorts;
- giving more priority to states that have the largest enrolment lags, which would bring benefits both in terms of equity and efficiency.[12]

Another area to tackle is the use of subsidies in many areas: for instance, water, electricity and gasoline (where price at the pump did not rise with crude oil prices). These subsidies distort incentives, and are regressive and costly for public finances. They also are detrimental for the environment and long-term energy efficiency of the economy.

Removing subsidies and using part of these funds for direct cash transfers to the poor when appropriate would achieve several policy goals simultaneously:

- helping to reduce distortions in the economy and encourage investment in areas of vital importance for growth and living standards, including water and electricity infrastructure;
- helping to reduce poverty by directly augmenting the incomes of the poor;
- improving income distribution by increasing the progressivity of public policy;
- enhancing the fiscal position by reducing overall expenditure;
- increasing incentives for consumers to be more efficient.

The government proposal currently under consideration to increase spending efficiency and improve resource allocation involves setting up a performance evaluation system which will aim at evaluating economic and social impact of government programmes. A National Council for the Evaluation of Public Policies would be created, and the scope of the current Council of Social Development Policy Evaluation (CONEVAL) would be expanded so that it can evaluate all policies at the federal level. The results of the evaluations would be made public, and they would be used to influence policy decisions. The use by sub-national governments of federal grants (*i.e.* earmarked grants) and federal subsidies would also be evaluated by local independent institutions to assess whether they attain their objectives.

It is an ambitious project made of two main components: the evaluation of programmes and the evaluation of the public administration. Once the new system is approved, plans are to develop the evaluation programme in 2008, so that it can be implemented in preparing the 2009 draft budget. Since there are some already well-identified weaknesses in various spending areas, for instance, education and subsidies as mentioned above, action to address these could be undertaken without further delay.

Measures are also proposed to provide greater certainty to public infrastructure investment and reduce costs. The procedures for determining investment priorities in the Expenditures Budget would be strengthened. Furthermore, the federal government would be required to develop an investment plan, ranking projects over the short, medium and long term, according to their socio-economic returns, including considerations of their impact on poverty and their consistency with other investment projects. Multi-annual budgets for investment projects in infrastructure would also have to be established. These measures, if approved and implemented, would provide more certainty to public investment and contribute to reduce the financial cost of projects.

Equally important is the question of state and local government spending on infrastructure development. While there are large transfers to states, including from the special funds created from oil-revenue windfalls, there is a lack of accountability at the sub-national level. The government's proposal envisages standardising government accounting across the three levels of government, a measure recommended in the OECD *Economic Survey of Mexico* (2005) to promote transparency and accountability.

Revamping relations with sub-national governments

Fiscal relations across levels of government can be improved. Sub-national governments have been receiving increasing transfers from the federal government, coupled with spending responsibilities, but accountability is weak. Some of the recommendations made by the OECD in its 2005 *Economic Survey of Mexico* are particularly relevant to enhance the soundness of public finances.[13] On the revenue side, it is important that states and local governments share in the effort to raise more revenue nationwide, using the taxing powers they enjoy. Transfers from the federal government should not be increased further, so as to give sub-national governments an incentive to raise their own revenue to finance part of the new spending they are responsible for. This would increase responsibility. On the spending side, the share of the budget channelled to states and municipalities for investment has increased from less than one-third in 2000 to nearly 40% in 2005.[14] However, there is little control on how the recent additional resources transferred to sub-national governments are being used. The lack of accountability is a concern for all earmarked grants more generally, for instance, FAIS for social infrastructure or FAEB for education. Controls on their use exist practically only at the local level. There is no way to ensure that the grants are spent for the purpose they are designed for in the first place. Positive incentives or sanction mechanisms are absent and information is not well-developed. Because the amounts transferred are substantial, increasing accountability at the sub-national level has become all the more important. It could help if taxpayers (hence voters) were better informed about the responsibilities (and accountability) of the various levels of government in the provision of public services.

The reform proposal includes a number of specific measures to improve fiscal relations across levels of government. First, the proposal seeks to give more possibilities to states and municipalities to raise their own taxes: sub-national governments would be allowed to establish a specific tax on the final sales of goods already taxed through a federal excise tax (IEPS); and in the medium-term, the tax on vehicle property would be replaced by a state-level tax. Second, incentives to collect tax revenue would be strengthened. In particular, the revenue-sharing formulas would be modified so that the future increases in transfers would be distributed according to the states' growth performance and its efforts at collecting taxes. Third, the proposal envisages changes in the allocation of earmarked grants across sub-national governments. The objective is to increase the redistributive component of these transfers and to better reflect local needs. For instance, in the case of the earmarked funds for education (FAEB), the increase in transfers would be allocated across states according to the number of students enrolled in the public schools of the state (and an index measuring quality – to be developed by the Ministry of Education). The measures in the proposed reform of fiscal relations tackle some of the areas of concern identified in the 2005 *Economic Survey*. An important step to help the monitoring of the use of public funds at the sub-national levels of government would be to promote the publication of standardised financial accounts, as noted above.

Moving ahead in tax reform[15]

Beyond what can be achieved to release some additional revenue at all levels of government through efficiency gains on the spending side, a tax reform is needed to both increase revenue and reduce distortions. Clearly the tax system is not robust enough to finance additional spending already committed and incompressible, which, as noted above, is substantial.

Mexico's taxes in comparison

A comparison of Mexico's tax system with those in other OECD countries, based on standardised revenue statistics, shows a much lower tax-to-GDP ratio in Mexico – at 19% in 2004, a number falling to about 15%, excluding oil revenues. This is well below the OECD

Table 2.1. **How Mexico's tax system compares with other OECD economies**

	Tax/GDP	Percentage of total tax revenues: Personal income tax (PIT)	Corporate income tax (CIT)	Consumption tax	TOP PIT rate	CIT rate	TAX wedge[4]	TOP rate on dividends	Standard VAT rate
	2004	2004	2004	2004	2005	2006	2005	2006	2006
Mexico	**19.0**	**24.6**[1]		**55.5**[2]	**30.0**	**29.0**	**18.2**	**29.0**	**15.0**
Canada[3]	33.5	35.1	10.3	25.9	46.4	36.1	31.5	50.9	7
United States	25.5	34.7	8.7	18.3	41.4	39.3	29.2	48.7	0
Australia	31.2	40.2	18.2	28.5	48.5	30.0	28.4	46.5	10
Japan	26.4	17.8	14.2	20.0	50.0	39.5	27.7	45.6	5
Korea	24.6	13.6	14.3	36.3	38.5	27.5	17.2	48.7	10
New Zealand	35.6	41.0	15.5	33.8	39.0	33.0	20.5	39.0	12.5
France	43.4	17.0	6.3	25.6	55.9	34.4	50.1	55.9	19.6
Germany	34.7	22.8	4.5	29.2	45.2	38.9	51.9	52.4	16
Italy	41.1	25.4	6.9	26.4	44.1	33.0	45.4	44.8	20
Spain	34.8	17.7	9.8	28.0	45.0	35.0	39.0	50.0	16
United Kingdom	36.0	28.7	8.1	32.0	40.0	30.0	33.5	47.5	17.5

1. Mexico reports a combined share of PIT + CIT.
2. Tax revenue under the consumption tax for Mexico includes all oil-related taxes (in the standard OECD revenue statistics, the taxes on the production, sale, transfer, leasing and delivery of goods and rendering services include that part of the profits of state-owned enterprises that is transferred to the general government).
3. The VAT rate for Canada is the Federal Government Rate. Some provinces also levy a VAT.
4. The tax wedge is the difference between the costs to an employer of employing an unmarried worker with no children and the net wage that the worker receives after tax, as a percentage of the employer's costs.

Source: OECD, *Tax* database.

average (36%) and other "low tax" countries, such as the United States or Korea (Table 2.1). Even in comparison with other countries in Latin America, such as Brazil, Argentina and Chile, Mexico's tax-to-GDP ratio is low.

The relatively low tax/GDP ratio in Mexico is coupled with a tax mix that is skewed towards goods and service taxes. Indeed, personal and corporate income taxes provide only 25% of overall tax revenue in Mexico, compared with 34% for the OECD average and 43% for the United States (in 2004, Table 2.1). Similarly, social security contributions provide only 17% of total revenue, against 26% for the OECD average. Balancing this, reliance on goods and services taxation is relatively high although this reflects mostly the fact that taxes on oil production and sales are included in this category. Excluding oil-related taxes and focusing on VAT, the share of VAT in total tax revenue is 19% in Mexico, about the same as the OECD average. Other significant Latin American countries have an even lower share of income tax than Mexico and similar shares of taxes on goods and services, but in their case this generally does not include high oil taxes.

Considering tax rates, the top rate of personal income tax – at 30% in 2005 – was lower than the average for OECD countries, many of which have top rates of more than 40%, and it was reduced to 28% in 2007. At the same time, Mexico's corporate income tax rate – 29% in 2006 – was in the middle of the range for OECD countries and it was also brought down to 28% in 2007. Finally, Mexico's tax wedge (including social security contributions) in per cent of gross labour costs stands at 18%, well below the OECD average or the United States.

Mexico's VAT rate of 15% is somewhat below the OECD average although Japan, Switzerland, Korea, Australia and New Zealand have lower rates.[16] Other OECD countries have rates of up to 25%. In comparison with major Latin American countries, Mexico is the lowest rate country for VAT. Equally important, Mexico has the narrowest VAT base in the OECD, with tax paid on only 30% of consumption expenditures, compared with over 50% for most OECD countries.

In sum, Mexico stands out in the OECD with a tax-to-GDP ratio well below other countries, while its statutory tax rates are simply towards the low end of the range. The picture is fairly similar when Mexico is compared with other major Latin American countries. This suggests that the bases on which Mexico's taxes are levied are significantly narrower than in other OECD countries. A revenue-enhancing tax reform should therefore concentrate on broadening the base and further strengthening the tax administration. The main concerns are the preferential regimes and deficiencies in tax administration (which are closely related). The preferential regimes, besides diluting revenue and complicating administration *per se*, create significant loopholes, distort economic activity and facilitate evasion.[17] They also create a perception of unfairness, which reduces the willingness to pay taxes.

The tax reform proposal

The government's proposal envisages introducing a minimum general tax on firms and professional activities as well as an excise tax (IEPS in Spanish) on gambling and lotteries and an excise tax on spray paint. Together, the proposed tax administration measures and the tax reform are expected to generate additional revenue of close to 3% of GDP by 2012.

The Unique Rate Corporate Contribution (CETU) is a minimum general tax that would be applied on a broad basis, tackling the exceptions, tax deductions and preferential regimes in the income tax that currently create distortions. It would be a direct tax on firms and professional activities, at a rate of 19%, to be applied on the firms' revenues from the sale of goods, the provision of services and the temporary grant for the use of goods, after deduction of capital spending. The CETU would act as a minimum tax for the income tax. It would be compared with the firm's income tax and the income tax withheld by the firm for third parties including the employment credit, and the higher of the two taxes would be paid (Box 2.2). The CETU would substitute the "asset tax" which would be abolished. The estimated increase in tax collection from the CETU would mainly come from base broadening. Additional revenue would also be expected from improved tax administration and better compliance to fiscal obligations.

Medium-term challenges

Regarding *income taxes*, measures have been taken in recent years to eliminate various preferential regimes both for corporate and individual tax payers. The corporate income tax rate has been cut and the top marginal rate of individual income tax has been reduced (as well as the number of brackets). Some of the reforms made over this period under the personal income tax regime did not have the expected impact and the calculations to comply with the tax obligations remain complicated. The scope of tax expenditure has been broadened, and there are still exemptions, tax deductions and preferential regimes on a range of economic activities that create uneven incentives and complicate tax administration. The proposed minimum general tax (CETU) would tackle some of these problems.

In the longer run, consideration will have to be given to further broadening the tax base by taking measures on the *value added tax* (VAT) side. Numerous exemptions and a large proportion of zero-rated goods and services in the VAT system imply that only a small

Box 2.2. **The minimum tax on firms and professional activities (CETU)**

The main advantage of the proposed CETU is that it would broaden the tax base and contribute to raise tax revenue. Capital spending, which includes machinery, equipment, land and constructions, inventories, expenditures related to the acquisition of goods, and independent services or the temporary use of goods that the taxpayers use for their income-generating activities, would be deducted. The CETU would not operate as a "payroll tax", because it would be complemented by an employment credit applicable to the tax, the credit being higher for low-income workers.

A transition period of two years has been proposed; the tax rate would be 16% in the 2008 fiscal year, and 19% from 2009 onwards.

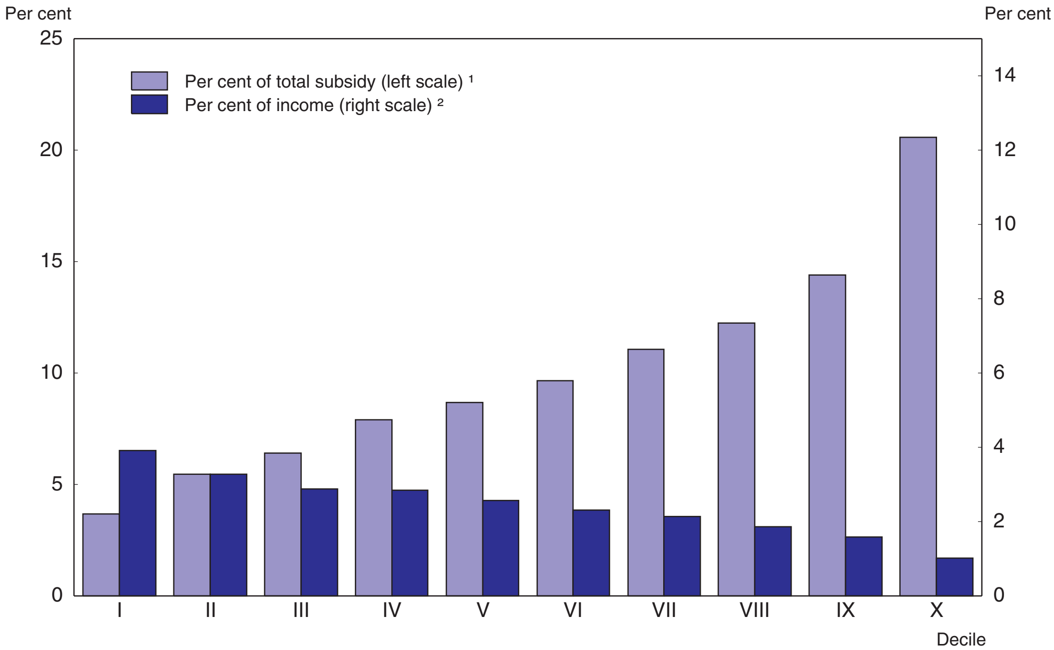
The information required for the CETU would be a part of what any business currently has to prepare for their income tax payment, and the tax base would be similar to that of the VAT, with the deduction of the capital investments as the only difference. As a result, firms would not be expected to be subject to additional administrative burdens nor would they have to create new fiscal accounts.

part of the potential base is actually being taxed. It also contributes to low VAT compliance as some transactions are falsely attributed to the zero-rated base. An indicator of the effectiveness of the VAT in raising revenue can be measured by the effective VAT rate (share of VAT revenue to national consumption) in per cent of the standard VAT rate. Thus measured, the effectiveness for the OECD is just above 50%. Mexico is at the low end with the lowest VAT efficiency (about 30% in 2003), indicating that only a small part of the potential base is actually taxed – the likely result of the narrow tax base and poor collection capacity, while the standard tax rate is not particularly low. By contrast, several OECD countries, including Canada, Japan, Korea, Luxembourg, New Zealand and Switzerland have efficiency indicators higher that 65, pointing to VAT bearing uniformly on a broad range of consumption combined with effective tax collection. Thus, VAT has proved to be a buoyant source of tax revenues in OECD countries, each having a specific mix of rates, exemptions and thresholds. Mexico stands out as the country with the lowest revenue-raising capacity from VAT.

OECD experience shows that complex VAT systems create administrative burdens and reduce the compliance of taxpayers. Simplifying the VAT system in Mexico, by reducing the scope of exemptions and zero-rating, would bring in substantial additional revenue and facilitate tax control.[18] For example, increasing VAT efficiency to the OECD average would increase VAT revenues by around 2% of GDP, with additional revenue to be expected from having a less complex regime to administer, hence closing loopholes that facilitate evasion. Other OECD country experience also suggests that it might be appropriate for Mexico to raise the threshold for VAT registration as this would enable the tax administration to concentrate its efforts on collecting worthwhile amounts of revenue.

A key issue is the impact that a broadening of the VAT base would have on the progressivity of the tax system. Although zero rating and exemptions under VAT are often perceived as a way of reducing inequality, it is actually the most affluent households that gain most from them as they buy more goods in general, including goods that are zero rated. Given the distribution by income deciles, high-income households are actually heavily subsidised by the non-taxation of many consumption goods. Calculations for 2005 show that the highest two deciles together capture close to 35% of the value of the implicit subsidy, while the lowest two receive less than 10%, although as a share of income, the subsidy is highest for low-income brackets (Figure 2.4). About half of the increase in revenue from base broadening would come from the higher income categories (the three highest income deciles). If part of this revenue was redistributed to the three lowest deciles, it would more than compensate them for the loss of subsidy on their food consumption, and there would still be extra revenue to spend on social programmes.

Figure 2.4. **Distribution of implicit VAT "subsidy", 2005**



1. The implicit VAT subsidy at each income decile is estimated by the corresponding expenditure on food multiplied by the standard VAT rate of 15%.
2. The consumption of food and household income per decile (referring to total income) are based on the INEGI 2005 Household Survey.

Source: INEGI, "Encuesta nacional de ingresos y gastos de los hogares 2005"; OECD calculations.

StatLink *http://dx.doi.org/10.1787/104250311083*

There are many options available to compensate the poorest categories when broadening a consumption tax base, including applying reduced rates to basic necessities and/or direct income transfers to the lower income population groups. Some relevant examples from other countries are noted in Box 2.3.

Another potential area for reform is *the real estate tax*, which is administered by the municipalities. This tax accounts for the bulk of municipalities own revenues (59% in 2004), but its proceeds – at 0.2% of GDP in 2004 – are much lower in Mexico than in most other OECD countries (the OECD average is 0.9% of GDP, with ratios as high as 3.3% in the United Kingdom and 2.8% in Canada or the United States). Real estate taxes are less easy to evade than taxes on financial assets and are generally regarded as having little distortionary effect. A main limitation to effective collection through this tax in Mexico has been the outdated land register (leading to undervaluation of property) and lax local administration and enforcement of collection. Contrasting with practices in many other OECD countries (including Belgium, France, Japan and Spain), in Mexico the register is

Box 2.3. **Lessons on VAT reform from other countries**

Mexico is not alone in finding it difficult to broaden the base of VAT. Although many OECD countries have increased their rates of VAT over the past thirty years, there are very few cases in which countries have broadened its base, partly reflecting the political difficulties that would arise. Despite this lack of experience of broadening VAT bases, there is considerable experience to be drawn from countries broadening the base of their indirect taxes – mainly in the process of adopting a VAT. Relevant lessons can be drawn from these examples because the process involves similar issues as broadening the VAT base, *i.e.* the concern that poor people would lose from extending taxation to goods that are seen as necessities. In many cases, countries have adopted VAT because of some overriding political necessity. For instance, for many countries in Central and Eastern Europe, adopting VAT was the necessary price of joining the European Union. Many economies in transition and developing countries have adopted VAT systems because they were seen as the only way of raising sufficient revenues to finance development.

Even when VAT is seen as a necessity, governments have taken steps to minimise any adverse effects that it may have on poor households. Most OECD countries apply reduced rates and/or exemptions to particularly "sensitive" goods although the scale of these is generally much smaller than in Mexico. As noted above, the strictly economic logic of this approach is not compelling. Other compensation mechanisms are undoubtedly more effective. For instance, Canada introduced a payable tax credit (which the household would receive even if they paid no income tax) into the personal income tax system for low income households. More generally to compensate for the price rises produced by VAT, developed countries have increased benefits for the poor, the unemployed and the elderly.*

* In developing countries, exemption of sectors such as small-scale agriculture is often viewed as a better approach than zero rating. This is because such exemption gives favourable tax treatment to food consumed mainly by the poor at the same time as reducing the burden on the tax administration of assessing large numbers of small farmers for VAT.

managed by local governments and, in a few cases, by the states. Updating it entails high political costs in the short-run, while benefits may not be immediate, so that sub-national governments have been reluctant to update registers. It would be appropriate to change this practice and give administrative responsibility for re-evaluating the land register to a national agency (from the public or private sector). Upgrading the land register would allow to increase tax revenues in a fair way and it would increase taxing powers of sub-national governments. With a sufficiently high lower limit, it would be possible to achieve a progressive profile, thereby contributing to taxing the highest-income individuals more heavily, as wealthy people usually hold a substantial proportion of their wealth in the form of real estate.

Administrative feasibility is an essential feature of any tax reform programme. Tax administration reforms carried out across the OECD over recent years share some common features, including:

- Establishing institutional arrangements that provide adequate autonomy to the tax administration, as is the case in Mexico and providing it with adequate powers for the conduct of compliance-checking functions, tax debt collection, and appropriate sanctions for tax offences. In Mexico, however, excessive use of judicial proceedings (*amparos*) can undermine the implementation of sanctions (Chapter 4).

- Creating a single revenue body to collect both direct and indirect taxes – and increasingly social contributions. Typically, these bodies are organised on a functional basis, but with a dedicated organisational unit responsible for the administration of its most important taxpayers (*i.e.* large businesses and non-profit bodies). Only 6 of the 30 OECD countries administer tax and customs from within a single agency as Mexico does, with Canada deciding in 2003 to separate the administration of tax and customs.
- Increasing application of risk management techniques to identify major compliance risk areas (*e.g.* the informal sector) and to assist the formulation of a balanced set of responses (*i.e.* service and enforcement).
- Increasing the use of modern technology for the delivery of services to taxpayers (*e.g.* information provision to taxpayers, electronic filing of tax returns and the collection of tax payments, as well as for operational risk profiling purposes (*e.g.* for audit case selection and debt collection).
- Intensifying efforts to increase staff competences.

Although Mexico's tax administration has taken some steps in these directions over the past years, there is still considerable scope for progress. If approved, the tax administration measures included in the government's proposal would go some way to further strengthening compliance and tax control.[19]

Concluding remarks

To support Mexico's growth process, public finances should be put on a firmer footing. This requires improving public spending efficiency and strengthening accountability of spending entities at all levels of government, improving further tax administration and introducing a revenue-raising tax reform. The government's proposal for a wide-ranging public finance reform, if approved, would imply significant progress along those lines. In the current context, it is particularly relevant to raise awareness on some of the concerns and fragilities noted above: *i)* the need to meet spending commitments in education, health care and social policies; *ii)* the depletion of Mexico's oil reserves; and *iii)* the importance of developing basic infrastructure for long-term growth. Taking action to improve the cost-efficiency of spending would also strengthen the case for a tax reform. Moving ahead with tax reform to address some of the underlying weaknesses of the tax system is a priority. It is important to launch the reform process without delay. By introducing some key revenue-enhancing measures before the end of 2007, the government can facilitate budgeting next year and, in the future, creating the reliable sources of additional tax revenue that are needed and reducing the dependence on oil revenue.

Achieving sound public finances should go hand-in-hand with a modernisation of the corporate governance of PEMEX. A summary of recommendations to consolidate public finances is included in Box 2.4.

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Box 2.4. Main recommendations for strengthening public finances

The fiscal framework

- Ensure that fiscal rules and guidelines are implemented, extra resources of a non-recurrent nature should be oriented to non-recurrent spending, to be saved or invested.

Enhance the efficiency of public spending

- Launch a systematic evaluation of the impact of public programmes and start addressing weaknesses that have already been identified, with no delay.
- In the education sector, better balance education spending between wage and non-wages expenditure. Develop the evaluation of teachers and schools and use results to provide feedback and influence policy. Review the financial incentive scheme for teachers, *Carrera Magisterial*, so that-it rewards performance.
- Reduce subsidies (in water, electricity, gasoline), using part of the funds for direct cash transfers to the poor, as appropriate.

Review powers and responsibilities of sub-national governments

- Strengthen state and local governments' accountability. Put in place standardised public accounting and information bases to facilitate monitoring of the impact of fiscal policy at the national level.
- Limit the growth of federal transfers, to give sub-national governments an incentive to use their taxing powers.
- Review the allocation of federal transfers to states, using objective criteria as a base – *e.g.* education transfers should be allocated in proportion to the number of children in school age in the state.
- Review the property tax, to increase the tax capacity of municipalities (consider creating a national agency to take responsibility of property revaluation in land registers).

Increasing tax revenue while reducing distortions

- Introduce a multi-faceted tax reform that enhances revenue by broadening the tax base, reduces distortions and simplifies the system.
- Under direct taxation, reduce the scope of exemptions, tax deductions and preferential regimes, to improve both efficiency and equity.
- Consider further broadening the tax base by taking measures on the VAT side. Reducing the scope of zero-rating under VAT would contribute to raise more revenue while reducing distortions. As part of the VAT reform, consider taking measures to provide some compensation to low-income families. Consider raising threshold for application of VAT, to facilitate compliance and tax control.
- Further strengthen tax administration.

The public sector employees' pension systems

- Building on the recent reform of the federal government employees' pension system (ISSSTE), extend the reform process to the other sub-systems for the various categories of public sector employees.

Make changes to the way PEMEX is managed, within the current legal framework

- Improve the governance of PEMEX to ensure that the company can operate as efficiently as a private oil company; reduce the government's interference in management, removing public works constraints that apply to PEMEX projects.
- Assess whether the new fiscal regime applying to PEMEX allows the company to have sufficient resources to undertake adequate investment.
- Reconsider existing constraints on PEMEX with a view to allowing the company to enter joint ventures with private companies that can bring the new technology that will be required for some of the future investment projects.

Notes

1. Mexico has used public-private investment projects under PIDIREGAS schemes since 1997 to develop infrastructure projects – especially in the state-owned oil company (PEMEX) and electricity company (CFE). Under the scheme, the private sector (which does not share the financial risk of the project) finances and builds infrastructure, with payment by the public sector deferred until completion of the project. Liabilities created by these schemes are recorded in the public debt in the broad sense (which amounted to 34.3% of GDP at the end of 2006, against 20.3% for the public sector's net debt (narrow definition).
2. The 2007 oil reference price for the Mexican mix – 42.8 d/b compares with a 2006 average price for the Mexican mix of 53 d/b, about 9 d/b below the OECD oil import price. The average oil export volume, on which the 2007 budget is based, is 1 648 million barrels a day (mbd), close to the exports recorded in the 4th quarter of 2006 and at the start of 2007. It is about 9% lower than the 2006 average (1 793 mbd).
3. The official estimate (published in 2005) includes both investment needs and what is required to bring enrolment of 5 to 14-year-olds up to the OECD average.
4. To the 3.56 million families covered by the programme at the end of 2005 – 11.4 million people, about one third of the "uninsured" population, 1½ million more families were included the following year. The "health insurance for the first generation" created in 2007 gives priority to the youngest age group in the coverage increase.
5. Low net rates of return on savings accounts have implied that pension benefits in many cases were lower than the minimum pension benefits. See Chapter 5 on the 2007 reform of the system of pension savings (SAR).
6. These projects consist mostly of PEMEX infrastructure investment projects constructed by the private sector but financed by public sector debt. The revenue flows generated for PEMEX by these capacity-enhancing projects finances the amortisation of the investment; but, at the same time, the older PEMEX installations are generating less and less revenue. The electricity sector has also resorted to PIDIREGAS schemes, which have represented about 14% of total PIDIREGAS investment.
7. Oil prices are notoriously difficult to forecast accurately; technically, oil prices follow a random walk, *i.e.* tomorrow's oil price is today's oil price plus an unknown shock. In this case the best forecast of tomorrow's oil price is today's.
8. Mexico has only one member of the tax administration for every 1 600 members of the labour force, as compared to the OECD average of about one to 600.
9. Furthermore, the proposal envisages that deposits amounting to above 1 million pesos during a year will be considered as income, if the individual is not registered in the taxpayers registry.
10. Every OECD country is seeking ways of getting more value for money. The OECD Economics Department is currently involved in a project aimed at drawing cross-country comparisons of efficiency in the provision of public services, and relating institutional and policy settings with higher efficiency of public spending.
11. On recommendations to improve efficiency and equity in the education sector, see S. Guichard (2005), "The education challenge in Mexico: delivering good quality education to all", *Economics Department Working Paper*, No. 447, OECD, Paris.
12. In particular, federal transfers to states for education should be allocated in proportion to the number of children in school age in the state.
13. See also I. Joumard (2005), "Getting the most out of public sector decentralisation in Mexico", *Economics Department Working Paper*, No. 453, OECD, Paris.
14. This includes additional transfers on account of extra revenue from oil since 2003. Transfers to states for investment are channelled through traditional earmarked grants (*ramo* 33) and the more recent Programme to Support the Strengthening of Federal Entities, PAFEF (*ramo* 39), which all include an investment component.
15. This section is largely based on B. Larre and C. Heady, "Fiscal policy and tax reform", in *Getting it right: OECD perspectives on policy challenges in Mexico*, February 2007.
16. Comparisons of standard VAT rates are available in OECD (2006), *Consumption Tax Trends*.
17. Tax evasion was estimated by the tax administration to have reached about 3% of GDP in early 2007, slightly less that in the previous years.

18. In addition to standard exemptions for "social" purposes – education, health and charities – which are applied in the majority of OECD countries, Mexico has exemptions for specific sectors: public transportation of passengers by land; agriculture, forestry and fishing activities. Zero-rated goods in Mexico include all non-processed food, which is also the case in a few other OECD countries. For instance, caviar and smoked salmon are under zero rating [see OECD (2006), *Consumption Tax Trends*].

19. In particular, the proposal includes the following: developing a personalised portal for professional individuals and micro and small-size entrepreneurs; strengthening proceedings for audit and controls; better controlling tax rebates; and fostering the use of the "electronic signature" (FIEL).

ANNEX 2.A1

PEMEX exploration, production and governance issues

The Mexican constitution reserves exclusively to the state the right to exploit hydrocarbons (oil and gas) resources of Mexico and by law, *Petróleos Mexicanos* (PEMEX), is granted the right to develop these resources on behalf of the state.[1] Nearly 40% of total budget revenue is derived from oil related sources, but this source of revenue is under threat because of Mexico's declining oil reserves and production.

From 1998 to 2005, the company made ongoing losses, its debt quadrupled, and by 2005 liabilities reached 115.2% of sales. Operational inefficiencies and a heavy tax burden contributed to these losses. This financial situation has constrained the firm's ability to invest in new exploration and production, and even the 2007 investment budget of US$14 billion may not be sufficient to prevent oil reserves and production from falling further.[2] For about ten years now, some of PEMEX investment needs have been financed through the public-private PIDIREGAS schemes (investment projects completed and delivered by the private sector and then paid for by PEMEX). Nonetheless, investment has not been sufficient to prevent reserves and production from declining. From 1998 to 2006, proven gas and oil reserves (*i.e.* on which there is a reasonable certainty of recovery), fell from 25 to 15 billion barrels equivalent in crude oil. Of proven reserves, around 11 billion barrels are in crude oil, which is equivalent to approximately 9 to 10 years' worth of production at current extraction rates (of these, approximately 8 billion barrels are developed, *i.e.* there are existing wells). Over the same period, total reserves of oil and gas with a lower probability of recovery – "probable" reserves with at least 50% probability of recovery and "possible" reserves with a probability of at least 10% – also fell, from 33 to 30 billion barrels of oil equivalent.[3]

Mexico's total oil production has been falling since 2004, with the decline becoming steeper in the course of 2006. Total production fell from 3.35 million barrels per day (mbpd) in May 2006 to 3.17 mbpd in April 2007 on a 3-month-moving average basis (Figure 2.A1.1). An important factor contributing to this decline is shrinking production in the large, shallow water and easily developed oil field, Cantarell, which accounts for around 55% of total production. Production there is expected to fall from around 1.8 mbpd in 2006 to 0.6 mbpd by 2015. PEMEX needs to compensate for this decline by a production increase in other fields that are more technically difficult and/or costly to develop, including Chicontopec and Ku-Maloob Zaap, and eventually fields in deep waters. Chicontopec is onshore, in heavily populated areas, spread out and fractured (*i.e.* the oil is in many separate reservoirs). It also requires new technological solutions and a large increase in well drilling over present levels. Developing deep water fields is technically demanding and will require PEMEX to use new technology that it currently does not employ.

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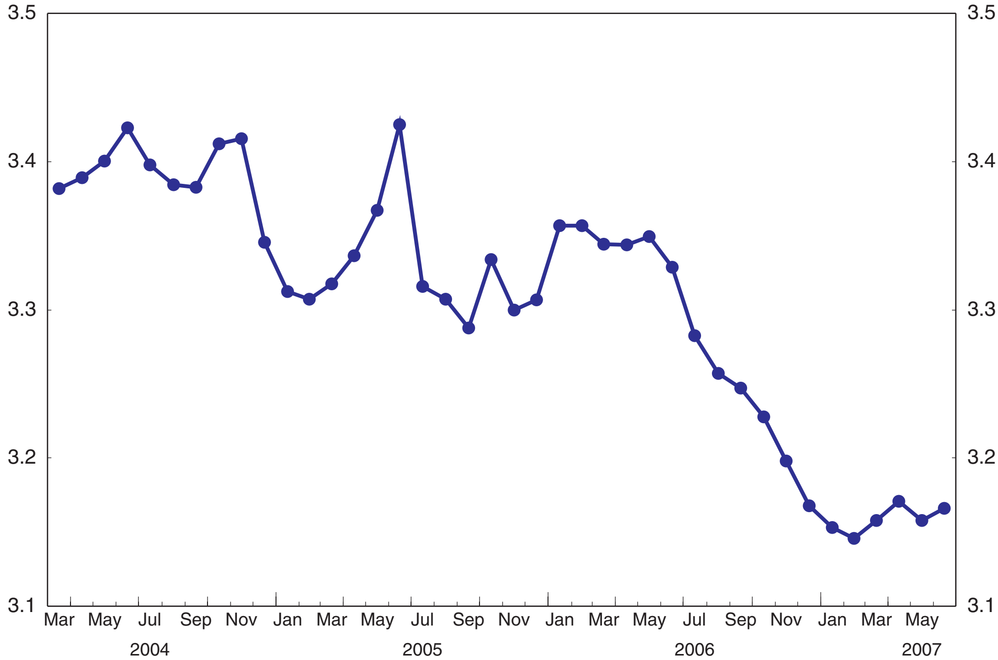
Figure 2.A1.1. **Oil production**

Barrels per day (millions)[1]



1. Three-month moving average.

Source: PEMEX.

StatLink http://dx.doi.org/10.1787/104303331671

Changes will have to be made to prevent further production declines. The governance and operation of the company should be changed with a view to improving PEMEX's efficiency in developing oil resources. The investment framework applying to PEMEX should also be altered to give the company greater flexibility in its decision-making and allow it to make investments according to commercial best practice. Because of the time lags involved between the increase in investment and that in production, the reform should not be delayed. It is also important that the new fiscal regime applying to PEMEX be carefully monitored to ensure that the company has sufficient resources to develop the country's oil reserves.

Governance, management and operation of the company

Other national oil companies, including Petrobras (Brazil), Statol (Norway) and PetroChina, have moved to a corporate-like structure and seen improvements in operating and financial performance. To ensure the best returns from Mexico's oil resources and production stability in the medium term requires improvements in the efficiency and financial performance of PEMEX. Mexico should reform the governance of PEMEX in line with the *OECD's Principles on Corporate Governance 2004*. Specific measures that should be taken include: introducing independent commercial directors to the Board; creating Board sub-committees for audit, nomination and remuneration, procurement and works, and finance; increasing the autonomy and accountability of the Board; and management for meeting clearly defined targets that are transparently measured over time and benchmarked internationally.[4] Audit activities need to be streamlined and re-orientated towards value creation rather than compliance with procedures, and the auditors should report to the Board rather than to another government agency as done at present.

As it becomes financially independent, PEMEX will have to be more accountable as well. While its capacity to plan and carry out investment needs to be strengthened, there is also a need to substantially rationalise its current operating spending. On the operational side, employees cannot be transferred from one part of the business to another. This is a significant constraint on efficiency, and it creates a bias towards overstaffing. Greater labour flexibility is needed so that employees can be moved around the business and projects in line with changing demand. There should also be a review of the need for the large in-house non-core medical and telecommunication services to assess whether these services could be acquired at lower cost outside the company.[5] PEMEX also has a large, unfunded pension liability of approximately US$40 billion. The PEMEX pension scheme should be reformed, building on the reform of the federal government pension scheme (ISSSTE) which was passed in 2007.

The investment framework

PEMEX's budget is incorporated in the public sector's annual draft budget, which is sent to the Congress for approval. The process subjects PEMEX's planning to excessive uncertainty and does not allow multi-annual budgeting, except for PIDIREGAS. However, PIDIREGAS investment projects are subject to a cost cap. Using a cost cap helps limit the company's expenditure in the absence of an adequate corporate governance framework, but there is a risk that it constrains investment decisions. The requirement for PEMEX to comply with the law on ordinary public works should be eased. The rules and procedures are too inflexible for large complicated investment projects in the oil industry and have resulted in cost overruns and poor asset performance in the past.

Finally, PEMEX uses public works contracts to engage the private sector in production projects, including drilling. However, these contracts are limited in scope and are not suitable for deep water field development. It is standard international practice for companies to share the risk in oil investment projects, particularly large and risky ones, such as developing deep water fields. Furthermore, PEMEX will need to access technology from other companies in developing deep water resources, but other companies are highly unlikely to be willing to share the risk and technology without a share of the profits from these projects. Sooner or later, consideration needs to be given to changing the legal framework to allow PEMEX to engage in joint ventures where risk and profit-sharing would be possible.

The fiscal regime

A new fiscal regime was introduced in 2006, so that PEMEX would have additional resources. Under the new fiscal regime, PEMEX taxation declined from 63% of sales in 2005 to 55% in 2006. More time is required to assess the effects of the new fiscal regime. It will be important to monitor the situation and ensure that the company has sufficient resources for the maintenance of current production fields (in the past, production from some wells has ended prematurely owing to a lack of maintenance) and to invest in exploration and production.

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Notes

1. PEMEX exclusive activities include: exploring, exploiting, refining, transporting, storing, distributing and selling (first-hand) crude oil and refined products; exploring, exploiting, producing and selling (first-hand) natural gas. It also has the exclusive right to transportation (long-distance high pressure gas lines) and storage of natural gas that are *inextricably* linked with exploitation and production. Other transportation facilities and distribution (low pressure reticulation networks to end users) and commercialisation can now be carried out by the private sector.
2. According to PEMEX CEO, Jesus Reyes Heroles, the company needs to invest US$15 billion per year to keep production at 3.05 to 3.1 million barrels per day (Dow Jones Newswires, 8/2/2007, *www.rigzone.com*). On this basis, with an investment budget of US$14 billion in 2007, production might be expected to fall below the current 3.15 mbpd.
3. *Proven reserves* are the estimated volumes of hydrocarbons, which geological and engineering analysis demonstrates with reasonable certainty will be commercially recoverable in future years from known reservoirs under the prevailing economic conditions, operational methods and government regulations. *Proven developed oil and gas reserves* are reserves that can be expected to be recovered through existing wells with existing equipment and operating methods; a key element of this definition is that capital expenditures for the development of a field should be generally complete or fully committed to. *Probable reserves* are the estimated volumes of hydrocarbons that analysis of geological and engineering data suggests are more likely than not to be recoverable, *i.e.* there is a probability of at least 50% of recovery; while *possible reserves* are those for which the probability of recovery is greater than 10%. From 1998 to 2006, *probable reserves* fell from 21 billion to 15 billion barrels, while *possible reserves* rose from 12 billion to 15 billion barrels, resulting in a small decline for the total of probable and possible reserves.
4. At present, Mexico's President appoints the CEO and 6 members of the 11-member Board, all of whom are Government Ministers. The five remaining representatives are appointed by the PEMEX Workers Union. The Board does not currently participate in nomination and compensation or strategic planning decisions, and there is no audit committee.
5. Of a total of approximately 140 000 employees in 2005, over 12 000 employees are involved in non-core activities, essentially medical and telecommunication services.

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Chapter 3

Maximising the gains from integration in the world economy

This chapter discusses Mexico's foreign trade and investment policies and provides specific recommendations to enhance the benefits of a closer integration in the world economy. Over the last twenty years, Mexico has made significant progress in reducing barriers to trade and foreign direct investment (FDI), and this has boosted GDP per capita growth. Nevertheless, Mexico needs to make further progress in reforming its trade policy by further reducing MFN tariff barriers and non-tariff barriers so as to promote efficiency in the economy. Barriers to FDI remain high, particularly in some services and infrastructure sectors, such as telecommunications and domestic land transport. Restrictions to foreign ownership should be eased to attract higher inflows and thereby improve productivity. To broaden the benefits from FDI, supplier linkages between FDI investors and other firms in Mexico should be enhanced.

Since the mid-1980s, a core part of Mexico's development strategy has been to gradually open the economy to foreign trade and investment. The opening of the economy has contributed to boosting GDP per capita and increasing integration with the rest of the world and, in particular, the United States. However, much remains to be done to promote further integration in the world economy and foster Mexico's convergence to the living standards of richer OECD countries.

Trade openness has created new opportunities as well as challenges for Mexican firms. They face increased competition domestically and in their key exporting markets. The challenge is to ensure that firms fully develop their potential in line with the economy's comparative advantages, move up the technological ladder and diversify export-oriented activities. This, in turn, requires improving overall framework conditions, enhancing human capital, promoting competition in the domestic market, and creating stronger incentives and better price signals for investment. Further trade liberalisation and FDI regulatory reforms can play a key role in this context by giving easier access to higher quality production inputs at lower prices. They can also assist by ensuring that firms receive less distorted relative price signals for where to expand, increasing competition and encouraging greater returns to scale and by further promoting supply chain links and technological spillover effects between foreign and domestic firms.

Despite significant progress in liberalising trade and foreign investment, there is still room to make important improvements. Four main issues need to be addressed: *i)* the presence of relatively high Most Favoured Nation (MFN) tariff barriers that bias factor allocation towards low productivity sectors (Mexico's average MFN tariff remains above the average for middle income countries and is becoming more relevant as trade with non Regional Trade Agreement countries increases); *ii)* the complexity of trade policy settings arising from the combination of multiple regional trade agreements with different terms and different tariffs for RTA and non-RTA countries, which creates distortions and is expensive to administer; *iii)* relatively high non-tariff barriers, which shelter the economy from competition and reduce the cost-competitiveness of Mexican firms that use inputs affected by these barriers; and *iv)* barriers against foreign investment, which are still among the most restrictive in the OECD. As a consequence, despite Mexico's geographical location, FDI inflows, although still substantial, have declined over the past decade. The scale of FDI inflows in proportion to GDP is lower in Mexico than in some of the faster growing middle-income countries (*e.g.* Chile, Hungary, Poland and the Czech Republic).

This chapter discusses trade and FDI performance in Mexico over the past decade. It highlights progress achieved in trade policy and FDI regulatory reforms but also stresses the need for further co-ordinated policy action to promote trade integration and FDI flows. Greater trade and FDI flows, by encouraging a more efficient allocation of resources in the economy, allowing access to cheaper inputs and increasing competition are considered of key importance to lift productivity and living standards in Mexico.

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Trade performance

The opening of the economy, and Mexico's integration with the United States

The process of external liberalisation in Mexico commenced in the 1980s. Restrictions on foreign investment were eased, trade policy was liberalised, and in 1986 Mexico became a member of the World Trade Organisation (WTO).[1] Mexico has also made significant progress in opening the economy to trade by lowering tariffs via 12 bilateral and multilateral Regional Trade Agreements (RTAs), which at present include 44 countries, among which many of the most important players in world trade. Mexico's RTAs cover the United States and Canada (NAFTA, in force from 1 January 1994), the European Union (in force as from 1 July 2000) and Japan (1 April 2005). With the opening of the economy, combined exports and imports have increased as a share of GDP from 39% in 1990 to 61% in 2005.

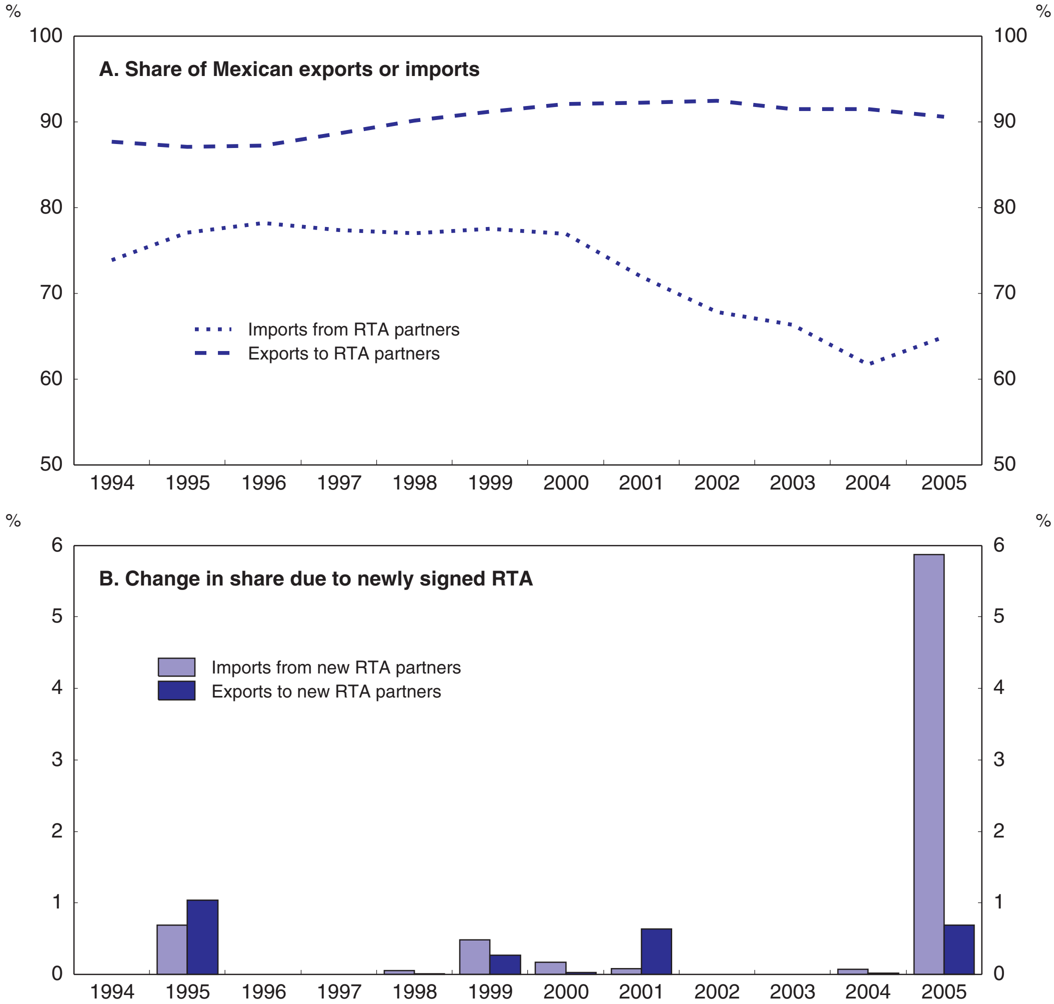
Trade with countries covered by RTAs accounts for the bulk of Mexico's trade (Figure 3.1, Panel A). The share of Mexico's exports going to RTA countries has expanded a little since 1994 when NAFTA came into force, while the share of imports from RTA countries has fallen, particularly the share of the United States, indicating an increasing relevance of non-RTA countries in Mexico's trade. Figure 3.1, Panel B shows the change in share in each year that is due to new RTAs being signed, for example, the Japan RTA in 2005.

The most significant RTA for Mexico is the North American Free Trade Agreement (NAFTA) with the United States and Canada. NAFTA dramatically increased the size of markets available for free entry of Mexican goods and increased Mexico's exposure to import competition from the United States and Canada. Together, Canada and the United States account for 88% of Mexico's exports, and the United States alone accounts for over 85% of Mexico's exports. Export specialisation has developed in manufactured goods, which now account for over 85% of all goods exports, the main export categories being the automotive sector and electrical and television equipment (Table 3.1 and Box 3.1). Mexico's import sources are more diversified with only 56% of Mexico's imports coming from NAFTA countries.

Import penetration (measured as a share of domestic demand) has increased over the years, but at around 30%, it is still among the lowest in the OECD (Figure 3.2). Although this rate is broadly in line with the penetration rate predicted by economic factors, such as per capita income, population and transport costs, import penetration could increase further. For instance, faster growing OECD countries, including the Czech Republic, Korea and Ireland, have higher – and higher-than-predicted – import penetration rates (OECD, 2005e).

Mexico's geographical proximity to the United States has shaped its external performance and, together with NAFTA, led to increasing integration of the Mexican and US economies. Since 1994, the correlation between United States and Mexican annual GDP growth rates (based on a sample of the previous five years) increased from –0.46 in 1994 to 0.42 in 2000 and to 0.82 in 2005. Given the long-term strength and stability of the US economy, as evidenced by its long expansions and relatively few and short recessions, the increasing synchronisation with the US economy has had a positive influence overall on Mexico. A more diversified range of trading partners would nonetheless help diversify the economy's exposure to shocks in the United States and contribute to enhancing macroeconomic stability in Mexico. Further liberalisation of MFN tariffs would help this diversification by removing the current bias towards trading with Regional Trade Agreement (RTA) partners including the United States.

Figure 3.1. **Mexico's trade with regional trade agreement (RTA) countries**



Source: OECD, *International Trade Statistics*.

StatLink http://dx.doi.org/10.1787/104327522058

Table 3.1. **Main categories of manufactured exports by value**

Sector	Percentage of manufactured exports
Transport equipment (primarily autos and auto parts)	20
Electrical machinery and apparatus	15
Radio and TV equipment	15
Other machinery and equipment	7
Textiles	7
Chemicals, rubber and plastics	5

Source: OECD STAN database.

Box 3.1. **The automotive sector in Mexico: its importance, evolution and challenges**

The automobile industry is the largest branch of Mexico's manufacturing. In 2005, the sector accounted for 15.1% of manufacturing GDP, 13.7% of manufacturing employment* and close to 20% of manufactured exports. In the past decade, it has gone through several export phases, with vehicle and parts exports to the United States growing by an average of 21% from 1995 to 2000, before falling by an average of –2% between 2001 and 2005. In 2006, following a period of re-tooling, vehicle and vehicle part exports grew at 26%. Going forward, export growth will principally depend on the strength of the United States market and also the auto product cycle. Part of the strong export growth in 2006 was due to an upswing in production from the launch of new models. Developments in the industry suggest Mexico has a growing comparative advantage in auto manufacturing. In January 2005, the Ford motor company announced the shutdown of 12 of its plants in the United States by 2012. At the same time it projected an increase of its operations in Mexico. Today Mexico is exporting a range of higher value cars to the biggest markets in the world, while importing cheaper cars for its own domestic use.

Evolution

The development of the Mexican automobile sector has gone through periods of contrasting policies, from import substitution in the 1950s and 1960s, to export promotion in the1980s. The most important rules governing automobile exports are set out in NAFTA. In the case of new cars, NAFTA requires around 60% of the car to be produced in NAFTA countries for it to be exported from Mexico to the United States and Canada.

The establishment of factories in certain regions of Mexico over time has been determined by different factors. Initially, car factories were established near Mexico City where there was a large market. Later, the companies were established in the northern part of the country, close to in-bond industries (*maquiladoras*). There is evidence that this later localisation was due to productivity advantages rather than the industry seeking the lowest wage regions. The more recent localisation of investments seems to be dictated by the systemic competitiveness that can be gained from the integration of car industries with large local supply chains. This is reflected in the increasing regional productive specialisation in the North, and two central areas of Mexico.

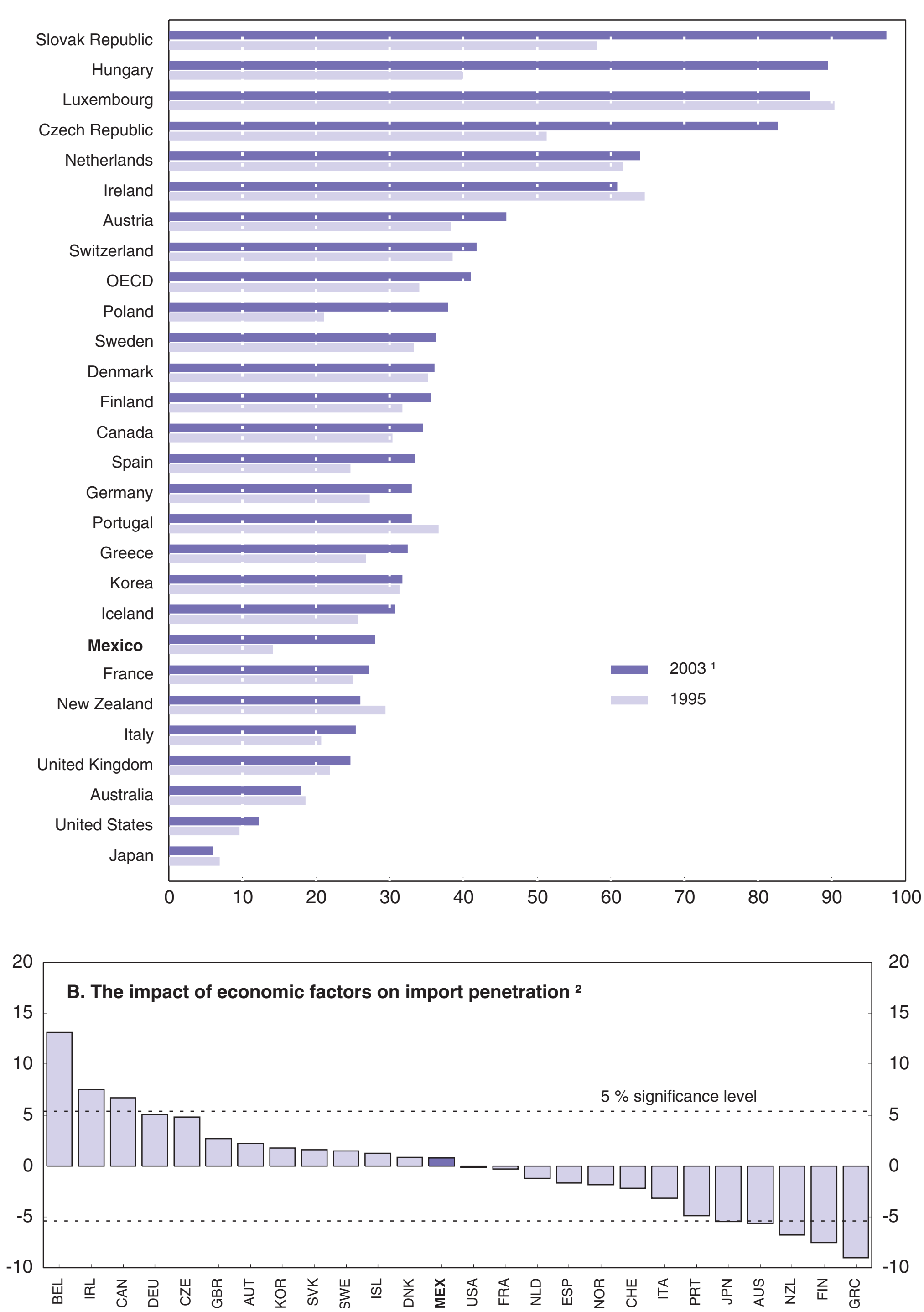
Challenges

One of the advantages that could be expected from FDI in the sector is the spillovers and linkages that it can potentially generate for the Mexican economy, specifically through the development of chains of suppliers. However, this has so far been limited in Mexico. The automobile sector has relied on large tier 1 suppliers from Canada, the United States or Mexico (direct suppliers to an auto manufacturer and are often involved in design and manufacture, but not marketing of final products), but it has only developed limited linkages with small Mexican suppliers for tiers 2 and 3 (sub-contracting manufacturers to tier 1 not normally involved in design). To enter the production chain, smaller suppliers have to comply with high international standards of quality, and meet large production requirements. Up until now, low quality, limited flexibility and reliability, partly due to poor managerial skills, have been the main obstacle for smaller Mexican suppliers to develop and cluster with the car assembly plants. In this context, despite ongoing efforts, foreign direct investors have not been able to provide the much needed training and managerial skills that small suppliers need. In many cases, small suppliers do not qualify to tender for business (because they don't have the volume of sales or necessary ISO quality ratings) and therefore cannot benefit from the knowledge that car factories can provide.

The challenge for Mexico is to continue to improve support strategies that will encourage a more integrated and deeper manufacturing base. There are multiple government policies aimed at helping small firms. To ensure that the policy mix is cost-efficient over the medium-term, there needs to be greater co-ordination and systematic policy evaluation. For this to be possible, surveys and data collection about small firm performance have to be improved. See OECD (2006b) for a review of current SME policies in Mexico.

* *www.indicadorautomotriz.com.mx/secciones.php?id – sec=3&next=2.*

Figure 3.2. **Indicators of openness in trade**



1. Data for Australia, Japan, Mexico, New Zealand and Portugal refer to 2002.
2. Import penetration (1995-2004 average for goods and services) is estimated as a function of population, per capita income and transport costs. A negative (positive) residual indicates that import penetration is below (above) the level predicted by economic factors.

Source: OECD, *OECD Economic Globalisation Indicators* 2005 and *National Accounts*.

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Mexico's export performance in manufacturing

The share of Mexico's exports of goods and services in world imports (values) increased from 1.3% in 1994 to 2.3% in 2000, before slipping to 1.8% in 2004 and 2005.[2] Because the United States represents such a large share of Mexican trade, this performance partly reflects the growth of United States imports relative to world imports, as US imports were growing faster than world imports in the mid to late-1990s but more slowly as from 2001.

Since NAFTA came into force, Mexico's export performance in the United States has gone through two broad phases and is possibly beginning a third. In value terms, Mexico's manufactured[3] exports gained market share, moving from 7% to 12.2% of the US market from 1994 to 2001. However, in 2002, Mexico started losing market share in manufactured exports to the United States, the losses continuing over the 2003-05 period. A turnaround occurred in 2006 and Mexico gained market share in the United States again.

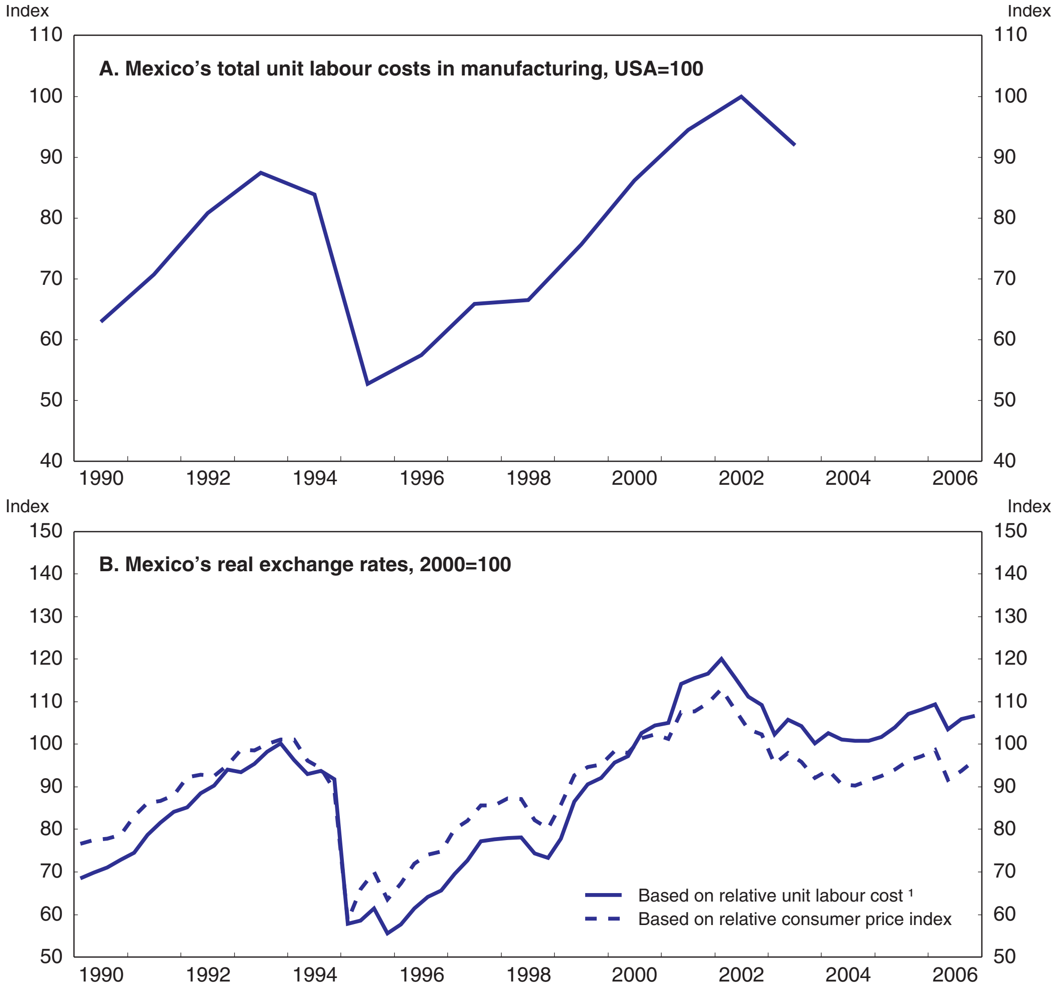
Mexico's favourable export performance from 1994 to 2001 resulted from a number of factors that were highly supportive of exports, including the coming into force of NAFTA and the collapse of the domestic market at a time when the United States was expanding, compounded by large gains in cost competitiveness following the peso depreciation. The subsequent phase of losses in market share occurred following a period of gradual increase in the real exchange rate (Figure 3.3). Over the 2001-05 period, there was a very rapid expansion of Chinese exports to the United States, and by 2005 China's share of United States manufactured imports had risen to 15%. All the major exporters to the United States, including Canada, also lost market shares over that period (Figure 3.4), with Japan suffering the largest losses. In 2006, Mexico's performance started to improve, but it is too early to assess whether this is the beginning of a durable improvement.[4]

In order to shed light on factors behind the evolution of exports in Mexico, a constant market share analysis (CMSA) is presented in Table 3.2. CMSA breaks down the changes in total market share into two components. The first component reflects differences in the growth rates between Mexican exports and US imports, holding shares constant at Mexican levels (market growth effect). The second component results from the sectoral specialisation of the country (specialisation effect), indicating whether total market share is changing because the country is specialised in goods for which markets grow slower or faster than average.[5]

The analysis shows that from 1994 to 2001 the gain in market share was almost entirely due to higher growth rates of Mexican exports with respect to the corresponding import growth rate in the United States by industrial category. There were positive contributions to market share growth across all the main industrial sectors. In the following sub-period (2002-05) the biggest contributors to the market share decline were clothing and footwear, electrical machinery and equipment as well as transport equipment. Over this period, China expanded its market share strongly in these sectors, while in transport equipment Germany and the United Kingdom expanded their market shares in the United States. In 2006, the return to positive market share growth for Mexico was led by electrical machinery and transport equipment, while clothing and footwear continued to lose market share.

The sectoral specialisation of Mexico's exports has, by contrast, had a much smaller role indicating that Mexico's export product mix is not structurally unfavourable. In the early 2000s, underspecialisation in chemicals, plastics and rubber and over-specialisation in electrical machinery and equipment contributed to the decline in total market share, but this structural effect was still relatively small.[6]

Figure 3.3. **Real exchange rates**



1. Unit labour costs in the manufacturing sector in common currency for 42 countries.

Source: OECD, *Analytical* database, Groningen Institute.

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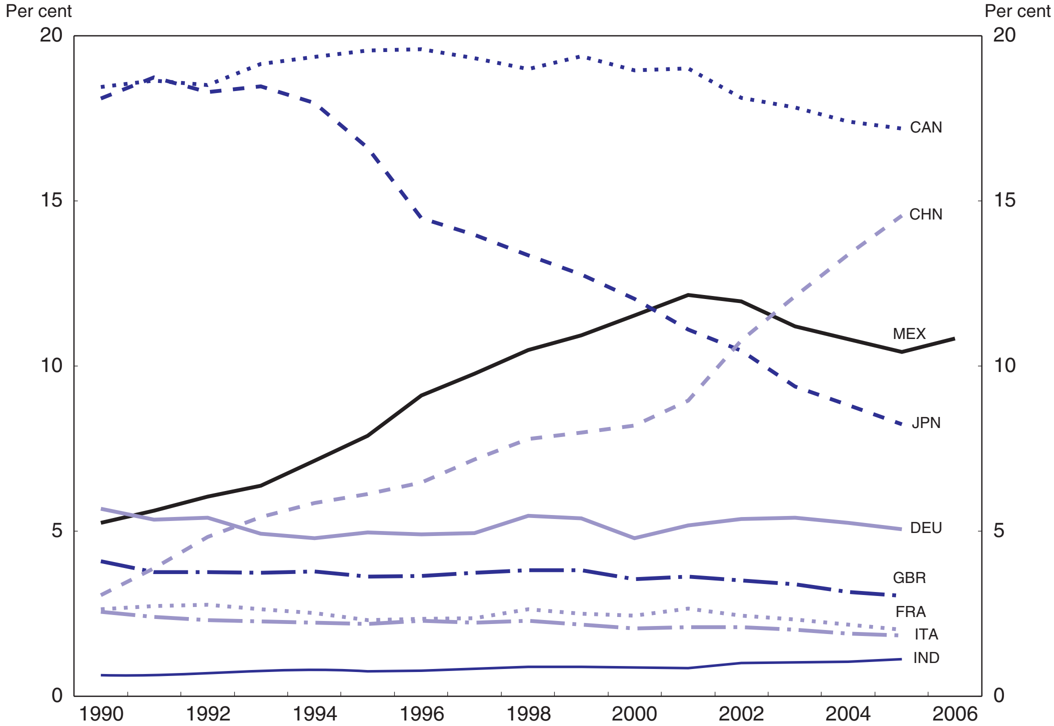
Overall, the results suggest that Mexico's exports performed strongly in the United States market following NAFTA, but the entry of China into the United States market and its rapid expansion in the early 2000s did have an effect on Mexico's performance (as on all the other major exporters to the United States). Although recent evidence suggests that Mexico's export performance may be strengthening again, stronger competition from producers in emerging economies means that the situation remains fragile. Mexico needs to adapt continuously to changing comparative advantages arising from new technologies and new market entrants.

Figure 3.4. **Market share of selected countries in USA manufactured imports**



Source: United States Department of Commerce.

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Table 3.2. **Constant market share summary results**

	1994-2001 average	2002-05 average	2006
Difference between the Mexican export growth rate and the growth of United States imports			
Total	9.2	–4.1	4.6
of which, contribution of:[1]			
Chemicals, rubber, plastics	0.0	–0.3	0.0
Clothing and footwear	1.1	–0.8	–0.6
Electrical machinery and equipment	4.0	–1.7	2.5
Transport equipment	2.5	–1.1	4.0
Market growth effect			
Total	9.1	–3.6	4.9
of which, contribution of:			
Chemicals, rubber, plastics	0.1	0.0	0.1
Clothing and footwear	1.1	–0.8	–0.8
Electrical machinery and equipment	3.9	–1.7	2.5
Transport equipment	2.4	–1.0	4.1
Specialisation effect			
Total	0.1	–0.5	–0.2
Contribution to total of:			
Chemicals, rubber, plastics	–0.2	–0.4	–0.1
Clothing and footwear	0.0	0.0	0.2
Electrical machinery and equipment	0.1	0.0	–0.0
Transport equipment	0.1	–0.1	–0.1

1. Only the largest contributing manufacturing sectors are shown here. For full results see Annex 3.A1.
Source: United States Department of Commerce, OECD.

Strengthening Mexico's external led growth performance

Further improvements to both trade and FDI policies would contribute to maximising Mexico's adaptability and gains from integration in the world economy. Reducing tariffs would improve the ability of Mexican firms to compete in foreign markets by ensuring they can access the best value inputs from anywhere in the world at the lowest possible cost. It would also remove the relative price distortions and bias towards low productivity industries. The removal of the wedge between Most Favoured Nation (MFN) tariffs and RTAs would eliminate trade diversion (Box 3.2) and remove the bias against trade with Asia, a fast growing and highly dynamic part of the world economy. Although the share of non-RTA imports has been growing, it would most likely have grown faster without the current

Box 3.2. **Trade diversion, productivity and employment**

The combination of relatively high protection of low-productivity sectors and bilateral trade agreements can lead to the expansion of such low-productivity sectors and trade diversion. Trade diversion occurs when two economies have lower tariffs between them than with the rest of the world, leading to trade between them increasing at the expense of more efficient trade with other economies outside the trading bloc. For the importing economy this results in higher import costs and for the exporting economy it can result in the expansion of low productivity sectors that hamper overall productivity performance and growth.

Evidence suggests that trade diversion has almost certainly occurred to some degree in NAFTA, especially in the clothing industry. The creation of NAFTA, together with high US and Mexican external import barriers for clothing, created a strong bias towards US imports from the Mexican clothing sector, which is labour intensive and has lower labour productivity than other parts of the economy. This led to a large expansion of the sector in Mexico, with employment growing and Mexico posting large market share gains in the United States in the 1990s, while the Asian market share was falling. But the adjustment of Mexico's sector was only postponed. During the early 2000s, as the United States began to reduce its barriers to imports of clothing from the rest of the world markets and imports from other countries into the US grew, Mexico's market share fell.

Although the expansion of the clothing sector helped to absorb part of the rapidly growing workforce in the non-farm sector, it also helps to explain why Mexico's productivity growth performance has been lower than other middle income countries. It is important to create enough employment to absorb the very rapid increases in the labour force, but increased employment in low-skilled protected sectors, such as the clothing industry, is only a short-term, second best, solution. As the experience of the clothing industry illustrates, continued protection will maintain or increase jobs in low-skilled industries only temporarily, postponing the adjustment. Sooner or later, developments beyond Mexico's control, such as trade policy in other countries, technology changes and structural measures in other countries that improve the cost competitiveness of foreign firms, will eventually put pressure on the industry and lead to job losses.

It is preferable for Mexico to have a longer-term view and act proactively. It should move ahead to gradually reduce protection in favoured industries, while at the same time ensuring that adequate retraining programmes are available for displaced workers with temporary income support if appropriate. Raising human capital is the only way to ensure sustainable higher productivity employment growth in the long-run.

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level of tariffs. There is a potential for Mexico to improve its gains from trade by sourcing from Asia cheaper intermediate inputs for exports to the rest of North America, as well as being able to purchase cheaper consumption goods.

The increase in trade, investment and growth that Mexico could experience from lowering its trade barriers is potentially large. Such action would signal to firms and investors that Mexico is a production base from where they can access inputs at the lowest cost and at the same time have free trade access, via existing RTAs, to some of the largest markets in the world, including the United States, Canada, the European Union and Japan. The increase in foreign trade and investment would contribute to productivity gains via increased competition and greater production scales that would encourage greater innovation in products, services and processes. On balance, the empirical literature supports a positive link between trade and growth (Ahn and Hemmings, 2000). Equations estimated across a panel of OECD countries indicate that an increase in trade openness of 10 percentage points of GDP (combined measure of export intensity and import penetration) would raise output per working-age person by 4% (OECD, 2003).

Higher trade growth would also contribute to productivity gains by increasing R&D spillovers from trading partners. International spillovers from R&D are potentially large. There is evidence showing that the level of foreign R&D in trading partners is an important explanatory factor in total factor productivity and that this increases with the openness of the country (Helpman and Coe, 1995). By increasing FDI from the United States and other developed countries, Mexico can benefit from their R&D intensities and raise its productivity growth. Labour productivity of foreign affiliates tends to be substantially higher than the national average in both the manufacturing and services sectors in OECD countries. This is the case in particular for lower income countries in the OECD, such as the Czech Republic, Hungary and Portugal (OECD, 2005e)

For the gains from trade and FDI to materialise, a range of complementary structural reforms must be taken to improve the business environment (Box 3.3). These reforms, which will be discussed in the following chapters, include strengthening competition and improving infrastructure (Chapter 4) and developing human capital and facilitating labour market adjustment (Chapter 5). Progress in these areas would contribute to lifting productivity and GDP per capita growth and help to further develop trade and FDI flows.

Box 3.3. **Policy complementarities and trade and investment**

Trade liberalisation contributes to higher output by encouraging the allocation of resources from less to more productive sectors and this process requires complementary policies, including improving the business environment, promoting competition and firm expansion. In Mexico there was a large reallocation of labour across sectors in the 1990s, but it has not always been to more productive uses. For the re-allocation of resources to raise productivity requires that the business environment be conducive to the survival and expansion of successful firms. In Mexico, firm dynamics are high: firm entry is easy and entry rates are high but so are extinction rates and compared with other countries, only a few of the surviving firms expand rapidly (Pages, Pierre and Scarpetta, 2007). The World Bank *Investment Climate Survey* suggests that factors of importance for encouraging firm growth include improving access to finance, reducing corruption and strengthening the rule of law.

Box 3.3. **Policy complementarities and trade and investment** *(cont.)*

There are important complementary policies that should accompany the reduction of tariff and FDI barriers. Cross-country estimates show that a wide range of policy variables, including reducing product market regulation (PMR), increasing domestic competition and improving the quality of the overall infrastructure, all help to boost trade and investment (Nicoletti *et al*., 2003). Improvement in these policy variables are shown to have the greatest effect on FDI flows, then on services trade, followed by goods trade. OECD estimates indicate that easing PMR would increase Mexico's total exports by more than 20% (OECD, 2005).

Chang, Kaltani and Loayza (2005) also find that the effect on economic growth of an increase in openness depends on the progress made in several other policy areas. In line with Pages *et al*. (2007) findings on the reallocation of resources associated with trade liberalisation in Latin America, the authors' results also suggest that an increase in openness could even have a negative impact on growth if a given complementary area is not sufficiently advanced. Using growth regression specifications that allow for interactions between trade openness and other policy areas, the authors find that the coefficient on the interaction between the trade volume ratio and, in turn, the secondary enrolment rate (the proxy for human capital), the private domestic credit ratio (financial depth), and the number of phone lines per capita (infrastructure) is positive and significant. The estimated coefficients on the interaction between the trade volume ratio and, in turn, the proxies for governance, labour market flexibility, and firm-entry flexibility are also positive and statistically significant. This is to say that a country cannot reap all the benefits of trade liberalisation if, for example, new and more efficient firms are prevented from entering the market because of entry restrictions, or if the labour market is too rigid. Trade openness may improve the incentive structure for resource re-allocation, but the extent to which resources move from less efficient to more efficient sectors depends on the degree of flexibility of factor markets (Dennis, 2006).

For Mexico to get the full benefit from trade liberalisation, it must take a comprehensive approach to reform. Already in 1956 Lipsey and Lancaster noted, in their "General Theory of Second Best", that piecemeal reforms are likely to fail and can even generate social welfare losses. The experience of OECD member countries shows that there are strong complementarities between structural reforms. Work done in the context of the OECD's *Going for Growth 2005* emphasises the importance of consistency across policy areas. For example, it shows that restrictive product market regulation and selected restrictive labour market policies are positively correlated. One explanation for the observed correlation is that once one reform is carried out this creates pressure for, and removes obstacles to, reform in other areas. Because PMR reform reduces rents accruing to firms, they will find it less easy to bear the cost of restrictive employment protection legislation (EPL). Furthermore, workers may have less incentive to protect their jobs through EPL because of greater alternative employment, as less product market regulation is found to increase employment opportunities (Nicoletti and Scarpetta, 2005). There is also a cross-country correlation between barriers to trade and investment and domestic barriers to competition and this may reflect a "political economy effect" whereby openness to trade and international investment generates pressures for domestic policy reform (OECD, 2005d). At a general level, the likelihood of reform in one area is increased by over 5% when reforms in other areas have already been implemented (Duval and Elmeskov, 2005).

The opportunity created by carrying out a reform that facilitates others is one that should be seized because of the synergies these complementary reforms can have on growth. Oliveira Martins and Price (2000) discuss the importance of implementing policies together as far as possible to ensure that an economy moves to a higher growth path. *Going for Growth 2006* shows how framework policies – education policy, financial market policy, openness to FDI as well as product and labour-market regulation – all contribute to influencing innovation effort and performance. If not enough progress is achieved in some areas, for instance, education or labour market regulations, then the benefits derived from more open product markets on innovation and growth may be diminished or not materialise at all. Policies are mutually interdependent, and ensuring coherence between policy areas is essential.

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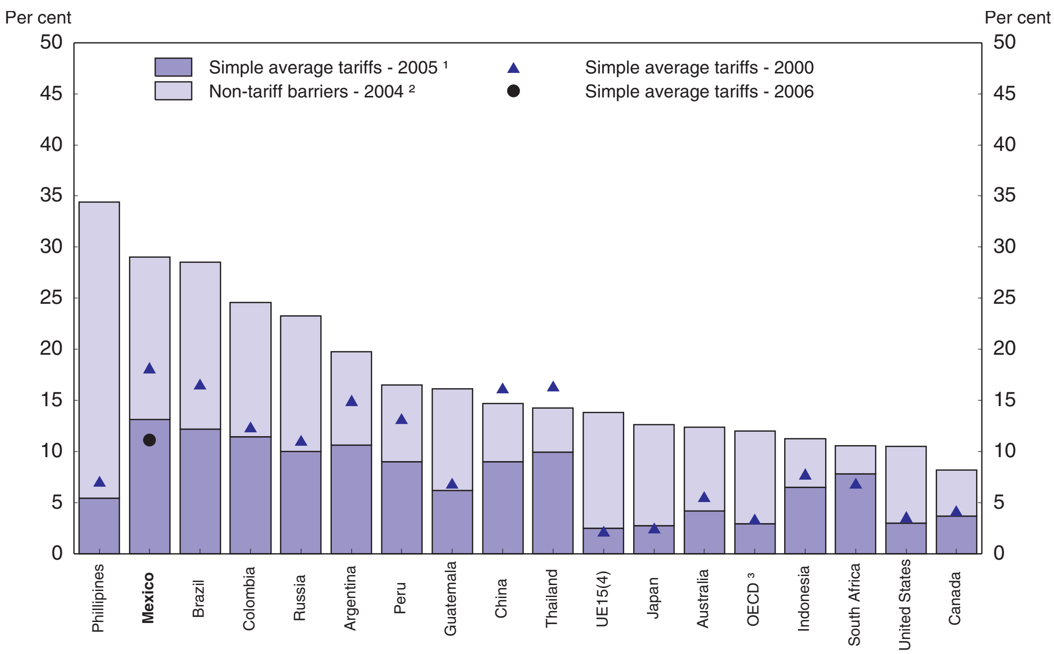
Trade policy: further reducing tariffs and non-tariff barriers

According to a synthetic indicator of the restrictiveness of trade policy, which takes into account both applied MFN tariffs and a tariff equivalent of non-tariff barriers, Mexico had a more restrictive trade policy in 2005 than the OECD average. In particular, the restrictiveness was higher than in its trading partners in NAFTA, the United States and Canada (Figure 3.5). It was also higher than in less advanced countries such as South Africa, Argentina, Colombia, Guatemala, Peru and China. Overall, Mexico's tariffs in 2005 were still above the middle-income country average. The 2006 reduction in tariffs, however, may have changed Mexico's relative position somewhat. Non-tariff barriers in Mexico are also among the higher ones in the sample, far above those in other OECD countries or those in many developing countries.

Figure 3.5. **Total trade barriers (tariff and non-tariff) in comparison**



1. Most favoured nation (MFN) average tariff (simple average, *i.e.* not import weighted).
2. Tariff equivalent of non-tariff barriers (simple average).
3. OECD does not include Korea, Luxembourg and the Slovak Republic.
4. EU15 minus Luxembourg.

Source: UNCTAD's *TRAINS* database; World Bank Data on trade and import barriers; Kee, Nicita Olarrega (2005); and OECD.

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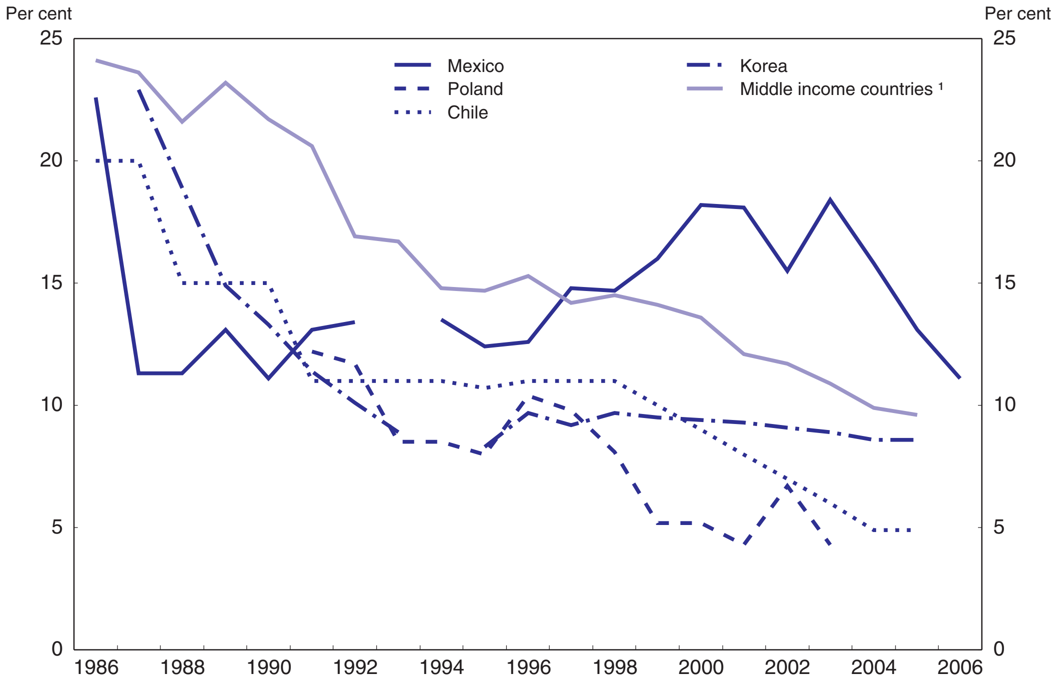
Despite the reduction in tariff barriers the risk of trade diversion remains…

As well as liberalising trade through RTAs, Mexico has also made progress in reducing tariff barriers on a multilateral basis. In line with trends in other countries, Mexico's MFN tariff barriers fell substantially after 1986, when Mexico joined the GATT/WTO. However, in the second half of the 1990s and early 2000s, Mexico was the only OECD country to raise its average unweighted applied MFN tariff (Figure 3.6). These increases were, at least partly, made for fiscal reasons, which is confirmed by the broad nature of the increases, close to 90% of tariff lines being affected in the January 1999 increase (WTO, 2002). At the same time, other middle-income countries continued to reduce their trade barriers. Recently, Mexico

Figure 3.6. **Applied tariff rates: 1986 to 2006**

Average unweighted applied tariff rates



1. 86 countries.

Source: World Bank and OECD.

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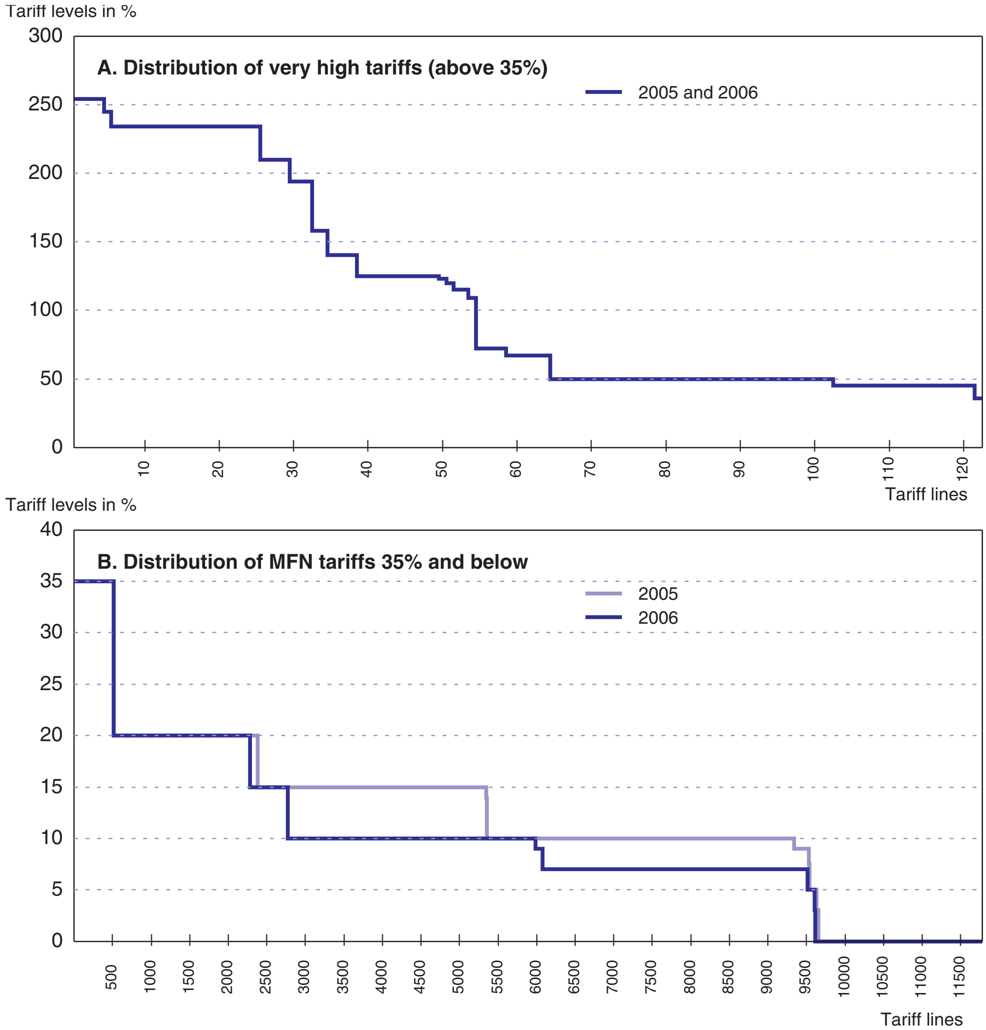
has returned to reducing tariffs, with particularly broad tariff cuts in December 2004 and September 2006,[7] but there is still some way to go to bring its average tariff down to levels prevailing in the OECD – or even in non-OECD middle-income countries.

As noted above, a significant feature of Mexico's trade policy regime from a tariff perspective is the significant liberalisation of its trade via the various RTAs signed since the early 1990s. The notable opening of the Mexican economy that resulted has had significant benefits for the economy. However, these RTAs have created the potential for trade diversion, owing to the wedge between the MFN tariff and the tariffs that apply to RTA countries. In 2003, Mexico's simple (*i.e.* not import weighted) average tariff for RTA countries was 2.2%. This was significantly below the MFN average tariff for non-RTA countries of 18.4%. MFN Tariff cuts at the end of 2004 and in 2006 have narrowed the gap between the average MFN and RTA tariffs, but it is still significant. Of particular concern is that, because the RTA tariff is much lower than the MFN tariff and Mexico does not have RTAs with East Asia (except Japan), the current trade policy settings discriminate against imports from East Asia, which are potentially a source of low-price manufactured inputs for firms located in Mexico.

... and tariffs are biasing resource allocation towards low productivity sectors.

Following the September 2006 tariff reductions, Mexico's simple average applied MFN tariff fell to 11.1% (based on a total of 11 900 tariff lines). Figure 3.7 shows the distribution of tariffs by level. In terms of level distribution, there are three broad groups. First, a very small, highly protected group of products, representing 121 tariff lines (1% of the total), has tariffs in excess of 35%, with almost half of the lines in this group having tariffs

Figure 3.7. **Distribution of Mexico's tariff levels**



Source: World Bank, *World Integrated Trade Solution (WITS)* database; UNCTAD; Mexico Ministry of Economy; OECD.

StatLink http://dx.doi.org/10.1787/104531884113

exceeding 100%. There is a second group of favoured products with above-average tariffs in the range of 15-35%, representing 2 774 tariff lines (23% of the total). The remaining 80% of tariff lines are at 10% or below, with 18% of the total number of tariffs being at zero.

The overall trade weighted average MFN tariff is almost identical in value to the simple average MFN tariff.[8] Approximately 80% of imports are in categories that have a tariff of 10% or below applied to them, 15% of imports are in categories that have a tariff of between 15-35% and 5% of imports are in product categories with tariffs over 35%. It is important to note these import shares are affected by the tariff levels, *e.g.* a cut in tariffs for products in the 15-35% range would lead to greater imports and a higher share of these products in total imports.

The highly protected group of products with applied tariffs between 36 and 254% is dominated by agricultural products, including poultry, sugar, corn, beans, coffee, grapes, malt, wheat, barley, tobacco and milk. Certain types of motor vehicles are also in this highly protected group with a tariff of 50%. Box 3.4 discusses agriculture issues in Mexico's trade policy.

Box 3.4. **Agriculture issues and trade***

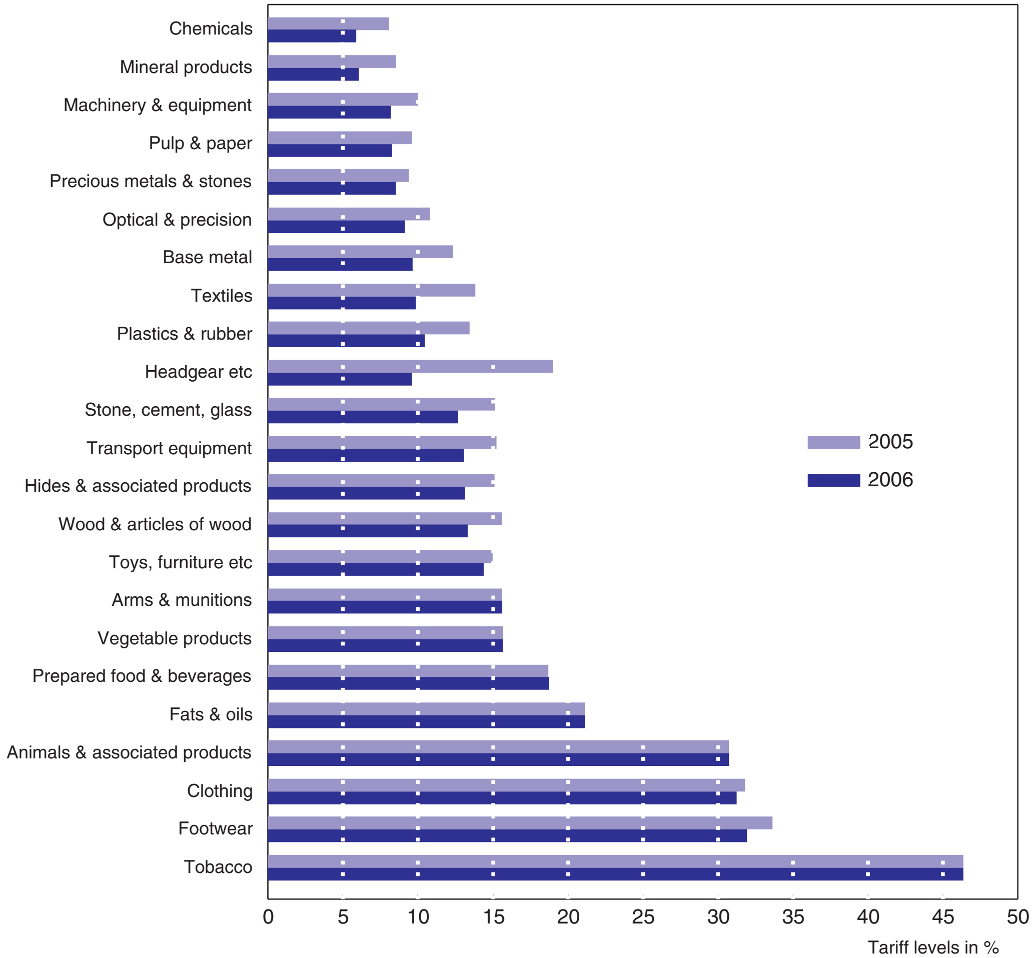
Mexico currently has very high applied MFN tariffs, some over 200%. At the same time, under NAFTA, Mexico has been gradually bringing agricultural product tariffs down to zero for imports from the United States and Canada. To help farmers cope with lower border protection, the authorities have put in place direct income support programmes aimed at helping the affected sectors. The main support programme, PROCAMPO, is currently in place until 2012 to assist farmers in their transition to zero tariff trade in agricultural goods with Canada and the United States. One policy option to consider is to extend this gradual tariff reduction to all products with MFN agricultural tariffs. Reducing the MFN tariff would ensure that Mexican consumers have access to the lower cost food from anywhere in the world. As food is a greater proportion of lower income households' consumption baskets the impact would be overall progressive. Furthermore, given that in these agricultural product lines, the United States, Canada and some other RTA partners already have tariff-free access, these high MFN tariff levels may only be inducing expensive trade diversion and/or illegal triangulation schemes. Such high tariffs also increase the opportunities and incentives for fraud and corruption at the border. For example, the Ministry of Economy discusses the import of third country coffee via the United States to bypass the 140% MFN tariff (Ministry of Economy, 2004). If reductions in MFN tariffs were adopted, it should be implemented gradually enough to enable affected parties to adapt but not allowing policy reversal (OECD, 2005b). If MFN tariffs were reduced, further improvements to the income support programme should be made. Under PROCAMPO, direct income payments are made on historical land use. This has improved the effectiveness of the income transfer, while limiting distortions to production processes, in contrast to previous price support and subsidy measures. However, greater effort needs to be made to define the objectives of the programme. If the objective is poverty alleviation, this type of sector-specific income support may not be the best tool, as PROCAMPO does not cover landless agricultural workers. For that purpose *Opportunidades* might be more appropriate since it is more progressive. When designing the appropriate support program care should be taken to create greater incentives to increase productivity and move to more profitable crops.

* Based on OECD (2006a), *Agricultural and Fisheries Policies in Mexico*, which provides a detailed and comprehensive discussion of the Agricultural Sector and Agricultural Support Programs.

High tariffs also persist in labour-intensive and low-productivity activities, such as clothing and footwear (Figure 3.8). This bias tends to lower overall productivity in the economy by distorting relative prices and encouraging resources to remain in – or even flow to – low-productivity, protected sectors. Tariffs on intermediate inputs and capital equipment are lower. However, tariffs on intermediate inputs are still above those in other countries, which raises production costs in Mexico and negatively affects the cost-competitiveness of Mexican-based producers *vis-à-vis* competing foreign firms. This problem became more acute as from 2001, when to comply with NAFTA Article 303, the Mexican government began the phasing out of import duty exemptions previously granted for materials and equipment used in producing exports destined for the United States under the *Maquiladora* and the *Programa de Importación Temporal* (PITEX) (OECD, 2007). To address this problem, Mexico uses a preferential programme, *Programas de Promoción Sectorial* (PROSECs), for raw materials and equipment not produced locally with tariffs of 0-5%. As recognised by the authorities (Ministry of Economy, 2004), this is inferior to a general tariff reduction because it imposes administrative costs (producers need to apply for PROSECs preferences) and it is only applied to some sectors. The 2006 MFN tariff cuts,

Figure 3.8. **Mexico's tariffs by product category**[1]

Applied simple average MFN tariffs



1. According to harmonised system classification.

Source: World Bank, *World Integrated Trade Solution (WITS)* database; UNCTAD; Mexico Ministry of Economy; OECD.

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which were concentrated on intermediate inputs, have helped address the problem in a more efficient way than PROSECs, but further tariff reductions are desirable.

Gradually reducing remaining tariffs

Mexico should move forward with a comprehensive and clear strategy to gradually reduce remaining tariffs. This will lead to significant net gains for Mexico as suggested by the following: *i)* the reduction of tariffs does not have large implications for government revenue (in 2005, total tariff revenue accounted for only 0.2% of GDP); *ii)* the growing share of imports from non-RTA countries noted above means that the current MFN barriers are affecting an increasing proportion of Mexico's trade; and *iii)* reducing the approximately 60% of tariff lines with 10% or lower tariffs to a zero tariff and narrowing the wedge between MFN and RTA tariffs would reduce the cost of administration and non-tariff barriers that inhibit Mexico's trade and create opportunities for corruption and fraud. There would no longer be a need for setting reference prices on which to levy tariffs, operating special programmes such as

PROSECs, monitoring rules of origin and determining which set of RTA rules apply. Gradually reducing tariffs on more highly protected products (those with 15-35% tariffs) are likely to have greater positive affect on trade flows and resource allocation and productivity, but also involve greater reallocation of labour across sectors.

Helping adjustment of workers in affected sectors

A standard resistance to reducing protection comes from the social hardships potentially associated with the exit of previously protected and no longer viable firms and the associated job losses. Indeed, reducing protection and creating a more open economy implies that resources have to shift across sectors as the economy responds to shifting demand and relative price signals. It is important that resources, especially labour, can flow easily across sectors, in order to prevent long periods of inactivity or shifts into the low-productivity informal sector, including for the most vulnerable groups (*i.e.* the least educated and poorest workers).

Ensuring a smooth functioning of the labour market and appropriate training of displaced workers can help to reduce these hardships. Labour market settings, in conjunction with social assistance, should ensure that the most vulnerable population groups do not bear too high adjustment costs. This is particularly relevant for Mexico where the political support for a more open economy needs to be strengthened. Chapter 5 looks at some of these issues.

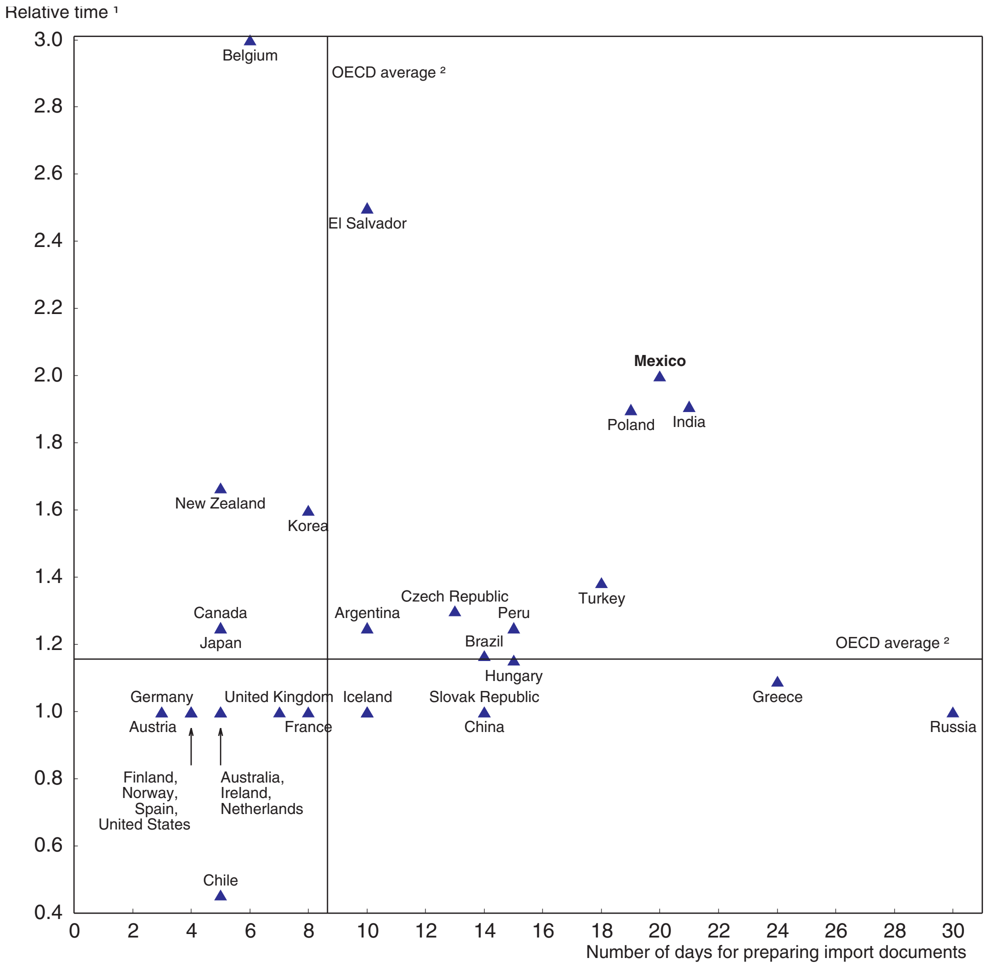
Lowering comparatively high non-tariff barriers

As well as moving forward in trade liberalisation, via both RTAs and multilateral liberalisations of MFN tariffs, the authorities are working towards progressively reducing non-tariff barriers. Initiatives to reduce non-tariff barriers are important policy steps that will significantly improve trade flows and the cost competitiveness of Mexican firms. As tariffs declined worldwide under GATT/WTO, increasing attention has focused on the utilisation of non-tariff barriers (NTBs), which have emerged as major obstacles to trade (Walkenhorst, 2004; OECD, 2005). Accordingly, methods for quantifying the effects of NTBs on prices and imports flows have been developed in the past few years, and a number of empirical studies consistently show that reductions of NTBs can lead to substantial welfare gains.[9]

There is evidence both at the qualitative and quantitative level suggesting that Mexican trade is currently being hampered by different types of NTBs. These include burdensome and sometimes arbitrary customs procedures, excessively strict technical requirements, including labelling rules, reference prices, as well as antidumping measures (which Mexico has used in an active way).[10] Kee *et al.* (2005) estimated *ad valorem* tariff equivalents (AVE) for a group of "core" NTBs: price and quantity control measures (*e.g.* reference prices, non-automatic licensing and quotas), technical regulations (*e.g.* labelling, testing or information requirements), as well as monopolistic measures, such as single channel for imports.[11] The estimated AVE for Mexico is the largest among the 28 OECD countries in the authors' sample (at 15.9% compared with 9% for the OECD average). The AVE for the United States and Canada are below average. Also, countries such as Argentina, Turkey or Poland display much smaller tariff equivalents for the considered core NTBs than Mexico.

A meaningful indicator for non-tariff barriers to trade is the time required to prepare documents for importing a container (see the World Bank's *Doing Business* database). Lengthy document preparation times inhibit trade; and a high ratio of time taken to prepare import documents relative to export documents is indicative of a protectionist bias in trade policy. The number of days to prepare documents for importing a container is 8.7 days on average in the OECD; but in 2006, Mexico is well above this average, requiring 20 days. Among OECD countries, it is only in Greece that it takes longer. The document preparation time is shorter in other Latin American countries, such as Chile (5 days) or Brazil (14 days). Moreover, the time taken to prepare documents for importing into Mexico is very high relative to the time taken to prepare documents for exporting – the ratio is two for Mexico, which is almost twice the OECD average and is also higher than in Chile and Brazil (Figure 3.9). This suggests the need for a simplification of import procedures.

Figure 3.9. **Time taken for import and export procedures, in comparison**



1. Number of days for preparing import documents over number of days for preparing export documents.
2. Excluding Luxembourg.

Source: World Bank, *Doing Business* database, various years.

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Streamlining customs procedures

Customs procedures remain costly, overly burdensome and need to be simplified, as recognised by the authorities.[12] The requested administrative requirements are excessively complex and often redundant (for example, detailed product descriptions and information regarding the importer identification are required in several documents).

Importers of sensitive products (*e.g.* agricultural products, cement, chemicals, textiles and footwear, toys, steel) must register in the specific roster (*Padrón de Importadores de Sectores Específicos*). Registration by an importer can be opposed by the domestic industry group that produces the sensitive product, which constitutes a powerful protection tool for the industry. The registration can also be time-consuming (the authorities have 30 days to confirm or reject the application, after which, in the absence of an answer, the importer is registered automatically); moreover, the specific registration co-exists with the registration in the general roster (*Padrón de Importadores*) required for all importers. If a new product is added to the list of sensitive goods, the importer must submit a new application. Progress was made recently to increase the speed of the registration procedures and address redundancies in documentary requirements. Further simplifying procedures and reducing administrative costs would not only facilitate trade, but also release public resources that could be allocated more efficiently elsewhere.

Both US and EU exporters (mainly from the agricultural and textile sectors, respectively) have complained about long, burdensome, arbitrary and non-transparent controls of goods during clearance.[13] Some goods (*e.g.* sugar and textiles) must enter the market through exclusive entry points – *aduanas exclusives* – which entails unnecessary transport costs, thus reducing the competitiveness of imported goods in the Mexican market. Labelling requirements are also unnecessarily cumbersome and strict and the system should be simplified by using labelling standards already applied by other OECD countries (see Annex 3.A2). Furthermore, fines have been imposed for not correctly complying with certificate of origin or labelling requirements. In general, refusal to import is sufficient to ensure that goods without the correct certificate or that have incorrect labelling do not enter the Mexican market. Punitive sanctions such as the payment of fines should therefore be removed. Importing firms will still be motivated to comply with the certification and labelling requirements as non-compliance would mean that they are unable to complete their sale.

The government intends to gradually streamline import permits and compulsory registration in the *Padron Sectorial* and eventually eliminate specific ports of entry for certain goods. Mexican customs are also working to improve information systems, information exchange with other government agencies and installing non-intrusive inspection equipment (gamma ray equipment). The customs service is also setting up an anticipated maritime manifest system where ships would electronically notify customs 24 hours in advance of the goods they are carrying, which will significantly speed inspections on arrival at the wharf.

Mexico has a system of reference prices for customs valuation, which is applied mainly to foodstuffs and beverages, textiles and clothing, footwear, tools, and toys. The system has been in place since 1994, and it is used for the purpose of combating undervaluation. The authorities are considering replacing the reference price system with the transaction valuation system (which accepts the price paid by the importer in the market of origin as evidenced by invoice information) within the next two years. This would be an important step to facilitate trade as Mexico's current system is a barrier to trade.

In October 2000, the Mexican authorities implemented a guarantee system that is excessively burdensome. If the declared price of an imported product is lower than the reference price, importers must deposit into a Customs Account (*cuenta aduanera*) a guarantee in cash equal to the tariff duties and other taxes resulting from the difference between the declared price and the official estimated one. According to the law, the guarantee will be cancelled only six months after the importation and only if an investigation has not been initiated.[14] The delay is too long and can create a serious liquidity constraint, which is especially problematic for small and medium-sized importers. Such a system imposes costs not only on importers, but also on the Mexican government (which has to administer it) and on the financial institutions operating the accounts. The latter have to comply with burdensome obligations, eventually passing this cost on to importers when they open a customs account and make transactions with it. It would be appropriate to eliminate the current guarantee system, which in any case becomes redundant once the reference price system is scrapped.

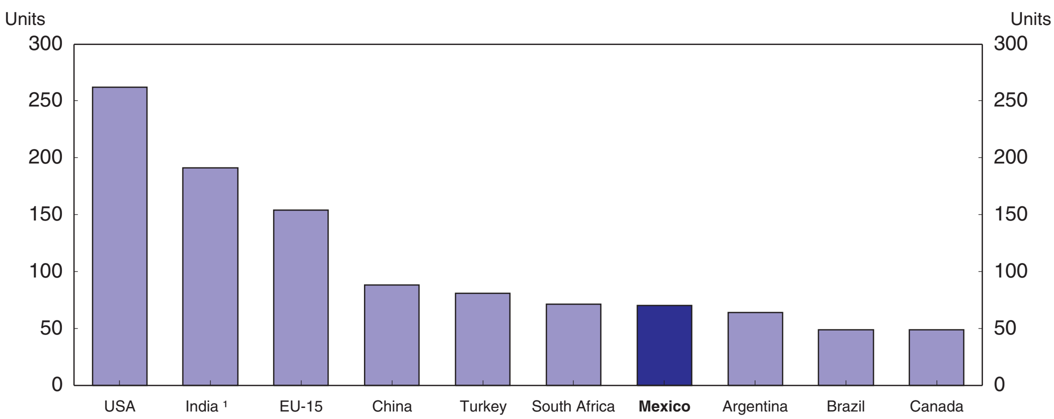
Increasing transparency of antidumping procedures

WTO members can apply antidumping (AD) measures against the imports of a product at an export price below its "normal value", usually the price of the product in the domestic market of the exporting country if such dumped imports cause injury to a domestic industry in the territory of the importing contracting party.[15] This mechanism is traditionally used in more developed economies (*e.g.* the United States, the European Union, Canada, and Australia), but it has been systematically employed by developing countries as well. Between 1985 and 1994, the number of AD investigations initiated by Argentina, Brazil, Colombia, India, Indonesia, Mexico, Peru, Turkey and Venezuela represented 16% of all investigations; in the decade that followed the establishment of the WTO (1995-2004), those nine countries were responsible for initiating 1 045 investigations, 40% of the total (Bown, 2006).

Between 1987 and 2005, Mexico initiated 267 antidumping investigations. Half of these initiations took place in 1992-94, and from 1995 to 2005, the number of initiations had dropped to less than eight per year on average. In the first semester of 2006, there were 70 antidumping measures in force in Mexico – mainly definitive duties. The country is still among the top ten group of WTO members for making recurrent use of antidumping (see Figure 3.10). Close to one-third of the antidumping measures in Mexico have as target

Figure 3.10. **Antidumping measures in force 30 June 2006**

Top 10 countries



1. In June 2005.

Source: WTO.

StatLink http://dx.doi.org/10.1787/104331870377

China, followed by the United States (12). The steel industry has been by far the most important complainant in antidumping investigations in Mexico, followed by chemicals, and to smaller extent textiles.[16]

Although the Mexican antidumping system is considered to be generally in accordance with WTO rules[17] and its antidumping authority (*Unidad de Prácticas Comerciales Internacionales*, UPCI) is well budgeted and staffed, a number of problems should be addressed, and especially the lack of transparency and predictability of the methodology and criteria applied by the UPCI. The main problems with the antidumping system in Mexico concern the misclassification of information as confidential government information (thereby reducing transparency), the non-existence of published detailed guidelines for the application of the antidumping law (which has resulted in the application of different criteria in cases that are similar) and the lack of certainty in the methodology applied in the causation determination (*i.e.* the causal link between dumped imports and the injury or threat of injury alleged by domestic producers) (Leycegui and de la Torre, 2005). More transparency and less discretion are essential to enable the exporter to fairly defend its interests and to ensure cases are more easily distinguishable. It is also important to choose an appropriate substitute country for the determination of normal value if the exporting country's domestic market price is not considered to be appropriate.[18]

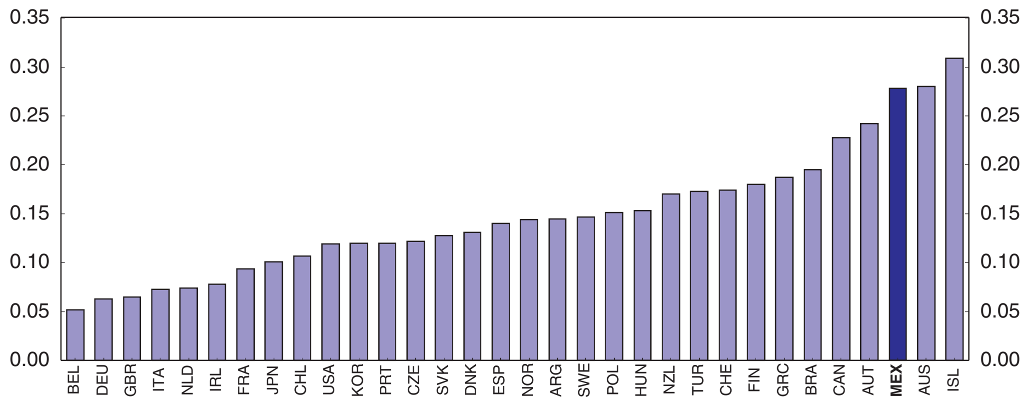
Removing obstacles to FDI and increasing linkages to the Mexican economy

Further reducing FDI barriers

Under the general Foreign Investment Law (1993) and amendments and a number of sectoral laws, Mexico still maintains a variety of barriers against foreign direct investment (FDI) which are high compared with most other OECD countries, and also higher than in other Latin American countries (Argentina, Brazil and Chile) (see Figure 3.11). More than half of the overall tightness reflects ownership restrictions, which are relatively strict. Screening and notification procedures are also relatively complex, while management operational restrictions, although not insignificant, are not out of line with many other OECD countries. The four main levels of ownership barriers and the sectors of particular importance for trade and productivity performance are summarised in Table 3.3 below.

Figure 3.11. **Foreign direct investment restrictiveness index**[1]

2003



1. Index scale of 0-1 from least to most restrictive.

Source: Koyama and Golub (2006).

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Table 3.3. **Summary of FDI ownership restrictions**[1]

Restriction	Sector/activity
Activities reserved to the state	Petroleum and hydrocarbons, electricity.
Activities reserved to Mexican nationals	Domestic land transportation, gasoline retail sales and distribution of LPG.
Ownership limits	Up to 25% in airlines. Up to 49% in telecommunications, insurance companies and retirement funds management and coastal shipping.
Ownership above 49% with government approval	Cellular telecommunications, airports, railways, ports, legal services, insurance agents, construction of pipelines for distribution of petroleum products, drilling of petroleum and gas wells.

1. The complete list of sectors covered by these barriers is listed in Annex 3.A3.
Source: Ministry of Economy.

Barriers to FDI are higher than the OECD average across all the main sectors of the economy (Table 3.4). They are concentrated in services and infrastructure sectors: finance, business services, energy, transport infrastructure, including land transport, ports and airports, and telecommunications. Because they provide inputs for the whole economy, these sectors are important for Mexico's overall economic performance as well as for its external trade performance.

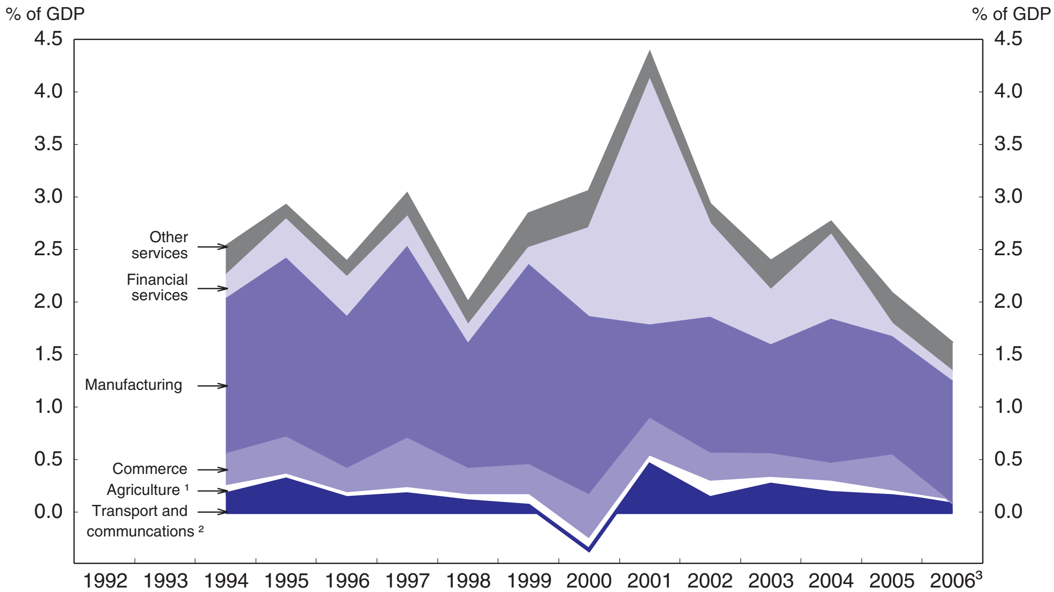
Table 3.4. **OECD FDI regulatory restrictiveness index for Mexico by sector**[1]

	Mexico	OECD average	Rank out of 29 countries (best to worst)
Business services	0.206	0.152	21
Telecoms	0.356	0.184	24
Construction	0.125	0.074	24
Distribution	0.125	0.072	24
Finance	0.502	0.152	24
Hotels and restaurants	0.125	0.072	24
Transport	0.428	0.299	26
Electricity	1	0.326	29
Manufacturing	0.125	0.076	24
Total	**0.278**	**0.187**	**28**

1. Index scale of 0-1 from least to most restrictive. See Annex 3.A3 for more details.
Source: Koyama and Golub (2006).

Barriers to FDI have also almost certainly contributed to the declining inflow of foreign capital noted in Chapter 1. The FDI stock-to-GDP ratio is still relatively low compared with many other OECD countries; and OECD estimates suggest that reducing FDI restrictions to those prevailing in the least restrictive country in the OECD would increase the stock of FDI in Mexico by 50% (Nicoletti *et al.*, 2003).[19] Where barriers are lower (such as in manufacturing) or have been reduced recently (such as in financial services), there have been significant inflows of FDI capital. From 1994 to 2005, manufacturing accounted for approximately 50% of the gross inflow of FDI into Mexico, reflecting Mexico's comparative advantage and proximity to the United States. FDI in manufacturing has not been supported by large inflows of FDI in complementary service and infrastructure sectors (see Figure 3.12). The main exception is financial services where restrictions on foreign equity ownership of banks have been lifted (see below).[20] As a result Mexico has efficient manufacturing plants in sectors such as automobiles, but these investments are negatively affected by the lack of adequate services and infrastructure as well as imported inputs at competitive prices (see Chapter 4).

Figure 3.12. **Gross FDI inflow by sector**



1. Agriculture, mining, electricity and construction.
2. FDI inflows can be negative if a domestic enterprise owned by a foreign investor: is sold by the investor to another domestic enterprise, makes a loss, pays back previous borrowings to it overseas parent, is loaning money to its overseas parent, returns capital back to its parent.
3. Estimates for 2006: actual data for two quarters at an annual rate.

Source: World Bank and OECD.

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Mexico's experience in removing foreign investment restrictions on its largest banks in 1998 is illustrative of the potential effects of lifting unduly restrictive regulations on FDI. The removal of barriers led to a rapid increase in foreign ownership of Mexican banks: the percentage of total commercial banking assets owned by foreign firms rose from 7% in 1995 to 25% in 1998 and 85% by 2006, including major investments by the United States' Citibank and Spain's BBVA and Santander. The increase in foreign investment has improved the performance of Mexico's banking sector, particularly in terms of technology, systems and the soundness of lending portfolios.

Lifting barriers to foreign investment in some services and infrastructure sectors would attract higher capital inflows and improve productivity in these sectors directly by providing capital, technology and increasing competition on domestically-owned firms. Encouraging flows of foreign capital to the services and infrastructure sectors would enhance the quality and cost competitiveness of the inputs used by the manufacturing sector, thereby assisting trade performance. In some of these sectors (insurance and transport), it would also open up the possibility for increasing Mexican services exports.

Increasing benefits from FDI by strengthening spillovers to domestic firms

Important benefits from higher FDI are the supply chain linkages from the FDI investor to domestic firms and the knowledge and technology transfers that often accompany direct investment. Investors transfer know-how to their subsidiaries, and in many cases also their direct business partners, which have the potential to spill over into the host economy more generally. Vertical transfers to domestic suppliers of manufactured inputs have been demonstrated by empirical evidence (see Kugler, 2006, Javorcik, 2006). Nevertheless, linkages and spillovers are far from automatic and depend on framework conditions and the absorptive capacity of domestic firms. In the automobiles sector and other industries in Mexico, there is potential for greater linkages between FDI investors and Mexican firms. These would boost Mexico's return from FDI.

Foreign direct investors are keen to widely outsource locally as local production represent a potential source of cost savings and security of supply. Empirical evidence shows that even where multinational companies initially import most of their supplies these imports tend to be eventually replaced by domestically sourced goods (OECD, 2002). Even if the multinational has suppliers outside Mexico it may also want to source locally as this provides competition for international suppliers.

However, developing vertical linkages requires strengthening incentives for investors to outsource locally and this implies improving the ability of local firms to supply inputs that meet the multinationals' requirements. Paus and Gallagher (2006) find that, in the electronics industry in particular, foreign firms have either invited other multinational suppliers of manufactured components to locate in Mexico with them or sourced from sub-contracting firms already established in Asia. In this industry, Mexican firms are mainly involved in providing packaging materials. This highlights that the business environment needs to be further improved so that it encourages more domestic firms to improve their product quality and cost competitiveness, which would allow them to strengthen their linkages to foreign-owned firms and supply a wider range of inputs.

Encouraging linkages with domestic firms

The Mexican manufacturing sector consists of a large number of small firms, with a few very large firms and a very small proportion of medium-sized firms. This structure itself contributes to limit supply chain linkages that would help smaller firms to grow and increase their productivity.[21] Mexican firms have sometimes been unable to supply multinationals in the electronics and automobile sectors, two of the largest export industries in Mexico, because of a lack of scale and technical capabilities and quality.

Links between foreign investors and their direct domestic suppliers (tier 1 suppliers), which are often large companies, are reasonably strong. However, there are only weak links between the tier 1 suppliers and their, generally smaller, suppliers (tier 2 and tier 3 suppliers). The government assists small firms in developing linkages with large firms, in particular through the Supplier Development Programme (SDP) supported by the Ministry of Economy, the National Association of Manufacturers and the United Nations Development Program. The programme has helped the formation of voluntary strategic alliances and permanent commitments between large foreign firms and SME suppliers and there appears to be some evidence of increased efficiency and profitability of firms inside the programme.[22] Consistent with the Government's intention to evaluate the impact of public spending, there should be a cost-benefit evaluation of the programme before further increasing the programme budget. Public support programmes specific to the inflow of FDI can be useful, but it is important that they provide the most cost-effective solution, especially given Mexico's fiscal constraints.

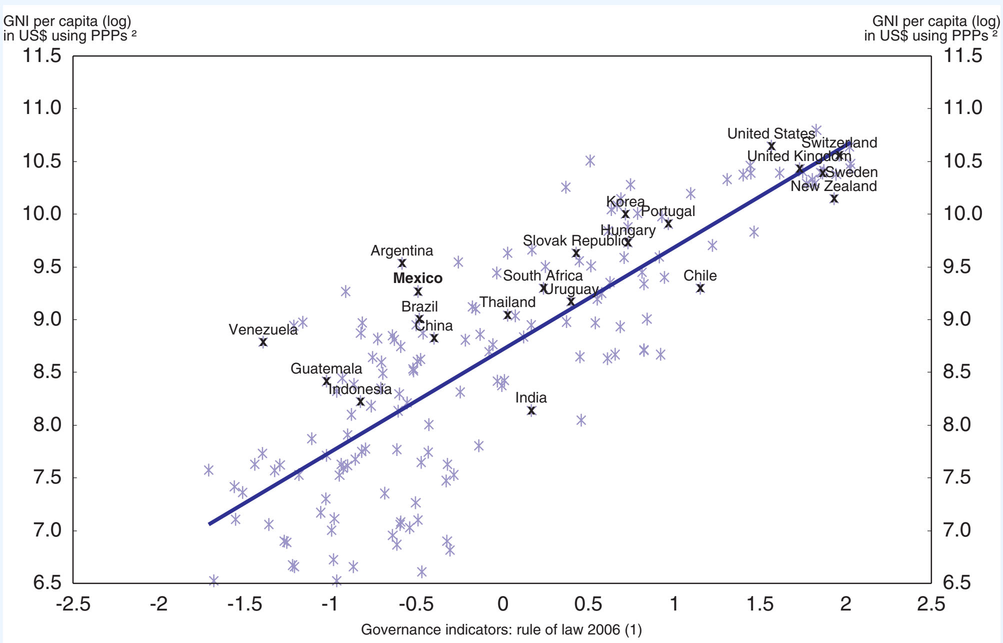
FDI promotion efforts aimed at strengthening the linkages with domestic firms are more effective when complemented with flanking policies that improve the investment climate (OECD, 2006c). For instance, increasing human capital and product market

Box 3.5. **Rule of law in Mexico**

The rule of law can be defined as the extent to which agents have confidence in, and abide by, the rules of society. These include perceptions of the incidence of both violent and non-violent crime, the effectiveness and predictability of the judiciary, and the enforceability of contracts (Kaufmann *et al.*, 1999). A strong rule of law, where fair, transparent and predictable rules form the basis of economic and social interactions, is fundamental to efficiency and growth in a market economy. This is because it encourages individuals and firms to make human and physical capital investments and engage in profitable transactions by giving them greater certainty over returns. It also helps to minimise transactions costs. Empirical work suggests that the effect of the rule of law on growth in per capita income is positive and quantitatively important and that the channels from better rule of law to growth include greater exports and FDI.*

According to the World Bank's rule of law indicator, Mexico was below average among 207 countries, with no improvement from 1998 to 2005 (see Figure 3.13). Improving the rule of law would have large potential gains for Mexico, including through greater trade and FDI flows. In this context, the government's priority on improving security and the rule of law in Mexico is an important part of its development strategy. It should continue to include measures to improve public security and reduce crime, particularly by reducing corruption and raising capability in law enforcement. Increasing the enforceability of contracts is also important. Some steps have already been taken in recent years to improve the enforceability of credit contracts by reforming the legal framework for the recovery of collateral (OECD, 2005f). Streamlining the process for *amparo* hearings should also be tackled (Box 4.1).

Figure 3.13. **Rule of law indicator, 2006**[1]



1. The rule of law represents the extent to which agents have confidence in and abide by the rules of society. This indicator includes perceptions of the incidence of the effectiveness and predictability of the judiciary, the enforceability of contracts and both violent and non-violent crimes (World Bank). This indicator is scaled from about –2.5 to 2.5, from worst to best.
2. 2005 or latest year available.

Source: World Bank, *2006 Governance Indicators* and GDP database.

StatLink http://dx.doi.org/10.1787/104355745102

* On the links between institutions, including the rule of law, and growth, see Knack and Keefer, 1997, Hall and Jones, 1999, Kaufmann *et al.*, 1999, Acemoglu *et al.*, 2001 and Rigobon and Rodrick, 2004. Oliva and Rivera-Batiz, 2002 and Méon and Sekkat, 2004 examine links between trade, FDI and the rule of law.

competition will help increase incentives to invest and raise the absorptive capacity of local firms, thereby enabling closer linkages with foreign investors and domestic firms. Strengthening the rule of law, which is a priority of the government, will also help to encourage FDI by giving investors greater certainty over returns and lowering transactions costs (Box 3.5). The authorities are considering developing an investment facilitation action plan at all levels of government. Following a comprehensive approach to create an attractive investment climate would help to mobilise investment by both foreign and domestic firms. The *Policy Framework for Investment* developed by the OECD can be usefully applied to facilitate such a process.

Concluding remarks

Mexico has made substantial progress in liberalising trade and foreign investment and this has helped to boost growth. Nevertheless, there is room to go further and bring tariffs down to levels prevailing in the OECD and even non-OECD middle income countries. MFN tariffs are becoming more constraining as the share of Mexico's imports coming from non-RTA countries is growing. Furthermore, the current combination of 12 RTAs, with different terms, and a large difference between RTA tariffs and MFN tariffs creates opportunities for fraud and corruption and is expensive to administer, while raising little fiscal revenue. There is also scope to reduce non-tariff barriers. In addition, ownership restrictions on foreign investment in services and infrastructure sectors should be eased so as to attract higher capital inflows and improve productivity. In this context, it is particularly important to continue improving the overall investment climate. Detailed recommendations to promote trade integration and FDI flows are contained in Box 3.6 below.

Box 3.6. **Main recommendations on trade and FDI**

Gradually reduce MFN tariffs

- Implement a comprehensive programme to gradually reduce remaining applied tariffs.
- Develop effective labour market programmes to support affected workers, in particular in sectors where protection is higher and resource allocation effects will be greater.

Reduce non-tariff barriers

- Simplify and increase the transparency of customs procedures, antidumping procedures and technical standards (*e.g.* labelling). Where possible, automate these procedures using more information technology systems and reduce the processing fees.
- Eliminate punitive sanctions for failing to meet labelling standards and incorrect certificates of origin including fines and confiscation of goods.
- Remove special registration lists for imported goods and merge with the general list already in place.
- Eliminate the reference price and guarantee system and replace with the transaction valuation method *i.e.* importer valuation with accompanying documentary evidence.
- Eliminate exclusive entry locations in Mexico for some products and eliminate remaining import permits (non-automatic import licensing, *e.g.* for cars and used machinery.

Box 3.6. **Main recommendations on trade and FDI** *(cont.)*

Further facilitate FDI and maximise the benefits from FDI

- Eliminate ownership restrictions on foreign investment in services and infrastructure sectors such as telecommunications, domestic land transport, coastal shipping and airports.
- Continue efforts to facilitate linkages between FDI investors and smaller domestic firms, evaluating existing programmes for their cost-effectiveness and ensuring that the support is available across the board, without attempting to pick the winners.
- Strengthen the rule of law, to improve the business environment.
- Implement an investment facilitation action plan at all levels of government; the *Policy Framework for Investment* developed by the OECD could provide useful support.

Notes

1. Formerly known as GATT (General Agreement on Trade and Tariffs).
2. The pattern in volume terms was quite similar with Mexico's exports share of world imports of goods and services rising from 1.3% in 1990 to 2.3% in 2000 before declining to 2.1% by 2003 where it remained in 2004 and 2005.
3. Manufactured exports are chosen because they constitute the bulk of Mexico's exports and also because they are demand-driven and, therefore, market share performance is relevant. By contrast, commodities and agricultural goods are mainly supply-driven and, therefore, a falling market share may only reflect Mexico's supply capacity rather than how well Mexico's firms are able to compete in the United States and other markets.
4. This was particularly due to a turnaround in the performance of electrical machinery and equipment and transport equipment exports.
5. See Annex 3.A1 for full results. Note that the data in the CMSA do not refer to the change in the level of the market share but rather the difference between the actual growth rate of Mexican exports and the growth of Mexican exports required to keep the level constant (*i.e.* the growth of US imports).
6. For chemicals, rubber and plastics this occurred because Mexico is non-specialized and this category grows faster than average US imports, while for electrical equipment Mexico is specialized and this category has been growing slower than average.
7. The 2006 cuts were particularly aimed at cutting the costs of Mexican producers by reducing the cost of imported intermediate inputs.
8. In 2005 the simple-weighted tariff was 13.1%, and the trade-weighted average tariff was 12.7%.
9. See OECD Trade Working Paper (Ferrantino, 2006) for an extensive review on the subject.
10. Mexico has more than 700 technical regulations and standards, applicable to an extensive range of products – the NOMs (*Normas Oficiales Mexicanas*) – which must be equally complied with by domestic and imported goods. The NOMs are issued by different ministries and, therefore, refer to different aspects, namely sanitary and phytosanitary requirements as well as labelling and marking requirements. There are also voluntary regulations: the NMXs (*Normas Mexicanas*).
11. These authors use the UNCTAD's *TRAINS* database, which is the most comprehensive database available and therefore the most commonly used in research. However, its country coverage is not complete and, furthermore, it is not consistently updated. Other data sources on NTBs include: compilations of business complaints provided by the European Commission (the EU *Market Access* database); the US Office of the Trade Representative (USTR); and Japan's Ministry of Economy, Industry and Trade. Business surveys also constitute complementary sources of information on NTBs – Chapter 1 in *Looking Beyond Tariffs* (OECD, 2005a) reports and compares findings from a set of 23 survey-based studies or reports.

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12. Mexican customs charge an *ad valorem* processing fee (*Derecho de Tramite Aduanero*) of 0.8% for definitive imports (from which preferential partners are in principle exempt) (the processing fee is 0.8% *ad valorem*). Thus, there is not a unique price for the same service – the processing fee depends on the value of imported goods. Therefore, in reality such a fee works as a supplementary tariff. See Ministry of Economy (2004), *Acciones concretas para incrementar la competitividad*.
13. See EU *Market Access* database and USTR, *National Trade Estimate Report on Foreign Trade Barriers*, 2005. For instance, EU exporters note that the certificates of origin they present to customs are often rejected for minor reasons, which implies delays and the payment of high penalties – and although the Mexican authorities tried to address this problem in March 2004 by issuing guidelines for customs officials to be more flexible, the problem is still of a non-negligible dimension.
14. Ley Aduanera, Article 86-A. If an investigation begins, the guarantee will not be cancelled until the authorities reach a definite conclusion and the importer presents a certificate issued by either a customs authority or a chamber of commerce of the country of origin of the goods (certifying the declared value).
15. GATT 1994 Article 6, *www.wto.org*.
16. This pattern is broadly in line with the sectoral distribution of antidumping actions observed in the world, where the most protected sectors are metal and metal products (about one-third of the total number measures), see Niels and Francois (2006). Antidumping duties are also levied on other manufactured products (coming mainly from China), such as plastic pencil sharpeners, tools and toys; and on imports from the United States, including apples, beef, and long-grain milled rice.
17. The need for improving the WTO Antidumping Agreement itself has been frequently emphasised because it is considered to be unclear in important aspects (*e.g.* the definition of "market economy"), and in order to give excessive room for discretionary application.
18. Under the WTO Antidumping Agreement two alternatives are provided for the determination of normal value if sales in the exporting country market are not on an appropriate basis. These are: *i)* the price at which the product is sold to a third country; and *ii)* the "constructed value" of the product, which is calculated on the basis of the cost of production, plus selling, general and administrative expenses, and profits (*www.wto.org*). It is important to choose an appropriate substitute country and not a country at a much higher level of development where cost structures are different, for example, using the United States or Germany to substitute for China or choosing Mexico itself as the substitute country – this ensures that any imported good with a price below the domestic producer price will be considered dumped – as has been done by UPCI in the past (see Niels and Ten Kate, 2004).
19. This is based on simulating an equation explaining foreign investment flows, which includes a wide range of explanatory variables, including whether there is a free trade agreement and also the level of FDI restrictiveness, which is itself a function of screening requirements, ownership restrictions and operational restrictions. The equation was estimated for a panel of 21 OECD countries from 1980 to 2000.
20. Remaining statutory limitations in the banking sector concern foreign presence in the form of a branch and the possibility for the authorities to take remedial action if the share of foreign investors in the aggregate total net capital of all commercial banks reaches 25% (see Annex 3.A4).
21. Illustrating the importance of linkages, a key source of innovations for Mexican suppliers to Wal-Mart Mexico (Walmex) has been their own input suppliers, usually foreign affliates (Javorcik, Keller, Tybout, 2006), which Mexican firms meet regularly.
22. The SDP is currently small relative to the size of Mexico's large export industries where there is potential for greater linkages. In auto manufacturing, 40 auto parts firms are involved out of a total of 1 000 auto parts firms in Mexico. The budget for the program was doubled between 2005 and 2006 to US$10 million (OECD, 2006b).

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ANNEX 3.A1

Constant market share results

	1994-2001 average	2002-05 average	2006
Difference between the Mexican export growth rate and the growth of United States imports			
Prepared foodstuffs	0.2	0.1	0.3
Chemicals, rubber, plastics	–0.0	–0.3	0.0
Pulp and paper products	0.1	0.1	0.1
Textiles	0.2	–0.0	–0.1
Clothing and footwear	1.1	–0.8	–0.6
Articles of stone, cement, glass and jewellery	0.1	–0.0	–0.2
Base metals	0.4	–0.1	–1.5
Electrical machinery and equipment	4.0	–1.7	2.5
Transport equipment	2.5	–1.1	4.0
Optical and precision equipment	0.4	–0.0	0.0
Toys, furniture and miscellaneous	0.3	–0.2	0.1
Total of above	9.2	–4.1	4.6
Market growth effect			
Prepared foodstuffs	0.2	0.1	0.2
Chemicals, rubber, plastics	0.1	0.0	0.1
Pulp and paper products	0.1	0.0	0.1
Textiles	0.1	–0.0	–0.1
Clothing and footwear	1.1	–0.8	–0.8
Articles of stone, cement, glass and jewellery	0.1	–0.0	–0.1
Base metals	0.4	–0.0	–1.3
Electrical machinery and equipment	3.9	–1.7	2.5
Transport equipment	2.4	–1.0	4.1
Optical and precision equipment	0.4	–0.0	0.1
Toys, furniture and miscellaneous	0.3	–0.2	0.0
Total of above	9.1	–3.6	4.9
Specialisation effect			
Prepared foodstuffs	0.0	–0.0	0.0
Chemicals, rubber, plastics	–0.2	–0.4	–0.1
Pulp and paper products	0.0	0.1	0.1
Textiles	0.0	0.0	0.0
Clothing and footwear	0.0	0.0	0.2
Articles of stone, cement, glass and jewellery	0.0	–0.0	–0.2
Base metals	0.0	–0.1	–0.2
Electrical machinery and equipment	0.1	0.0	–0.0
Transport equipment	0.1	–0.1	–0.1
Optical and precision equipment	–0.0	–0.0	–0.0
Toys, furniture and miscellaneous	–0.0	–0.0	0.0
Total of above	0.1	–0.5	–0.2

Source: TSE.

ANNEX 3.A2

Labelling requirements – still an obstacle to trade

In spite of some improvements in recent years, labelling requirements in Mexico continue to be an issue – UNCTAD's TRAINS database documents labelling requirements as a non-tariff measure for more than 2 500 products out of nearly 12 000 (that is, at the Harmonised System eight-digit tariff line code), from which almost half refer to textiles and clothing. Furthermore, the *EU Market Access* database (*http://madb.europa.eu*)* documents numerous, detailed labelling requirements, which are applied in a very strict and sometimes inconsistent application manner in goods such as textiles and alcoholic spirits.

For example, labels must have a certain size and letters to be used must have certain precisely defined typographical proportions. Product information stated in a label in a foreign language has to be identically repeated in Spanish using the same typography, colours, etc., which in many occasions is practically impossible according to EU exporters.

As Mexico's labelling requirements are often different from those set out by the EU, exporters have in most cases to design specific labels for the Mexican market. This represents an additional and unnecessary cost.

An indicator of the extent of the difficulty of compliance with labelling requirements is the revealed preference by importers for using expensive services from private agents, instead of trying to meet the requirements alone. As an alternative to fulfilling the labelling requirements before importation, and in order to avoid problems in customs controls, many importers use the services of Verification Units, which are private entities authorised to control the conformity of labels with the relevant official norms. There is hence a market for label verification. Each "dictamen" (verification of a label) normally costs less than US$100, but only covers one product (or a family of similar products) – therefore the verification of a shipment containing several different products can represent a non-negligible cost. Furthermore, for products where models change very often (*e.g.* in the clothing industry), those Units do not constitute a cost-efficient solution, because one verification is valid only for a single product.

If importers fail to fulfill the label requirements, sanctions can be imposed, in the form of penalties (ranging from 2 up 10% of the value of the goods) or even the confiscation of the products.

There is a need for simplification and flexibility in the compliance with labelling requirements at the border (*e.g.* acceptance of analogous terms). Mexico should use recognition of labelling standards, especially with countries where standards are already high, including the European Union or the United States.

* See also the reports: *In-depth analysis of trade and investment barriers in certain third country markets in the area of labelling and marking requirements*, 2002 (pp. 57-80), and *Market Access Analysis to identify and update the existing information on trade barriers in third countries affecting EU exports of textile and clothing, footwear and leather*, 2005 (pp. 110-42), both available at *http://madb.europa.eu*.

ANNEX 3.A3

Restrictions on FDI

A. Restrictions on FDI

Trans-sectoral: Acquisitions exceeding a total of 49% of the equity of the Mexican enterprise are subject to review if the total value of the assets of the enterprise to be acquired exceeds US$150 million. Authority: Foreign Investment Law (FIL) 1993.

Activities reserved to the state: Petroleum and hydrocarbons (extraction), basic petrochemicals, electricity (supply electric power which is to be used for public service), generation of nuclear energy; radioactive minerals, telegraph, radiotelegraphy, postal service, bank note issuing, minting of coins, control supervision and surveillance of ports, airports and heliports. Authority: Mexican Constitution, FIL.

Real estate: Acquisition of land used for agriculture, livestock or forestry purposes is not permitted. However, "T" shares which represent the value of such land may be purchased by foreign-controlled enterprises up to 49% of the value of the land. Acquisition of land for residential purposes by foreign-controlled enterprises is not permitted. Authority: Mexican Constitution; Foreign Investment Law 1993; Agrarian Law.

Oil and gas: Only Mexican nationals and Mexican companies with a foreigner exclusion clause may engage in retail trade in gasoline and distribution of liquefied petroleum gas. Participation in the supply of fuels and lubricants for ship, aircraft and railroad equipment may not exceed a total of 49% of equity. Investment in the construction of oil pipelines and other derivative products and oil and gas drilling may be authorised above a total of 49% of equity. Authority: FIL; Reglementary Law to Article 27 of the Mexican Constitution in the Oil Sector and its Regulations; Regulations on Gas Distribution.

Fishing: Foreign investment is permitted up to 49% in fishing in coastal and fresh waters or in the Exclusive Economic Zone and up to 100% in aquaculture. Authority: FIL, Fisheries Law.

Financial institutions: Foreign investment may participate in the following activities:

a) Ownership up to a total of 49% of the paid-in capital in insurance companies, financial leasing companies, factoring companies, limited scope financial institutions (Sofoles), general deposit warehouses, bonding companies and foreign exchange firms. Financial leasing and factoring were liberalised in July 2006; therefore the 49% limit – and the 51% limit for subsidiaries – only applies to leasing and factoring companies already established by that date. Credit had already been liberalised; therefore, the same applies for Sofoles. By July 2013, all of these companies will have to transit to the deregulated regime.

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b) Ownership of up to a total of 100% of the common stock in credit information institutions, securities advisory companies, mutual funds and securities rating agencies.

c) Ownership of at least 51% of the common stock in a subsidiary of the following type: bonding companies, general deposit warehouses, foreign exchange firms, pension funds and managing companies, by non-resident financial institutions of the same general type of activities.

d) Ownership of at least 51% of the common stock in a subsidiary of managing companies of investment companies, and of the fixed stock of investment companies, by non-resident financial institutions of the same general type of activities.

e) Ownership of at least 51% of the common stock in a subsidiary of the following type: banks, securities firms, insurance companies.

f) Ownership of at least 51% and up to a total of 100% of the common stock of existing financial institutions, irrespective of any individual size limits or aggregate market share limits, provided an authorisation is granted.

Authority: FIL, Credit Institutions Law; Law for the Regulation of Financial Groups; Stock Market Law; General Law for Credit Organisations and Auxiliary Activities; Federal Bonding Institutions Law; Insurance Institutions General Law; Investment Companies Law.

Air transport and related services: Foreign investment is permitted up to a total of 25% in national air transport, specialised air services and aero-taxi services and up to a total of 49% of equity in the administration of air terminals. Full ownership may be authorised in the administration of air terminals. Authority: Mexican Constitution; General Means of Communication Law; FIL; Law on Nationality.

Ground transport and related services: Domestic Land Transport for passengers, tourism and freight, not including messenger or courier services is reserved to Mexican Nationals. Foreign investment in the international ground transport of passengers, tourism and loading and in the administration of bus stations for passengers and auxiliary activities within Mexico is allowed up to 49% of equity. This share will increase to 51% as of 1 January 2001 and up to 100% as of 1 January 2004. Foreigners may participate up to 49% in a railway concessionaire enterprise without authorisation and above 49% subject to authorisation. Authority: FIL; General Means of Communication Law; Law on Nationality.

Maritime transport and related services: Foreign investment is permitted up to a total of 49% of equity in interior navigation and coastal sailing – other than tourist cruises and the exploitation of dredges and other naval devices for ports where foreign investment is permitted up to 100% – in integral port administration and port pilot services for interior navigation; and foreign investment may be authorised up to 100% in foreign commerce shipping and port services pertaining to interior navigation. Authority: Mexican Constitution; FIL; Law on Navigation; Law of Ports; Law on Nationality.

Radio and television broadcasting: Radio and television broadcasting (excluding cable television) are reserved to Mexican nationals and Mexican companies with a foreigner exclusion clause. Foreign investment through a Mexican corporation is permitted up to 49% of equity in cable television. Authority: Radio and Television General Law; Regulations of Cable Television; FIL and its Regulations.

Telecommunication services: Foreign investment in the telecommunications sector is permitted up to 49% of equity through a Mexican corporation, except in cellular telephony where foreign investment may be authorised above a total of 49% of equity. Investment in videotext and enhanced packet switching is free. Authority: Regulations to the FIL.

Newspapers: Foreign investment in newspapers for exclusive internal circulation may not exceed a total of 49% of equity. Authority: FIL.

Legal services: Investment by foreign nationals in legal services3 exceeding 49% of equity, unless an authorisation is granted. A professional license in law is required to be a public notary or a commercial public notary. Only a Mexican national by birth may be licensed as a public notary or a commercial public notary. Neither a public notary, nor a commercial public notary may have a business affiliation with any person who is not licensed in the same category of public notary.

Education services: Investment by foreign nationals in private education services exceeding 49% of equity, unless an authorisation is granted.

Sources: FIL, Mexican Constitution and OECD (2007), *Adhering Country Exceptions to National Treatment for Foreign Controlled Enterprises*, Paris.

B. OECD FDI restrictiveness index

The OECD FDI regulatory restrictiveness index (OECD, 2006c) measures deviation from "national treatment", *i.e.* discrimination against foreign investment. They take into account discriminatory barriers to entry including foreign ownership limitations, special screening procedures applied to foreign investors as well as post entry management and operational restrictions. Scores range from 0 (full openness) to 1 (*de facto* prohibition on FDI). Overall on this measure Mexico is one of the most restrictive countries in the OECD and also is more restrictive than other countries outside the OECD such as Argentina, Brazil and Chile. The following table gives Mexico's scores compared to the OECD average by sector. Mexico is particularly restrictive compared to the OECD average in accounting, fixed line telecommunications, insurance and banking, air and maritime transport, and electricity.

	Mexico	OECD average
Business services	0.206	0.152
Legal	0.150	0.221
Accounting	0.425	0.196
Architecture	0.125	0.094
Engineering	0.125	0.094
Telecoms	0.356	0.184
Fixed	0.425	0.198
Mobile	0.150	0.143
Construction	0.125	0.076
Distribution	0.125	0.072
Finance	0.502	0.152
Insurance	0.425	0.135
Banking	0.525	0.157
Hotels and restaurants	0.125	0.072
Transport total	0.428	0.299
Air	0.625	0.443
Maritime	0.424	0.280
Road	0.125	0.106
Electricity	1.000	0.326
Manufacturing	0.125	0.076

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Chapter 4

Improving infrastructure in Mexico

To lift overall growth and improve the benefits from openness to trade and FDI, Mexico needs to make complementary reforms to enhance the efficiency, quality and quantity of infrastructure services. Transport infrastructure efficiency has a direct effect on domestic and international trade flows and overall growth by lowering delivery times and transport costs, while efficiency in telecommunications and energy influences the cost-competitiveness of Mexican firms. Despite progress made to increase competition and lift productivity in infrastructure, there is scope for further improvements. This chapter reviews progress achieved so far in developing infrastructure and identifies remaining challenges in key sectors, making specific recommendations on how to strengthen competition and improve regulation. State-owned firms still have a large presence in the infrastructure sector, and their governance and regulation needs to be improved. There are also areas that are in principle opened to competition but where application of the law is impaired and effective competition is lacking. Steps should be taken to reduce discretionary decision-making and introduce or clarify rules for accessing network assets so as to facilitate entry of new participants and foster competition. Price signals to ensure efficient investment and consumption decisions and facilitate private investment should be strengthened in some sectors by removing price subsidies, while using targeted income support to address legitimate social concerns.

Improving infrastructure in Mexico is a key requirement for putting the economy on a higher growth path and obtaining the full return from Mexico's efforts to increase openness to trade and foreign investment. Infrastructure sectors, such as transport and telecommunications, provide vital inputs for production across the entire economy. The efficiency, quality and price of Mexico's infrastructure services are an important determinant of the cost-competitiveness of Mexican firms, the attractiveness of the country to foreign investors and, consequently, Mexico's growth performance. Empirical work shows that increasing infrastructure quantity and quality can lift economic growth, especially at an earlier stage of development and provided proper case-by-case cost-benefit analysis is conducted.[1]

There is evidence of improved productivity in Mexico's transport sectors over the years, especially in areas where there have been reforms to reduce restrictive regulations and increase competition, such as in railways and ports. However, notable bottlenecks remain. Since transport costs and delivery times are important factors in domestic and international trade flows (OECD, 2006), increased efficiency in transport infrastructure could reinforce Mexico's natural advantages of geographical proximity to markets. Improvements in water infrastructure are also required to provide adequate water supply for businesses and for the population at large. It is also important for Mexican firms to have access to high quality, reliable and value-for-money services from the telecommunications and energy sectors, but prices of telecommunications and electricity remain relatively high compared with other OECD countries.

A key mechanism for lowering prices and increasing efficiency of infrastructure in Mexico is to strengthen the competition and regulatory frameworks. Looking across the transport, telecommunications and energy sectors, four main issues have to be addressed:

- First, despite important progress in reducing restrictive regulations in some sectors, there is still a need to make further reforms, particularly in the energy sector.
- Second, removing restrictive regulations is not always sufficient to ensure the flourishing of competition and its benefits. In Mexico there is a need to improve the regulation of non-competitive segments of infrastructure sectors (*e.g.* railway lines, parts of the telecommunications network) to facilitate entry and encourage competition in these sectors overall.
- Third, the enforceability of competition and regulation decisions requires further strengthening.
- Fourth, there is a need to streamline the processes that affect the operation of transport infrastructure. International experience shows that improved border procedures in particular can make a significant contribution to trade performance and lift the return from transport infrastructure investment (OECD, 2005; 2006).

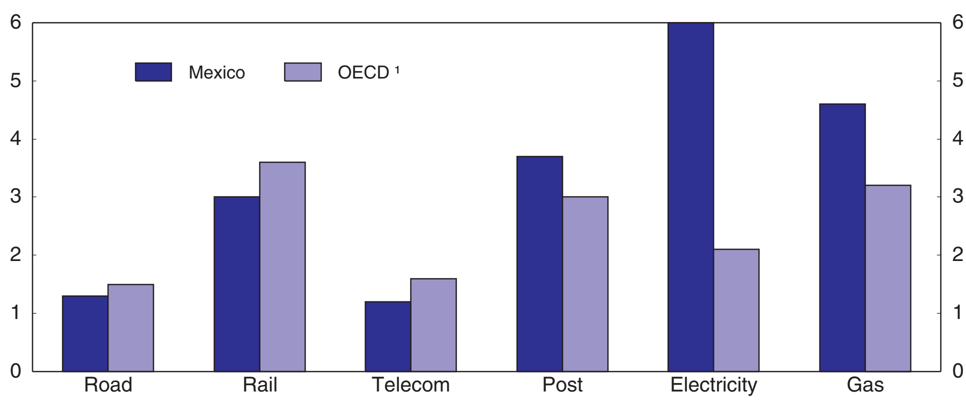
The chapter discusses competition and regulation issues which are relevant in infrastructure – and the economy at large. It then focuses on key infrastructure sectors, identifying the problems that are constraining performance and making specific recommendations to deal with these. Issues related to water infrastructure and management are discussed in Annex 4.A1.

An overview of competition and regulation issues

Greater competition in the provision of services in infrastructure sectors would spur productivity growth by creating pressure on providers to innovate. Increasing competition would also boost productivity and growth by reducing the dominance of monopolies (public or private) that provide key inputs to other industries, reducing the price and improving the quality of those inputs. The regulatory framework plays a big role in ensuring effective competition in infrastructure sectors. Mexico has made progress in reducing competition-restricting regulations. The OECD's Product Market Regulation Indicators (Conway and Nicoletti, 2006) show that, in 2003, Mexico's restrictive regulation indicators were around the OECD average or below in the telecommunications, rail and road sectors (Figure 4.1). On the other hand, regulations in the post and natural gas sectors were still relatively restrictive compared with the OECD average, and in the electricity sector they were much more restrictive than in most other OECD countries.[2] It is important to identify and eliminate unnecessary legal and regulatory restraints on competition. International experience, in particular that of Australia, shows that a broad review and modification of legal and regulatory restraints on competition contributes to ensuring strong, sustainable economic growth.[3] Identifying and correcting these restraints can be a major task. To facilitate this, the OECD has developed a Competition Assessment Toolkit (Annex 4.A2). The "toolkit" analysis can be usefully applied to find and correct restraints at state and federal levels in infrastructure sectors as well as in the economy at large.

Figure 4.1. **Extent of restrictive regulation in network industries, 2003**

The scale of indicators if 0-6, from least to most restrictive



1. Unweighted averages. The OECD coverage varies from 21 to 29 countries depending on the sector.

Source: OECD, *International Regulation* database and OECD estimates.

StatLink http://dx.doi.org/10.1787/104548855767

To strengthen competition, effective and enforceable competition-enhancing regulations are above all needed to facilitate the entry of new participants. Removing legal barriers to entry may not be sufficient to ensure healthy competition. As in most other OECD countries, an important issue that emerges in promoting competition in many infrastructure sectors – including airports, railways, ports, electricity, natural gas and telecommunications – is access to key facilities, often network assets with natural monopoly type characteristics. Ensuring non-discriminatory third-party access to these key facilities is vital for inducing competition in the competitive segments of each sector (OECD, 2007).

There are two main complementary approaches to ensuring access to third-party facilities: the first is competition policy and the second is regulation. Mexico has made important progress in both these areas, including enacting the Federal Law of Economic Competition (FLEC) in 1993 and establishing the Federal Competition Commission (*Comisión Federal de Competencia* – CFC) as well as sector regulators such as the Federal Telecommunications Authority (*Comisión Federal de Telecommunicaciones* – COFETEL) and the Energy Regulatory Commission (*Comisión Reguladora de Energia* – CRE). Further steps to improve the competition and regulation framework have been taken since then. In particular, recent changes to the powers and authority of both the CFC and COFETEL have been implemented (see below). In addition, changes to the Competition Law in April 2006 gave the CFC authority to issue binding opinions on secondary regulations by other government agencies, granted powers to conduct searches for specific information in the course of law enforcement and granted the Commission the power to investigate restraints to local trade.

Despite progress made and results obtained, a number of factors that are common across infrastructure are still constraining competitive forces from operating fully, and Mexico has the potential to reap much greater gains. Sector regulators do not have sufficient authority to obtain from industry participants the financial and technical information they need in order to effectively regulate their sectors. Access pricing regulation is not clear enough, and mechanisms in place are insufficient to facilitate the entry of new participants (see Annex 4.A3). Inadequate corporate governance and relatively poor public financial management of state enterprises in the infrastructure sector are curbing efficiency and constraining investment decisions. Price signals to ensure that consumption and investment decisions are efficient are, in some cases, blunted by subsidies. Finally, the enforcement of competition law and of sector regulation is being severely hindered by time-consuming litigation (*amparos*), which is working in favour of incumbents and undermines ongoing efforts to strengthen competition. (See Box 4.1.)

Improving transport infrastructure and services

Trucks still carry more than half of total freight in Mexico, with a small decline observed over the past ten years, when cargo carried by ship and railways both rose (Figure 4.2). Of the three main freight transport modes,[4] the railways network has had the strongest growth relative to GDP in the last decade. Since 2000, truck cargo has grown more slowly than GDP, and after 2003, railway cargo also slowed somewhat.

Trucking and border issues for trucking

A number of issues continue to constrain the efficiency of the trucking industry, including: *i)* the combination of oligopoly behaviour of larger companies and poor quality service of small firms; *ii)* restrictions on foreign participation; *iii)* the ban on cross-border trucking with the United States; and *iv)* the poor and inefficient infrastructure at the US-Mexico border.

The interstate road freight industry was liberalised in 1989 to facilitate greater entry and more price competition. As in other countries where similar reforms were

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Box 4.1. **Enforcement of competition law and network regulation***

Amparo lawsuits often delay or undermine actions and decisions by the CFC and other regulatory bodies. *Amparo* proceedings are established by the constitution, to grant all persons protection against unconstitutional acts by government. Of particular relevance for competition cases is Article 16 of the constitution that stipulates that agency orders articulate the "legal basis and justification for the action taken". An *amparo* action in a federal district court may be brought by any party based on wide-ranging grounds (for example, that a law is unconstitutional or, on the basis of Article 16, that an agency action is arbitrary, unsupported by substantial evidence or founded on reasoning that is illogical or contrary to general principles of law). In addition, a suit in the Tax Court may be brought to review any agency action that involves the imposition of a monetary payment obligation. CFC investigations and cases are routinely subjected to multiple *amparos*, leading to court orders suspending CFC proceedings. The judges are usually unfamiliar with competition policy issues.

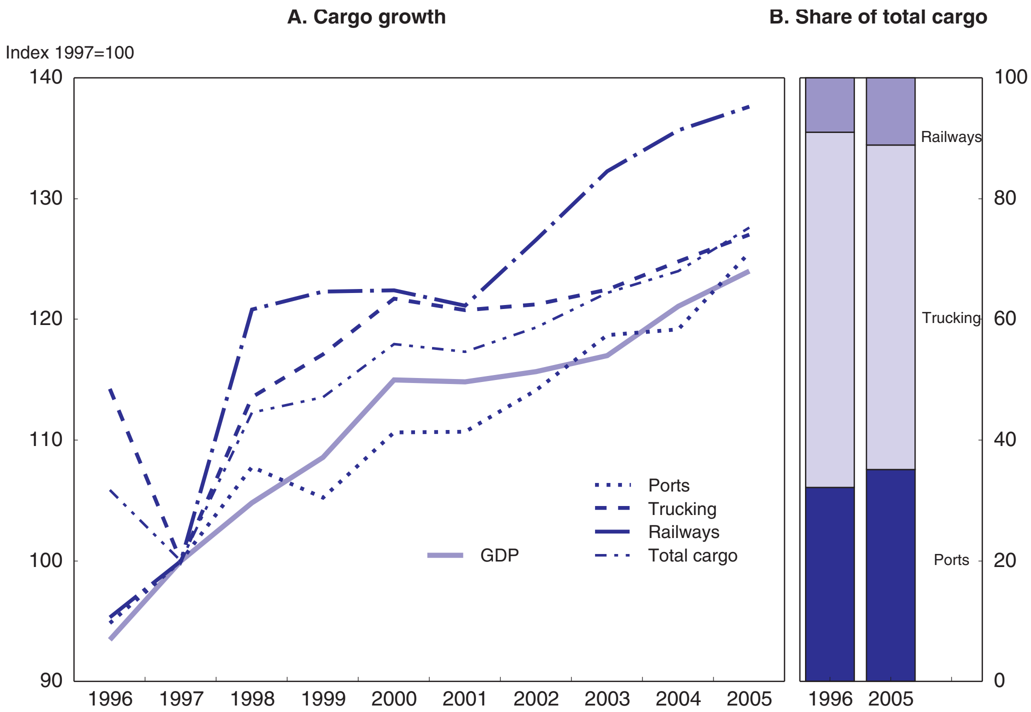
Amparos are a necessary instrument provided by the constitution to check the arbitrary use of government power, and competition law, like all legislation in Mexico, must accommodate this. However, competition and sector legislation must be as clear and unambiguous as possible to limit the abuse of *amparo* proceedings because such abuse is occurring frequently and in effect blocks competition law enforcement and the effectiveness of regulations. If the CFC or regulator were to have a clearly specified power granted by legislation, then this would help to defend their actions against *amparo* cases taken under Article 16. Also, decision-making must be as rule-based as possible. This is important for enhancing economic efficiency by giving firms more certainty for investment and other decisions, but also for reducing the legal grounds for challenging agency action. Specialised *amparo* courts with economic expertise to hear cases from the CFC and other agencies that deal with economic issues should be set up. Even within the current system, there is scope to introduce further economic expertise. *Amparo* procedure rules require the court to engage its own expert if it decides to admit expert testimony from a party to an action. However, there are very few economists on the list from which the courts can draw. The CFC should encourage universities to list faculty members who can provide assistance in competition cases. There should also be new legislation to prevent *amparo* courts from granting inappropriate stays of CFC orders during judicial review. Finally, it would increase the efficiency of these proceedings if procedural rules were tightened to require that all *amparo* actions against a decision be bundled together, rather than allowing them to be brought in a long sequence, which causes extensive delays.

* Based on OECD (2004) and *Economic Survey of Mexico 2005*, Annex 3.A3.

implemented (*e.g.* Japan or the UK), prices decreased and quality improved (see Boylaud and Nicolleti, 2001). However, during the 1990-2002 period, growth of productivity in this sector was irregular and, in recent years, even negative. This is in contrast with the productivity evolution in railway cargo transportation where, during the same period, growth in productivity was continuously positive (Castro, Garciá and Vargas, 2004).

As the initial impetus of the 1989 reform fades out and competition from other modes of cargo transportation increases (namely railways), the fragilities of the road freight sector become more evident. The trucking sector is made of a few big companies with modern business practices co-existing with a large number of very small, owner-operated, cash-based firms (Figure 4.3). On the one hand, competition among the large firms in the long-haul market is lacking; there is oligopoly behaviour and abuse of market power occurs (SCT, 2005). On the other hand, small firms, which only offer very basic services, are often

Figure 4.2. **Cargo transportation**[1]

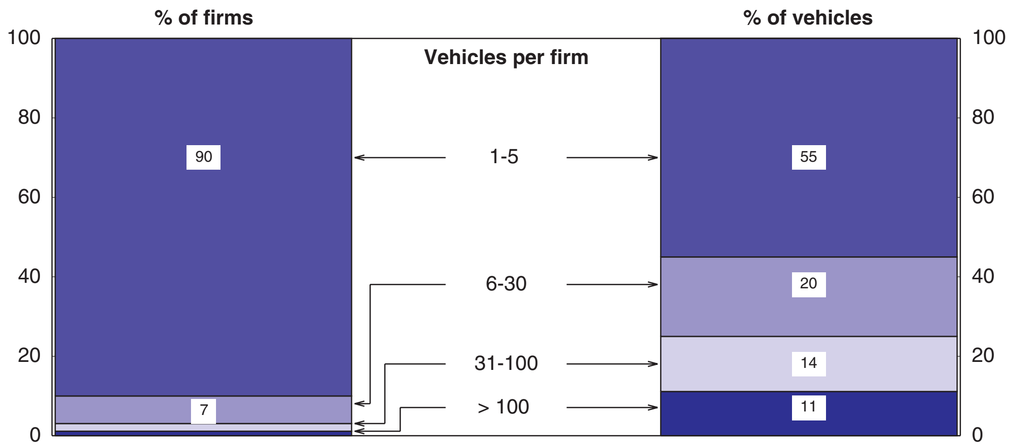


1. Excludes air cargo, which accounts for less than 0.1% of the total.

Source: Ministry of Communications and Transport, 2004.

StatLink http://dx.doi.org/10.1787/104550874281

Figure 4.3. **Structure of supply in the road freight industry, 2004**



Source: Ministry of Communications and Transport, 2004.

StatLink http://dx.doi.org/10.1787/104555342406

regarded as the weakest link in the inter-modal cargo transport chain in Mexico. Their size prevents the reaping of economies of scale and the adoption of modern techniques and new technologies in the shorterhaul market. Furthermore, truck operators tend to drive for an excessive number of consecutive hours and many of them lack the necessary training and experience, thus increasing accident risks.

Regulations affecting foreign investment and government procurement rules should be reviewed. For example, domestic land transportation for passengers, tourism and freight (except messenger or courier services) is reserved for Mexican nationals. This prohibition should be lifted to induce greater capital flows into the sector, and to help modernise and increase the efficiency of truck transport in Mexico. At the same time, to increase competition government procurement rules, which only allow domestic firms to carry out government contracts, should be changed so that any trucking firm (domestic or foreign) is able to tender for government contracts.

An important bottleneck for the trucking sector is the inefficiency at the border with the United States, including inadequate physical infrastructure, which needs to be improved in the short-run. Better infrastructure at the border, allowing cross-border trucking and other procedural and technology measures would help to improve the operation of the border and encourage greater trade flows. Under NAFTA, provision was made for buses and trucks to cross the border, but this was suspended by the United States on the grounds of safety. The prohibition on cross-border truck movements has meant that moving cargo across the border requires multiple inefficient truck movements.

Continued policy co-ordination is required to improve the efficiency of movements at the border and encourage greater trade flows between the United States and Mexico to the benefit of both economies. The most economically efficient solution is to allow trucks (that meet agreed safety, security and quality standards) to cross the border. An important step forward was made in February 2007, with Mexico and the United States agreeing to launch a pilot programme to allow trucks from both countries to cross the border. It will involve 100 companies from each country that meet United States and Mexican safety, insurance and licensing standards. The programme is set to begin in August 2007, providing it is not delayed further by opposition from trucking firms on both sides of the border, which have a vested interest in the *status quo* at the expense of the greater welfare of both economies. The programme is an extremely important achievement that will be of great economic benefit to both Mexico and the United States. It should be implemented without delay, made permanent and extended to a greater numbers of firms. Once the border is opened to cross-border trucking, the total transport market would grow, allowing firms on both sides of the border to benefit (Box 4.2).

Roads

About 80% of land cargo is transported by buses and trucks, so an efficient road network is particularly important for overall transport efficiency in Mexico. The authorities have been successful in encouraging the private sector to invest again in road building and maintenance with a new concession and Public – Private Partnership (PPP) programme. However, Mexico's road needs are great, and a number of issues remain, including: *i)* ensuring that the concession and PPP programme delivers the government's goals at the least possible cost; *ii)* increasing the use of multi-year budgeting; *iii)* using toll regulation rather than requiring inefficient road duplication to prevent abuse of monopoly power; *iv)* ensuring that tolls strike the right balance between efficient use and incentives to invest; and *v)* ensuring that public funds are directed towards filling gaps in private sector investment.

Mexico's road network is deteriorating with age, and maintenance is insufficient.[5] Although there is very little information on the quality of roads at the sub-national level, the situation seems to be even worse for state and local roads than for the federal network. It would be appropriate to increase public spending on road maintenance in order to move

Box 4.2. **Crossing the Mexican-US Border**

Improving the operation of trucking between Mexico and the United States is an important step to maximise the benefits of NAFTA. Over 80% of Mexican exports by value to the United States are moved by truck, but currently neither Mexican nor United States long-haul trucks are allowed to cross the border. As a result, delays at the border are long and have become even longer in recent years. Uncertainty about crossing times is also high.

Costs created by the current complex process to move cargo across the border increase the economic distance between the United States and Mexico by hundreds of kilometres. For instance, the process to move cargo from Chicago to Monterrey via Nuevo Laredo in northern Mexico involves up to ten movements of a minimum of three different trucks – including a drayage truck that pulls the trailer for the short distance across the border. The process, which doubles the number of truck movements on the bridges, increases traffic congestion at key points, such as bridges across the Rio Bravo/Grande. This congestion is further compounded by an insufficient number of access roads and restricted inspection hours of Mexican import/export brokers, who only inspect cargo in the morning, thus creating bottlenecks in the afternoon when most trucks are released at a similar time.

This inefficient process results in significant delays. Haralambides and Londoño-Kent (2004) estimate that for southbound cargo, the total time spent in crossing the border fluctuates between 12 hours and 3 days or more, the related costs ranging between 16% and 40% of the total trucking costs from Chicago to Monterrey. For northbound cargo, the time spent in crossing is between 7 and 17 hours, and the costs range between 10% and 20% of the total trucking cost. Evidence suggests that lost time in traffic is an important trade friction. For instance, Hummels (2001) estimates that each additional day spent in transport reduces the probability that the US will source from that country by 1-1.5%.

The original NAFTA provision on cross-border traffic was suspended by the United States under the argument that Mexican trucks are older and not as well maintained as US trucks and, therefore, unsafe. Since the mid-1990s, however, many Mexican firms have upgraded their fleets and purchased new trucks. Furthermore, US records show that Mexican trucks, currently operating inside the 25-mile commercial zone where they are permitted in the United States, are as safe as US trucks (Department of Transport, 2007). Although Mexico obtained a favourable judgment against the blanket ban on Mexican trucks in 2001 before the NAFTA arbitration panel, the ban remained in place. In February 2007, however, a large step forward was made with the Mexico – US agreement to introduce the pilot programme for cross-border trucking for 100 companies from each country.

The economic gains (to both countries) from allowing cross-border trucking will be large. It is estimated that current border frictions for truck-based trade represent the equivalent of as much as a 5% (1%) tariff on imports from (exports to) the US (Haralambides and Londoño-Kent, 2004). By removing such border impediments, trade and total welfare will rise. A simulation using the General Trade Analysis Project (GTAP) model shows that, without frictions, the total value of trade would increase by about US$1 billion northbound and US$6 billion southbound. Total welfare would rise by US$1.8 billion for Mexico (and US$1.4 billion for the US). This is considered to be a lower-bound estimate since the removal of border-crossing frictions would also improve the international organisation of production and the efficiency of transport use as well as increase savings in infrastructure construction, maintenance and pollution. These are all gains that were not considered in the estimate above (Fox *et al.*, 2003).

Box 4.2. **Crossing the Mexican-US Border** *(cont.)*

The authorities are undertaking a number of other measures to improve border efficiency that it should continue and expand on. The Fast and Secure Trade (FAST), begun in late 2003, now operates in 13 entry ports in the Mexico-US border. The system involves making an application to be a certified carrier, which entitles the certificate holder to use dedicated lanes at the border with fewer inspections. The authorities should ensure that Mexican manufacturers and trucking firms are fully informed of this programme and the need to register in order to obtain the benefits, and that there are sufficient dedicated lanes at the border.

With the installation of gamma ray equipment on the border, there have also been improvements in cargo inspection which provide important efficiency gains (gamma rays can scan a 1.6km train of containers in ten minutes). Inland ports, such as the one being built in the State of Guanajuato, are also important initiatives that speed processes at the border by moving inspection and cargo processing to less congested and more efficient facilities. Mexico has also introduced the Border Wizard model to analyse border crossings, which will help improve infrastructure and operational planning at the border. Other measures that Mexico could take include requiring Mexican brokers to increase opening hours for inspecting cargo and building more access roads to key crossing points.

to levels closer to those prevailing in other OECD countries. There is also the need to improve and expand the connectivity of the road network. Mexico's road density is low and has not changed much over the past 20 years, despite the rapid growth in cargo and passenger traffic over that period.[6]

There are clear funding shortages in road construction and maintenance. Fiscal resources are limited, and there are competing demands on the budget. The authorities estimate that the available public funds allow the government to invest less than half of what is needed in road infrastructure. To help meet this shortfall, the government has been successful in encouraging a notable increase in private sector investment, including through concessions and PPPs.[7] They can play a significant role in overcoming the scarcity of public resources. Nevertheless, OECD experience with PPPs is mixed, and the potential benefits need to be weighed against the costs (Joumard *et al.*, 2004).

It is also important to reduce the variability and uncertainty of public funding through the adoption of multi-year budgets, which would give more certainty to private investors and encourage their participation (OECD, 2003b). An important step forward in this regard is awarding long-term contracts (15-30 years) to build and maintain a highway in return for periodic payments under the PPP scheme, which has effectively increased multi-year budgeting in Mexico.

As a general principle, private investment in toll roads should be facilitated on routes that are commercially viable. If there is an existing public road, however poorly maintained, it would put some pressure to maintain tolls at a reasonable level, which is appropriate. If there is no road servicing the same route, private investment should still be allowed. The only role of the government would be to ensure that there is no abuse of market power from the toll road operator, which could be done through appropriate regulations. From a cost and consumer welfare point of view, this solution is preferable to the constitutional requirement that there always be a free-access road between two points connected by a toll road. Indeed, requiring a free-access road to be in place may often involve unnecessary and inefficient duplication and is an expensive way to ensure competitive prices compared to the regulation of tolls.

In general, tolls were very high in Mexico, leading to an under-utilisation of toll roads (Monterrey – Nuevo Laredo was an example), but they have been gradually reduced. In the past, price-setting was based more on financial needs to ensure viability.[8] Looking ahead, economic considerations, including demand patterns and competitiveness concerns, will have to be incorporated (World Bank, 2005). Although traffic growth has been solid more recently, reviews of the toll policy and rates should be conducted periodically to ensure that the right balance is struck between encouraging efficient use of toll roads and ensuring that the return is still high enough to induce private sector investment. High tolls are not efficient and generate economic costs since they divert traffic to free roads where congestion and the deterioration of roads are already evident. There are also important costs in terms of unrealised time savings in cargo and passenger transportation. In making comparisons of toll levels with other countries, however, it is important to take geographical conditions into account.

Scarce public resources should be invested mainly in areas that are less attractive for the private sector. Given the severe regional income disparities between the south and the north of Mexico, it is probably desirable to concentrate more of public spending on roads in the south, while relying more on private investment in the north. Flores and Cota (2003) find that infrastructure investment has helped to reduce income disparities across the states in the past. Additional public spending should be used to maintain and develop highways in the main transport corridors in the south. Tolls should be applied – though at much lower levels than in the north – to encourage efficient use of these roads and help prevent congestion problems.

Public investment to expand the road network and maintain it is economically justifiable in many areas where the private sector might not find it profitable. A good road network will facilitate intra (and inter) state commerce and, thereby, growth. In particular, increasing the south's connections to major ports and to the centre and north of Mexico will help to create greater opportunities for firms located there. It may encourage the expansion of labour-intensive manufacturing, which is no longer profitable in the north, but which might be in the south. Differences in resource endowment and labour costs across regions imply that the comparative advantages in manufacturing trade are likely to differ substantially between the north and the south. To ensure that these opportunities are fully exploited requires the right framework conditions, including good infrastructure. Finally, in remote areas with low population density, the federal government should encourage sub-national governments to invest in the road transportation network for social reasons.

Railways

The key competition issue in the sector is resolving disputes between the railway companies over inter-regional traffic in order to boost efficiency of the railway system as a whole. The railway network was privatised in the mid-1990s, and concessions were granted to three vertically integrated private companies which have been operating both track infrastructure and trains in distinct geographical zones. The granting of concessions has resulted in large productivity improvements as measured, for instance, in terms of ton-km/personnel (OECD, 2005a). Real costs have fallen as quality increased (Castro, Garciá and Vargas, 2004). Furthermore, railways increased their market share relative to road transport following privatisation. Despite the regional monopoly power vested in the concessionaires, intra-regional traffic has grown strongly as the privately-owned firms increased the efficiency of assets owned by the former poorly run state-owned monopoly.

However, interlinear traffic running across the whole network has fallen as a share of total traffic. This is due essentially to disputes between the private concession holders over trackage rights (operating a train on tracks owned by another company). Some concession holders have undertaken anti-competitive practices, setting excessive and discriminatory rates, limiting access conditions and refusing to provide interconnection and right of way. Currently, private concessionaires are responsible for negotiating tariffs. The Ministry of Communication and Transport (*Secretaría de Comunicaciones y Transportes* – SCT) is empowered under the Railway Services Law (RSL) to intervene if no agreement for setting tariffs has been reached within 90 days (*i.e.* a negotiate-and-arbitrate system). However, this system is time-consuming, non-transparent and uncertain. International experience suggests that operators prefer transparent and predictable tariffs (Australian Bureau of Transport and Regional Economics, 2003). Furthermore, SCT has been unable to resolve the disputes between private railway companies and to stop anti-competitive practices, because the railway firms have succeeded in obtaining judicial decisions to suspend all of the Ministry's decisions, including through the use of *amparos* (OECD, 2005a).

The Law should be amended to make the rules for setting trackage and interconnection tariffs clearer, and an independent railway regulator should be set up with the power to enforce these rules and promote competition in the sector. Price setting should be done by the regulator in consultation with the CFC and the SCT over the regulatory framework.

The main issue is at what level the access fee should be set above the marginal cost in order to cover the fixed infrastructure costs. Principles of access pricing in key network industries are described in Annex 4.A3. For railways, there is no settled approach to access pricing internationally.[9] Policies range from no charge above marginal cost (usually in publicly-owned systems with subsidies) to full cost recovery via different methods. An advantage of an access price below full cost recovery is that it would result in greater traffic volumes, so as to spread fixed costs over larger flows, thereby allowing average costs to fall over the whole network.

Up to now, judicial decisions obtained by the railway firms have prevented SCT from accessing information, thereby restricting its flexibility to choose a solution. To address this problem, the regulator should be given the power by legislation to require railway firms to provide any financial information it needs to determine costs. Furthermore, the law should be clear about whether the initial concession payments should be included in the total cost calculations or whether another asset valuation method should be used, for example, replacement cost. Clarity in the law is important to prevent its execution from being stymied by litigation.

The pricing mechanism or rules that set access prices above marginal cost should ensure that pricing sends the correct signals for investment in train equipment that is compatible with track infrastructure, and for investment in new infrastructure when capacity is reached. Consideration should also be given to the competitiveness of railways *vis-à-vis* road transport and differential pricing. It might be appropriate, in particular, for the (still to be established) regulator to set higher access prices for price-inelastic bulk cargos than for price-sensitive non-bulk freight that can be more easily transported by road. This would reduce the allocative inefficiency of having above-marginal cost prices and help to maximise the traffic on the whole network, thereby reducing average costs.[10]

Ports

Port reform has improved the efficiency of port operations, particularly the unloading of cargo from ships to the wharf. The main remaining issue is that improvements need to be made in the handling, customs processing and transfer to land transport. Port reform was launched in 1993 with the privatisation of port operation through concessions given to private sector operators. At each port, an integrated port administration (API) was created. In most cases, the API is a commercial company, generally majority-owned by the government (federal or state), and is the only concessionaire that can carry out administrative functions, including planning, promotion and construction of infrastructure.[11] The API concession terms require them to sign contracts with third parties to allow private firms to engage in construction and operation of facilities and terminals.

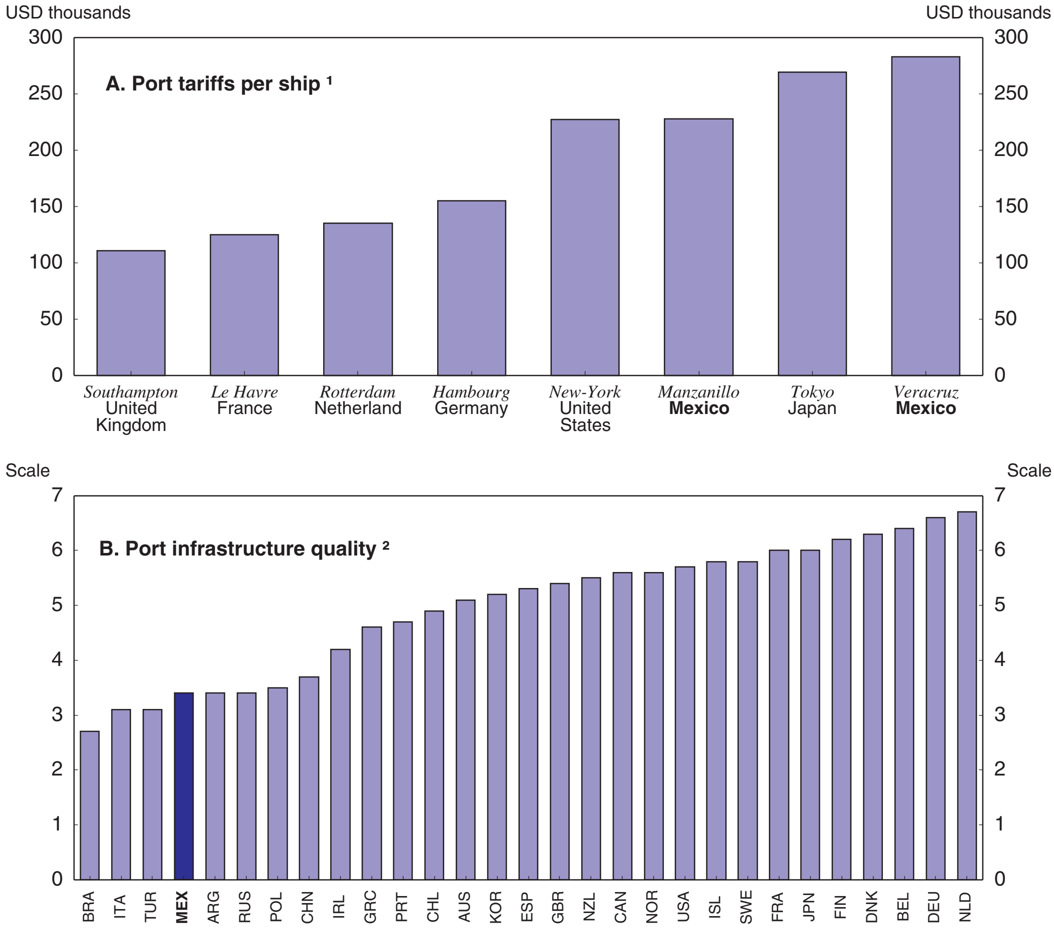
Since privatisation, port efficiency has increased at the first manoeuvre (*i.e.* from the ship to the storage area). Port volumes have grown more strongly;[12] investment has increased significantly;[13] and large projects to serve the United States, such as the port at Punta Colonet, Baja California, in northwest Mexico, are in progress. Productivity has also increased with the turnaround time of container ships at two of the largest ports, Veracruz and Manzanillo, falling from 51 to 19 hours since the mid-1990s. However, the Global Competitiveness Survey suggests that Mexican ports could still make improvements in quality and efficiency (see Figure 4.4), and Mexican ports are relatively expensive once all the charges of handling are incorporated (IMCO, 2003).

Improving port efficiency should be a priority. Dollar, Clark and Micco (2004) find that the payoff to improved efficiency in terms of greater trade flows is large: if Mexico were to increase its port efficiency levels to those seen in France or Sweden, transport costs would fall by approximately 10% and this would increase trade by around 20%. Even a more moderate improvement in port efficiency could have large potential effects. Soloaga, Wilson and Meija (2006) estimate moving Mexican port efficiency halfway towards the average for the 75 countries in their sample would increase the level of trade by 9% relative to the average over 2000-03.

Improvements need to be made, in particular, in the second manoeuvre (*i.e.* from the storage area to the truck/train).[14] Port quality and efficiency have been compromised by a lack of intermodal facilities (rail and truck/port transfer). Furthermore, there is no competition between the railway firms to service ports because of interlinear disputes (see the railways section above). Greater efforts should be made to co-ordinate infrastructure planning across the maritime and land transport directorates of SCT. This would help to ensure that ports are served by adequate intermodal facilities. Port administration should also focus on promoting the diversification of port services so that ports operate as full logistics centres for the distribution of freight.

As recognised by the authorities, customs procedures at ports also need to be improved. Mexico introduced fully electronic import declaration systems in 2002, which has reduced clearance times; but automation alone is not sufficient to ensure customs efficiency. It must also be accompanied by a streamlining of border practices and management (OECD, 2003a). In 2006, Mexico still ranked 58th out of 104 surveyed countries in the Global Competitiveness Report for its customs procedures efficiency with a score

Figure 4.4. **Shipping costs and port infrastructure quality**



1. For a ship of 2 800 TEU (20 feet equivalent unit) containers. Including tariff for berthage, loading and unloading containers, pilot services and tonnage charges.
2. Scale from 1 (underdeveloped) to 7 (extensive and efficient as the world's best).

Source: IMCO; Wold Economic Forum, *The Global Competitiveness Report* 2006-07.

StatLink http://dx.doi.org/10.1787/104558507373

below the mean for the whole sample of countries (and below the OECD average). It would be appropriate to have one review by all agencies at the same time. Unnecessary delays are occurring between the storage area at the port and land transport, including a complex series of repeated cargo inspections,[15] which are partially motivated by efforts to intercept illegal cargo.[16] Care should be taken to ensure that measures designed to prevent the importation of illegal cargo have a minimal disruptive effect on legitimate freight, including by co-ordinating inspections. Opportunities for corruption also need to be reduced.[17] Appropriately, the authorities have introduced a random checking system to help combat this problem and are working on modelling risks to ensure that inspections are focussed on high-risk cargo and minimise disruption to legitimate transactions.

Port efficiency could also be improved by ensuring that there is a fully integrated electronic information and documentation system that connects all actors in the "second manœuvre", including government agencies, customs and logistics and freight firms, and that the users are fully trained in its operation. An important initiative being considered by the customs authorities is working towards an integrated technological platform for all its procedures. This project should be implemented without delay. Another important step that the authorities intend to undertake, which will improve efficiency significantly, is introducing the “secure container” initiative. Under this system, 24 hours prior to arrival at the port, ships electronically transfer information about container contents and location. This would allow customs to sort low-risk containers for pre-clearance; these containers would then only require three to four minutes clearance time on arrival rather than the three to four hours clearance time required for a full inspection of containers at present.

Aviation

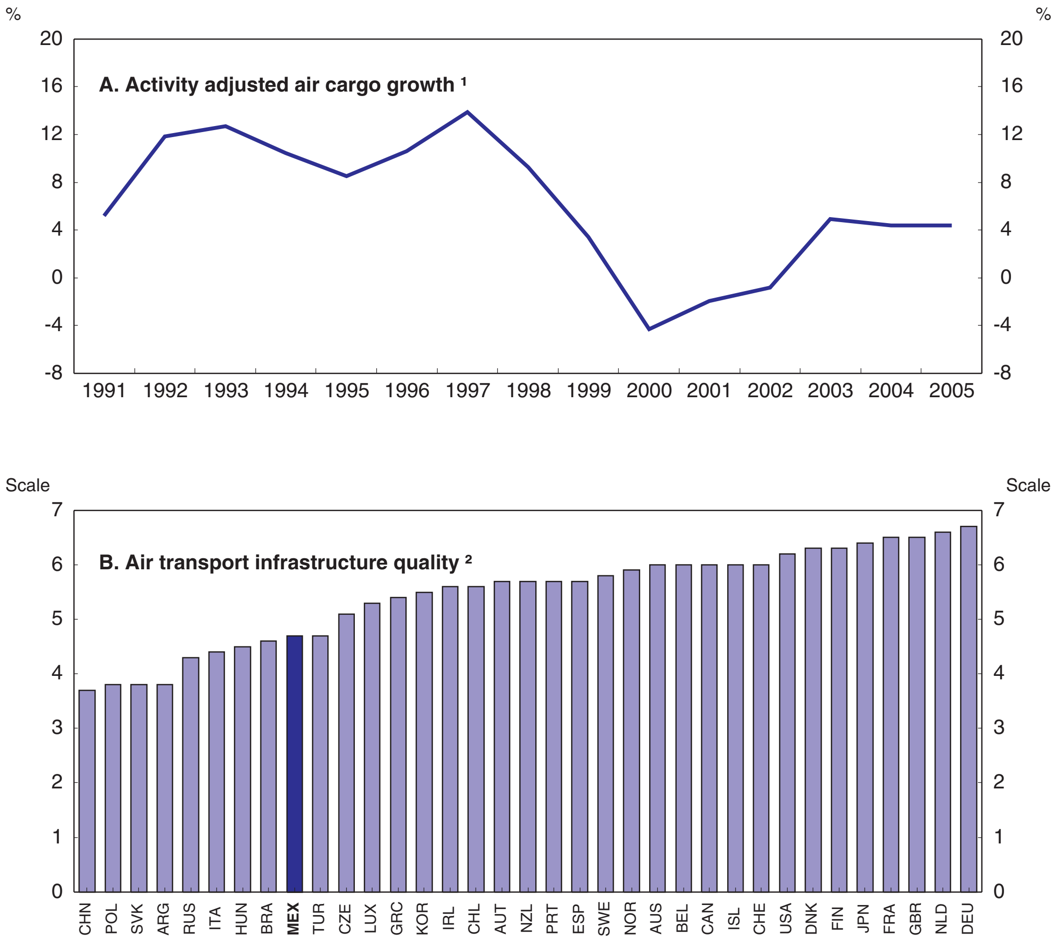
While previous reforms have helped increase competition in the sector, there is still room to go further in both airlines and airports. Allowing greater foreign involvement in airlines would be appropriate and greater efforts should be made to facilitate air cargo growth. In airlines, at the end of 2005 the state-owned holding company (CINTRA) sold one of the two major national airlines in the group, Mexicana, together with a newly created subsidiary low-cost carrier, Click.[18] More recently, there has been entry of several new low-cost carriers into the Mexican domestic market. These developments have contributed to greater competition and, as a result, more service variety and lower prices. These positive developments in competition and service variety could be potentially enhanced by a greater contribution of capital, strategic advice and alliances with foreign companies. Consideration should be given to lifting the foreign ownership ceiling from 25% to 49%, which can be done without breaching international air service agreement requirements for ownership by nationals.

The privatisation of airports began in 1999. The government continues to own the airports, but concessions to operate airports for 50 years have been sold to private owners in three airport groups. Passenger traffic accounts for around 80% of airport revenues with income derived from passenger taxes and retail sales. On the other hand, air cargo services are not as profitable for airports and, therefore, there is less incentive for them to invest in this area. However, there may be greater interest by other firms. Air cargo growth may be constrained by this lack of investment; air cargo volume has not grown as fast relative to GDP as it did it the late 1990s (Figure 4.5). Other firms (for example, airlines) could be interested in investing but face obstacles in making their own investments. In particular, onerous terms imposed by airports may be discouraging otherwise profitable investment by reducing the return to the outside investor below acceptable rates.[19] The government should, in consultation with all parties, determine whether these terms are constraining investment and, if so, change the regulatory environment to allow a more balanced negotiation between the parties.

An expansion in air cargo facilities would help to increase trade, particularly in high value-to-weight ratio cargos requiring fast delivery, an area where Mexico is likely to have an increasing comparative advantage as the economy continues to move up the value-added chain in manufacturing and agriculture. An expansion of their cargo volumes would also give Mexican carriers greater bargaining power in negotiating for 5th freedom (beyond) rights through the United States, for example, to Europe.[20]

SCT decision-making should be more transparent and rules-based. There should be clear rules and execution of the rules in issues such as safety inspections, assigning routes and 5th freedom rights. This would help to reduce airline running costs by creating more certainty and ensure greater consistency of treatment across the industry.

Figure 4.5. **Air cargo trends and infrastructure quality**



1. Three-year moving average of total air cargo growth less real GDP growth.
2. Scale from 1 (underdeveloped) to 7 (extensive and efficient as the world's best).

Source: Ministry of Communications and Transport; World Economic Forum, *The Global Competitiveness Report 2006-07*.

StatLink http://dx.doi.org/10.1787/104565884103

Competition in the telecommunications sector

Despite large declines in telephone charges over past years, Mexico remains one of the OECD countries with the highest charges in PPP terms, which is the most appropriate measure for international comparisons of prices (Box 4.3 and Figure 4.6). Furthermore, although the number of users has been increasing rapidly, the density of services (for the combined fixed and mobile telephony) is one of the lowest in the OECD. The main issues in telecommunications in Mexico are: *i)* facilitating platform and resale competition; *ii)* regulating prices to key facilities to promote competition in contestable segments of the industry; and *iii)* increasing competition in mobile telephony.

The authorities have a comprehensive strategy to improve telecommunications in Mexico, with broadband as the basic platform. This strategy has a number of components, including: providing education to increase consumer ability to use new digital technologies, *e.g.* providing Internet access in public libraries and schools; facilitating platform competition; auction of spectrum bands and renting key network facilities. The first part of

Box 4.3. **Comparing telecommunications prices internationally**

Telephone charges are converted into US dollars using Purchasing Power Parities (PPPs) rather than at market exchange rates to allow more accurate cross-country comparisons. The cost of purchasing a good or service is what has to be sacrificed in terms of other goods or services. Measuring the cost of an item in money terms is a convenient way of summarising the amount of other goods or services that has to be given up to obtain that item. But comparing prices across countries at market exchange rates does not allow this, because of differences in price levels. At current exchange rates, given price and wage level differences, US$1 can be exchanged for more goods and services in Mexico than in the United States. If a phone call costs US$1 at current exchange rates in both the United States and in Mexico, then it is more expensive in Mexico because users must give up more of other goods and services to obtain that phone call. Another problem with using current exchange rates is that, after a sudden depreciation (appreciation) of the peso, then the phone call price converted at current exchange rates would suddenly seem to be much less (more) expensive, although the amount of goods and services sacrificed to purchase the phone call in Mexico has not changed. The PPPs eliminate differences in price levels across countries and give a comparable measure of the price of a phone call in terms of foregone consumption of other goods and services. A higher PPP price for a phone call in Mexico implies that users have to give up more (less) other goods and services than in other countries, *i.e.* the phone call is more (less) expensive.

the strategy is an important way to encourage demand for better telecommunications services, but a thorough cost-benefit analysis should be made in the design of the programmes used.

Encouraging platform competition involves facilitating an increase in the types of networks (*e.g.* cable TV or wireless networks) to provide a service, for example, for voice calls. Between December 2006 and June 2007, the government issued over 36 licences for new cable TV companies, the majority of which also provide telephone services. It also issued over 25 authorisations for existing cable TV operators to provide telephone services; previously they were restricted to Internet services. Such initiatives are an efficient way of using Mexico's existing infrastructure resources to lower prices and improve service quality.

Another element of the reform strategy would be to promote access by all interested firms to key facilities such as the local loop (*i.e.* broad resale and line sharing). This would be an important policy initiative because the barriers to interconnection or access by one firm to facilities of another are a major obstacle to increasing competition in Mexico, as in other countries. This is because providing telecommunications services to consumers requires a new entrant to have access to facilities over which other firms have a natural or other monopoly, for example, distribution links from the main switch to the consumer (the local loop) or termination of a call in their network (see OECD, 2002).

Preventing monopoly power being used to limit entry and to facilitate competition in contestable parts of the telecommunications market, requires access regulation and the effective enforcement of competition law. There have been recent improvements in the competition and regulatory framework, and the power and independence of the sector regulator, COFETEL, has been strengthened. In March 2006, the Federal Law of Telecommunications was amended to establish COFETEL by law rather than by executive decree.[21] COFETEL is taking steps to strengthen competition by allowing firms more discretion

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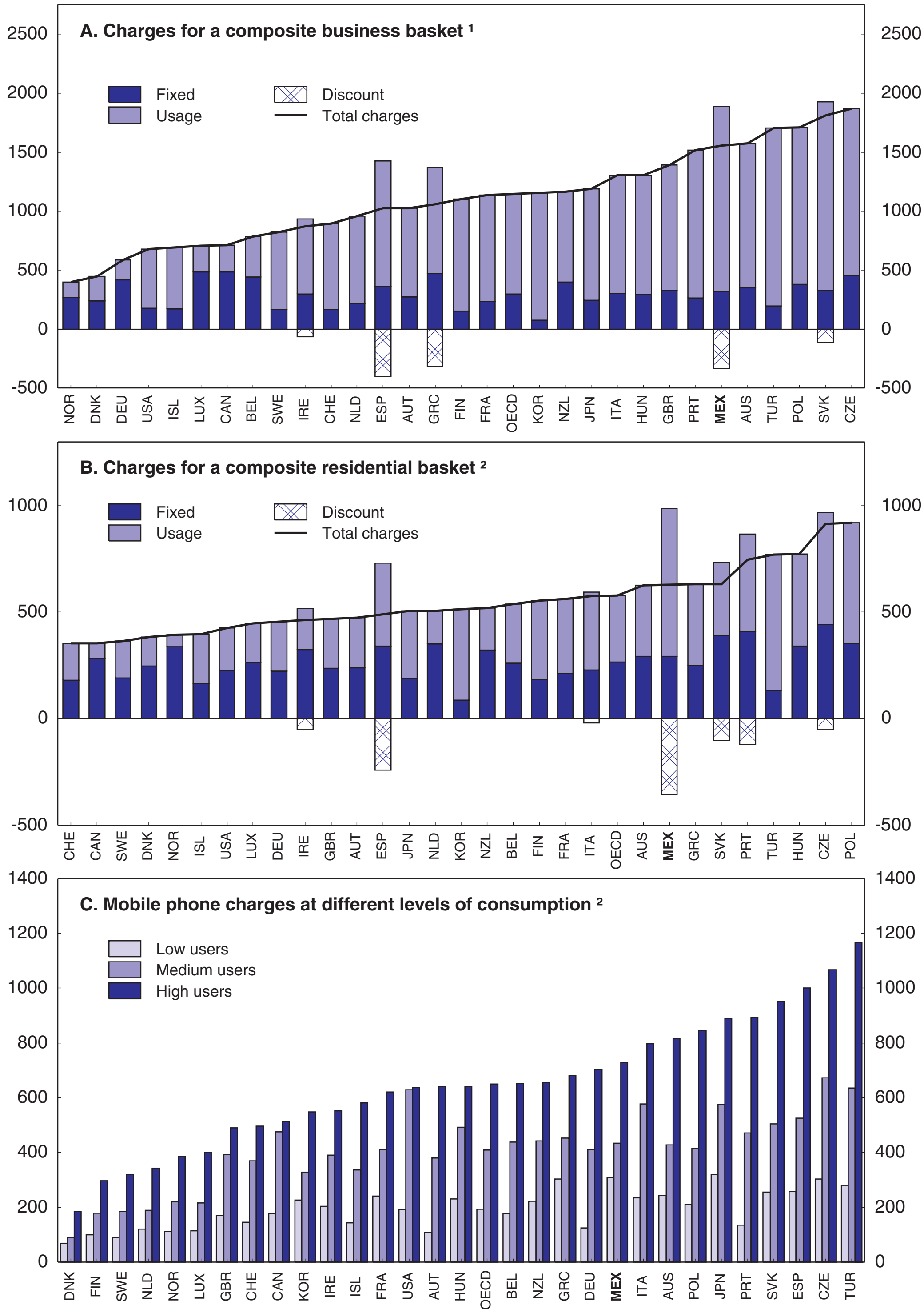
Figure 4.6. **Telephone charges in the OECD**
In US$ (PPPs), August 2006



1. Excluding VAT.
2. Including VAT.

Source: OECD, *Communications Outlook* database.

StatLink http://dx.doi.org/10.1787/104601600812

of the services they offer using their telecommunications licence, introducing number portability and easing the regulatory requirements for firms with no facilities of their own (resale companies) to sell long-distance services using the facilities of another firm.

The Federal Law of Radio and Television was also amended giving COFETEL jurisdiction over radio and television broadcasting issues and revising the system for allocating broadcasting licenses. Since then, the Supreme Court ruled that some of these changes were unconstitutional, thereby providing an opportunity to improve the regulatory framework for telecommunications and broadcasting (Box 4.4).

Despite recent progress, the regulatory framework needs to be further strengthened and the scope for access widened. Mexico is currently one of only three countries in the OECD that has not unbundled the local loop (*i.e.* imposed mandated access to the local loop). The other two countries, New Zealand and Switzerland, are planning to carry out unbundling in 2007. Mexico has both the second lowest number of subscribers per head of population to fixed Internet lines in total and also to broadband services in the OECD. The experience of many OECD countries suggests that the potential benefits from unbundling can be large. Where it has been done it has helped stimulate broadband services has facilitated the rollout of bundled services including Voice over Internet Protocol (VOIP), broadband Internet and television. This rapid increase in broadband access has also been accompanied by lower prices and higher speeds (OECD, 2007a).

Unbundling the local loop would involve the mandatory requirement for the incumbent to give third parties access to the local loop at a regulated access price. It is important that legislation be introduced that clearly gives COFETEL the power to set access prices to the local loop. This legislation should also give COFETEL more power to request any financial or technical information it needs to set appropriate access prices. Price should be rules based and COFETEL should be accountable to the government for designing and enforcing access pricing rules that promote competition in the market. There are some general economic principles applicable to access pricing (as seen in Annex 4.A3). A key consideration in setting prices is to ensure that there is a balance between encouraging entry and ensuring the loop owner has sufficient incentives to continue investing. One possible way to do this is to unbundle the copper loop, but allow a monopoly over new network assets such as fibre-optic cables for a limited period. Consideration should also be given to the large difficulties in enforcing competition law and sector regulations in Mexico as a result of *amparo* proceedings. This means that clarity of the rules is of prime importance to facilitate enforcement.

There are also a number of competition and regulation issues arising in the mobile telephony market. In particular, high wholesale termination charges are being levied by mobile phone companies and only TELCEL (the dominant player with 79% of the market) has full national coverage. This is reinforcing TELCEL's dominance of the market and reducing competition for two reasons: first, other companies cannot compete on price, as the wholesale termination price they are charged by TELCEL, which other companies then have to pass on to their customers, is very high and sometimes higher than the retail price charged by TELCEL to its own customers; and second, customers prefer to use TELCEL as they have a strong preference for the wider coverage that TELCEL offers. To deal with these problems and increase competition, OECD experience suggests that access price rules need to be applied to fixed-to-mobile and mobile-to-mobile phone termination charges and mandatory roaming should be introduced (Box 4.5).

Box 4.4. **The Supreme Court ruling on the Law of Telecommunications and the Law of Radio and TV**

On 30 March 2006, the Congress approved reforms to the 1995 Federal Law of Telecommunications (LFT) and the 1960 Federal Law of Radio and Television (LFRTV). A key feature of these reforms was to designate broadcasting services as telecommunications services, which partially transferred jurisdiction over broadcasting (over the air radio and television) from SCT to COFETEL. Under reforms to the LFT, COFETEL remained an SCT agency, but the Senate was given authority to object to the President's designation of COFETEL's Commissioners, and set a fixed period for each of them of between five and eight years, with the possibility of re-election for just one further period.

The reforms to the LFRTV had significant implications for the broadcasting market. In particular, they created a mechanism for both issuing and renewing broadcasting concessions: new concessions were to be granted solely by bidding through a commercial auction, while existing concessionaires would just have to make a request to renew their concessions at no cost for 20 years. SCT was given discretion over whether existing concessionaires would have to pay for the right to provide telecommunications services in addition to the broadcast services for which the concessions were originally granted. Broadcasters interested in participating in an auction were also required to request a favourable opinion from the CFC, but this was not binding.

Following the reforms, a group at the Senate brought an action before the National Supreme Court of Justice (SCJN) claiming that some of the changes to the LFT and LFRTV were unconstitutional. In June 2007, the Supreme Court ruled on the case, finding that the Mexican Congress does not have jurisdiction under the constitution to object to the President's choice of COFETEL's Commissioners. This implies that the President will be able to make new appointments of COFETEL's Commissioners and replace Commissioners at any time after the Supreme Court publishes its formal decision. The court also issued the following rulings: any party interested in participating in an auction of a concession of broadcast services will be required to get a favourable opinion from the CFC (rather than just requesting one); the bidding process for granting broadcasting concessions should not be based predominantly on the results of a commercial auction whilst social and cultural considerations should also be given prominence; concessions should not be automatically renewed, although the court did not establish a renewal process; the fixed term of a concession of 20 years was also eliminated, so that the term would be up to 20 years, as it is for the rest of the telecommunications concessions as established by the LFT; the article that provided discretion to the SCT over whether existing concessionaires would have to pay for the right to provide telecommunications services in addition to the broadcast services for which the concessions were originally granted, was also declared unconstitutional.

The formal effect of the Supreme Court's decision is to render the reforms that were declared unconstitutional legally invalid. However, it will be up to the Executive and Legislative branches to work in order to provide replacement changes for those reforms, for example, establishing non-discretionary terms for broadcasters that wish to offer new telecommunication services utilising the broadcasting spectrum, while guaranteeing non-discrimination and pro-competitive terms for the industry. The Supreme Court's decision has opened a public debate that will likely foster reforms to both laws. The decision provides an important opportunity to introduce changes to the regulatory framework in line with OECD recommendations to promote competition and increase the accountability, transparency and independence of COFETEL. Future improvements to the regulatory framework should include the following:

- ensuring COFETEL has public and open procedures for issuing resolutions and plans including mandatory inclusion of CFC recommendations;
- a simplification of procedures to grant concessions, permissions and authorisations;
- a strengthening of interconnection and access pricing rules, including rules to solve disputes and set cost-based charges, a requirement to publish interconnection offers and mandatory unbundling;
- consumer rights protection (for instance ensuring consumers only pay for the services they request) and dominant carrier regulation.

Box 4.5. **Reducing market power and improving competition in the mobile telecommunications sector**

Compared to many other OECD countries, the Mexican mobile phone market exhibits a very high level of concentration. The largest firm, TELCEL (part of the TELMEX group), has 79% of the mobile market. This concentration has been reinforced by mobile concession arrangements in Mexico. SCT issued TELCEL with a concession in all nine regional markets while one other concession was granted in each regional market to other competitors (OECD, 2004a). There has been consolidation in the industry and other companies now have licences for multiple regions, but TELCEL's network remains the only network with sufficiently dense coverage to be regarded as fully national. This gives TELCEL a large advantage since it has a national presence and consumers have a strong preference for networks with wide coverage. Mandatory roaming should be introduced to allow smaller companies to use TELCEL's network at a regulated access price to improve competition.

From October 2006, subscribers to mobile phones were given the choice of remaining with the current Receiving Party Pays (RPP) for international and long-distance or swapping to Calling Party Pays (CPP). From an efficiency of consumption perspective, CPP is superior because there is a direct signal from price to the person wanting to make the call, but it also needs to be accompanied by regulation of the termination charges set by mobile phone companies. Mobile phone companies have a monopoly over calls to their subscribers, and competitive pressure on fixed to mobile termination charges is generally weak. OECD experience shows a pattern of high termination charges, indicating that regulation is required to ensure these are set at an efficient level (OECD, 2002).

In Mexico, TELCEL charges high interconnection fees for local fixed to mobile calls where CPP is already in place. Fixed line companies expect TELCEL to also charge high interconnection fees for long distance fixed to mobile calls following the introduction of CPP for long distance fixed to mobile calls. This type of price distortion weakens the competitive position of the fixed line companies and will lead to a migration of consumers away from the fixed line companies and towards the dominant carrier TELCEL, increasing concentration. High interconnection charges are also an issue in mobile to mobile calls across networks, with termination charges sometimes higher than the retail price of within network calls. This gives an advantage to TELCEL in the mobile to mobile market as consumers will be able to more often avoid these termination charges with a TELCEL phone as, given TELCEL's market dominance, most of the time they will be calling another TELCEL user. It may also be in the interest of smaller companies to pay TELCEL's high termination fees and also charge high termination fees themselves. This is because with high termination charges, small firms can specialise in a market niche of customers that receive lots of calls, but do not make many, thereby gaining a small number of high yield customers. To reduce termination charges requires regulation as it is in the interests of all firms to maintain them to the detriment of consumers. CFC opinion has recommended interconnection rates should be reduced. This should be done with access price rules to be implemented by COFETEL.

The electricity sector

The electricity industry in Mexico is dominated by the large vertically integrated state electricity company, CFE (*Comisión Federal de Electridad*, and a smaller company, LFC (*Luz y Fuerza del Centro*) in the Mexico City area.[22] The two companies jointly own the transmission network. Under the Constitution, the state has exclusive rights over the provision of electricity as a public service, and electricity is listed as an activity where the

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State is the sole provider. However, a 1992 amendment to the Electricity Public Service Law (LSPEE) allows private independent power producers (IPPs) to generate electricity for public service that they must sell to CFE and LFC under 25-year contracts. Self-supply, co-generation and small-scale production are also allowed.

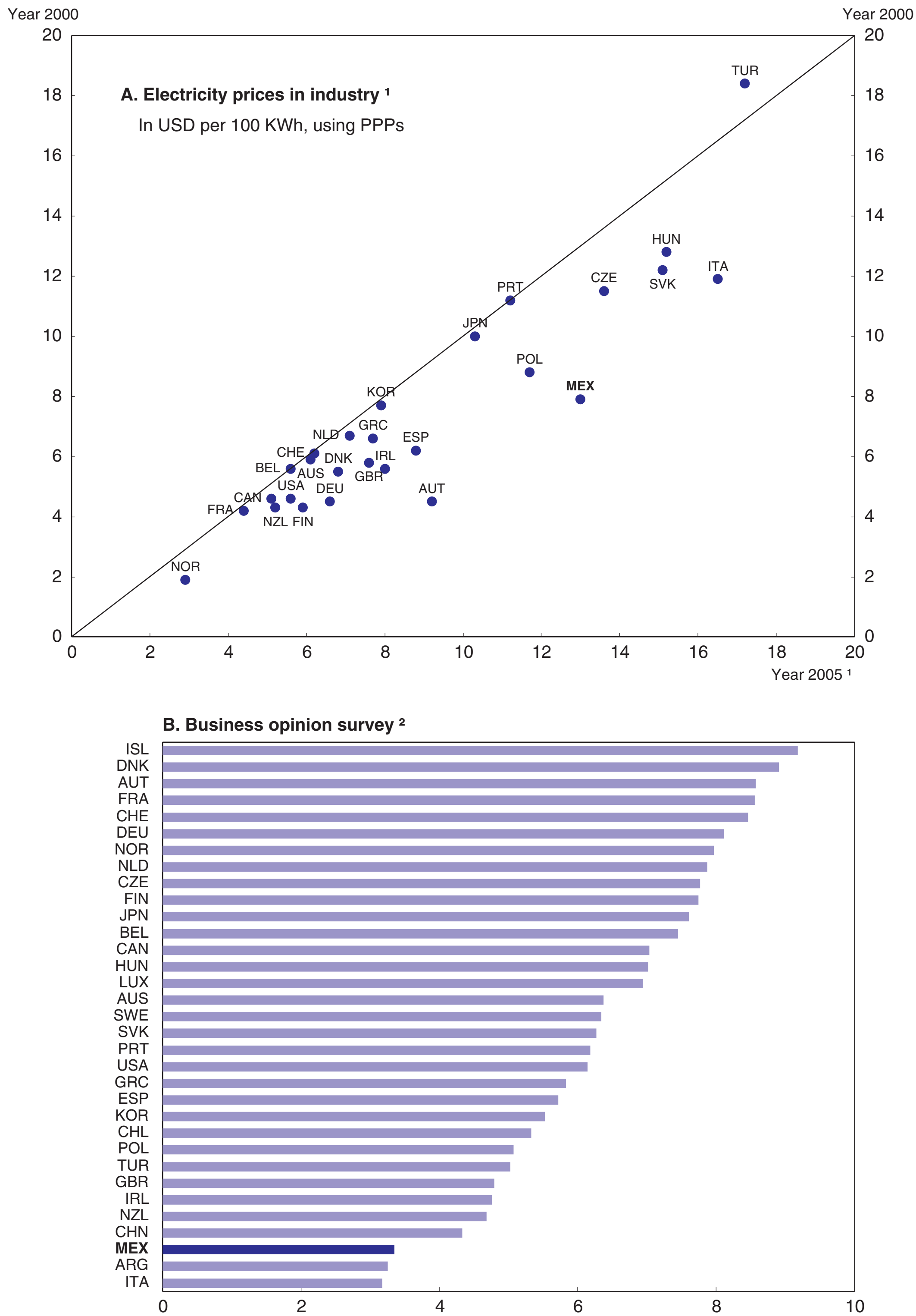
The industry has made progress in terms of population coverage and quality of the network, including declines in the length of interruption times.[23] However, a number of issues remain: *i)* the industry is highly regulated by OECD standards; *ii)* the presence of a dominant player in generation is a significant impediment to effective competition from the private sector; *iii)* prices for industry remain high by OECD standards (see Figure 4.7); *iv)* prices are not cost-reflective due to price subsidies – this mutes the price signals that are required to ensure efficient consumption and investment decisions and to foster rational use of the resource; *v)* regulatory and financial arrangements in the sector need to be improved; and *vi)* over the next ten years Mexico is relying on significant ongoing investment in generation by the private sector to meet demand growth but the current framework for allowing private investment remains restrictive.

The regulatory and financial arrangements in the sector could be improved. In particular, the Ministry of Energy (Secretaría de Energía – SENER) relies on planning proposals and information from CFE (OECD, 2004b). Also the Ministry of Finance faces an inherent conflict of interest as owner of CFE and LFC, while being involved in regulating prices. The *aprovechamiento* system, whereby the CFE pays a duty to the Government, which then transfers back funds to CFE to cover investment and subsidies, is non-transparent. Furthermore, the company is being run at a loss due in part to the subsidised prices. At the same time, it faces significant ongoing investment requirements to meet demand, which the Ministry of Energy (SENER) expects to grow at 4.8% *per annum* from 2006 to 2015.[24]

The Ministry estimates that meeting growing demand will require approximately US$60 billion in investment in generation, transmission and distribution. The current planning scenario assumes public investment of close to US$30 billion over the next ten years, which is a significant burden for a company that is currently making losses and given competing demands on public finances. On the generation side, total planned investment is 24 000 MW.[25] Of this, it is estimated approximately 14 000 MW would be required from the private sector.[26] Previous investment patterns suggest this is possible (private investment has averaged 1 300 MW per year since 1992). Installed capacity in 2006 was 48 897 MW or 800 MW above SENER's projection and at present there is some excess capacity in the market. However, in the longer run, even if the investment targets set by SENER are met, the overall system reliability will become increasingly stretched.[27]

Various measures should be taken to further improve the operation and efficiency of the electricity sector and increase private capital flows, so as to lower industrial electricity prices and relieve pressure on public sector. Gains in efficiency are required to ensure that system reliability does not become overstretched by capacity constraints; and price reductions would help to improve the cost-competitiveness of Mexican firms in international markets. From a reform perspective, the industry has two distinct elements: activities where competition is possible (*e.g.* generation and electricity supply, metering and billing) and where, within the current constitution, there is the potential to introduce greater competition; and natural monopoly activities (*e.g.* long-distance transmission and local distribution), which require a regulatory framework that encourages efficiency in these activities and facilitates competition elsewhere in the industry.

Figure 4.7. **Electricity infrastructure indicators: international comparison**



1. Or closest year available.
2. Is the energy infrastructure adequate and efficient? The most positive perception is 10. 2006 or closest year.

Source: IEA, *Energy Prices and Taxes* database; *IMD World Competitiveness Yearbook* 2006.

StatLink http://dx.doi.org/10.1787/104613633838

The reform could be made in two stages: first, improving efficiency in the state-owned companies and moving towards a more liberalised market with full separation of the ownership of generation and transmission assets. This first stage would prepare the industry for a possible second stage involving constitutional change and a full opening of the market to private firms.[28] The first stage involves no constitutional change: it would aim at improving the regulatory framework, increasing competition, lowering prices and improving efficiency of the state-run companies. OECD experience shows that liberalising electricity markets is conducive to higher productivity and lower prices for industrial users.[29] The first stage should involve a restructuring of the regulatory and industry framework in Mexico. Regressive price subsidies should be gradually removed in order to ensure that prices are cost based so that there are effective signals for efficient investment and consumption decisions. Social objectives could be met more efficiently through well-targeted direct support.

In generation, following the reform of its corporate governance, CFE should be given management autonomy and accountability, and have a responsibility to maximise profit. As part of this process, CFE should produce a set of transparent financial accounts that meet international accounting standards. Furthermore, the duty (*approvechamiento*) system should be replaced with the standard corporate income tax on profits and a profit-related dividend to the government, if the company's profits and investment requirements allow this. Increasing competition is a key driver of efficiency improvements.

The ownership of the transmission grid, its operation and electricity dispatch management, should be separated from generation and run by a system operator, which should be an independent state-owned company fully separate from CFE and with no interest in generation assets. A wholesale market should be set up with the system operator matching supply and demand. International experience shows that a fully independent system operator and independent industry regulator are vital to the successful operation of liberalised electricity markets.

This restructuring would involve an important role for the electricity regulator, the Energy Regulatory Commission (*Comisión Reguladora de Energia* – CRE). It should use its information gathering authority to request financial or technical information from the industry and require uniform presentation of standardised accounts to facilitate "yardstick" competition between state and private generation companies. The role of the sectoral regulator and competition authorities should also be clearly defined (OECD, 2007). CRE should continue to use its authority to regulate *ex ante* access prices to the grid as international experience shows that *ex ante* access pricing works better than *ex post* regulation. Consideration should be given to competition concerns and, if the CFC investigates and finds an abuse of market power, the CRE should then regulate retail prices. The credibility of the regulatory agency as an impartial agency depends on not being subject to political interference. The Energy Ministry (SENER) should be given final oversight of the regulatory framework. The Ministry of Finance should not be involved because of possible conflicts between its ownership interest in maximising profits and the regulator role, to ensure even handedness across the firms in the market (OECD, 2004b). The CFC should be given full authority to give legally binding decisions on any competition issue relating to the electricity sector.

Private investment needs regulatory certainty. Independent Power Producers (IPP) should be able to continue to sell to the state-owned companies under existing 25-year contracts, and also be given the legal right to sell electricity to state-owned companies at a wholesale price that better reflects the prevailing retail market price once retail price subsidies are removed. The CRE should use its power to regulate this new wholesale price if the CFC finds that state-owned companies' market power is too great to allow a competitive market in wholesale prices to operate. Current restrictions on FDI in the electricity sector for the purpose of investing in IPPs should also be lifted.

This first part of the reform is a step towards liberalising the market and increasing competition, which will bring efficiency benefits. Without such a reform, the organisation of the electricity sector would not permit the development of healthy competition, even if the sector was fully opened to private investment (subsidised prices and a vertically-integrated incumbent are two major obstacles).

The second stage of the reform would involve changing the constitution to allow private investors in generation to provide power directly to retail customers with access to the grid on the same terms as the state-run generation companies. Once the wholesale market is in operation, the entry of further privately-owned generators would be technically straightforward. The largest obstacle would be political, since changing the constitution would require support across the political spectrum. Allowing private firms to sell directly to the market would improve investment incentives and raise efficiency, as private firms would get direct pricing signals from the wholesale market and not be reliant on negotiating sales to state-owned generators. It would remove some of the regulatory burden on CRE.

Natural gas

Two main policy issues characterise the gas sector: ensuring that PEMEX has sufficient resources for exploration and production; and further strengthening competition in the sector. It is important for Mexico's industry to have access to a reliable source of competitively priced natural gas. Ensuring an efficient supply of natural gas is also of critical importance for the electricity sector because of increased gas-fired electricity generation. The share of gas-fired electricity generation has risen threefold over ten years, to 43% in 2005; and the Ministry of Energy projects that a significant proportion of investment in new generation will be concentrated in this area. Increasing PEMEX's gas production will increase the security of electricity supply by reducing disruptions in gas supply.

Although Mexico has large gas reserves, a lack of investment in the past has limited their development. Up until 2004, natural gas production by PEMEX was not growing at the same pace as demand by electricity generators, and gas import volumes increased. However, investment was increased and in 2005, gas import volumes fell as PEMEX's production began to increase.[30] For PEMEX to sustain strong production growth will require continued large investment in gas exploration and production (see Chapter 2, Annex 2.A1 for a more in-depth discussion of PEMEX).

It is also important to further increase competition in the gas sector. PEMEX's vertical integration in production, transport and commercialisation is reducing the effectiveness of the reforms that liberalised transport and distribution, and PEMEX retains a dominant position in the gas transport and commercialisation sectors (OECD, 2004c). Although firsthand sales prices are regulated by the energy regulator with reference to the price of gas imported from the United States, this does not take account that, under full competitive conditions, output would be higher and prices lower in Mexico (OECD, 2004c). Furthermore, CRE's ability to efficiently regulate the sector to promote competition is constrained by limited regulatory powers (OECD, 2004b).

To increase competition in the market, PEMEX's gas production, transport and retail activities should be operationally separated. Commercialisation activities could be further split into several competing companies. The CRE's information gathering authority should be increased to allow it to more effectively regulate the sector, including being able to effectively regulate third party access to PEMEX's transportation facilities.

Concluding remarks

To raise growth in GDP per capita, Mexico needs to strengthen competition and improve the regulation framework. At a broad level, there are a variety of policy measures applicable across infrastructure sectors that would help to achieve this. The role of price signals should be increased to ensure that investment and consumption decisions are efficient. In this context, price subsidies, notably in electricity and water, should be further reduced; targeted income support would be more efficient to meet social concerns (see Chapter 5). Competition should be strengthened through further reducing the abuse of market power by incumbent firms, and facilitating the entry of new firms, by increasing the enforceability of competition law and sector regulations. In the case of network or other key facilities with monopoly characteristics, the access price to these facilities should be regulated. The independence of sector regulators needs to be further strengthened. Regulators should have full authority to obtain cost and technical information from industry participants. However, it is also important that regulators' decision making is rules based and not arbitrary. Rules, for example in access pricing, need to be clear and precise.

Co-operation should be maintained between the CFC and all individual sector regulators. The CFC should be consulted on the access pricing framework across sectors and CFC approval should be required. The recommendations in this chapter involve greater workloads for both sector regulators and the CFC. This extra work is technically demanding and requires significant human capital resources. It is important that the government review the CFC and sector regulators funding and provide extra resources commensurate with the extra work.[31]

Mexico should implement a broad programme to systematically reduce unnecessary legal restraints on competition across the economy. To be most effective, the implementation should include restraints at the state as well as federal levels. The government is considering carrying out such a review. It intends to use the OECD Competition Assessment Toolkit, a method for reviewing laws and regulations for unnecessary restraints on competition that would provide an effective framework for this process.

Restrictions on private investment, including restrictions on foreign investment, should be eased to increase the contribution of the private sector to meeting Mexico's demand for infrastructure and reduce the burden on public revenue which has other important competing demands. The governance and public financial management of public corporations in the infrastructure sector should also be improved to ensure that their investments perform to their full potential. Finally, Mexico's investments in transport infrastructure will perform better if measures are taken to improve border and logistics procedures. The use of modern technology, co-ordination of inspections and developing inland ports (integrated transport and customs hubs) can have an important role in achieving this latter goal. Specific policy recommendations to improve infrastructure by sector are listed in Box 4.6.

Box 4.6. Main recommendations for improving infrastructure

Overall competition and regulation framework

- Across all network industries, improve the regulation of access prices to key network facilities with monopoly characteristics (*e.g.* the local loop in telecommunications, interconnection in railways) to facilitate entry and enhance competition.
- Assign adequate resources to the Federal Competition Commission (CFC) and sectoral regulators and increase regulators' autonomy and power, including to request information they require.
- Strengthen co-operation between all the sector regulators and the CFC. The CFC should be consulted on access pricing regulation framework issues in all sectors, and CFC approval of the framework should be mandatory.
- Undertake a broad review across the economy of legal restraints at both the federal and state levels on competition.
- Improve the enforcement of competition law. Set up a separate court with economic expertise to hear *amparo* proceedings involving competition and network regulation issues.

Transport infrastructure

Roads, trucking and land border issues

- Facilitate private sector investment in roads by continuing to ensure certainty and clarity in contract conditions under the concession and PPP scheme. Periodically review regulations on toll roads to ensure tariff levels strike the right balance between the need to encourage investment and demand.
- Focus public funding to road construction in areas that are less attractive to the private sector, and allocate adequate funds to road maintenance.
- Lift restrictions on foreign investment in domestic land transportation and allow foreign companies to participate in government procurement contracts.
- Take measures to further improve border procedures and speed up inspections and other operations.
- Implement without delay the pilot cross-border trucking with the United States. Move to make this arrangement permanent and extend it to a greater number of firms.

Railways

- Clarify rules for setting trackage and interconnection tariffs.
- Set up an independent railway regulator with the power to enforce these rules and promote competition in the sector. This should be done in consultation with the CFC.
- Ensure the new rules result in pricing that sends the correct signals for investment, promotes the competitiveness of the railway sector with other transport alternatives and minimises allocative inefficiency.

Ports

- Increase efforts to co-ordinate infrastructure planning across the maritime and land transport directorates of SCT to ensure ports are served by sufficient truck and rail/port transfer facilities.
- Streamline customs procedures, co-ordinate cargo inspections, reduce opportunities for corruption.
- Ensure that there is a fully integrated electronic information system for all actors in the transfer from storage to land transport.

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Box 4.6. **Main recommendations for improving infrastructure** *(cont.)*

Aviation

- Investigate current arrangements between airports and other firms involved in building air cargo facilities to determine whether these are inhibiting investment in this area.
- Bring the foreign ownership ceiling in airlines up to 49%.
- Increase transparency of decision making by SCT through the use of clear rules in areas such as granting new routes, 5th freedom rights and safety inspections.

Telecommunications

- Continue efforts to strengthen competition by unbundling the local loop (*i.e.* provide for mandatory access), regulating mobile termination charges and requiring mandatory roaming for mobile networks.
- Establish a clear legal framework for setting access prices. Ensure COFETEL has the legal authority to set access prices and is accountable by law to design a rules based framework for setting access prices that promotes competition in the market. The regulatory framework for setting access prices should be subject to mandatory CFC approval.

Electricity

Measures not requiring constitutional change

- Continue phasing out price subsidies and replace with targeted income support as appropriate.
- Ensure CFE produces transparent financial accounts that meet international accounting standards. Replace the duty (*approvechamiento*) system with the standard corporate income tax and a profit-related dividend to the government.
- Restructure CFE. Clearly separate (operationally and financially) the generation from the transmission company. Establish a fully independent system operator and owner of the grid.
- Ensure the CFC can give a binding decision on the access price framework that CRE uses to set access prices to the transmission grid. Give the CFC broader jurisdiction to give legally binding decisions on issues related to competition in the electricity sector.
- Allow IPPs to keep their 25-year contracts and assign them the legal right to negotiate a new wholesale price for the electricity they supply to state-owned companies to reflect better the prevailing retail market price once retail price subsidies are removed. Lift restrictions on FDI for the purpose of participating in IPPs.

Measures requiring constitutional change

- Allow private companies to sell power directly in wholesale and retail markets.

Natural gas

- Operationally separate PEMEX's production, transport and retail activities. Split retail activities into several competing companies.

Notes

1. For example, Ashauer (1989), Easterly and Rebelo (1993), Miller and Tsoukis (2001), and Calderón and Sevén (2004) find that increasing infrastructure is connected with higher growth. Hulten (1996) and Aschauer (1998) also find that infrastructure quality is important for growth. However, caution about these findings of very high returns is warranted (Gramlich, 1994; Englander and Gurney, 1994). The effect of infrastructure spending will depend on the economy's stage of development, and past returns are not necessarily a good indicator of future returns. Fernald (1997) finds that building the United States interstate highway system prior to the 1950s and 1960s gave a large boost to productivity prior to 1973, but that by the end of the 1980s, road investment had, at best, a normal return. The author concludes this in line with the simple network argument that, while building an interstate network may be very productive, building a second one may not be. Simply increasing the infrastructure stock will not necessarily enhance growth. To ensure an efficient allocation of resources and higher productivity requires a case-by-case cost-benefit analysis of individual projects.
2. The post sector is not reviewed here. For a general discussion of regulations and competition issues in the post sector, see Høj *et al.* (2007), forthcoming.
3. Australia's "national competition policy" programme reviewed about 1 800 national and state laws over a period of about six years. The programme was launched in the mid-1990s, through special legislation that resulted from an agreement among the state and national governments. To manage reviews, the programme set up a National Competition Council. Its staff of about 20 professionals was supplemented by consultants.
4. The performance of air cargo, which accounts for only 0.1% of total cargo, is discussed separately in the aviation section below.
5. Mexico's road network is approximately 356 000 km. The federal network is 48 362 km, of which 7 409 km are toll roads. Despite recent improvements, in 2005 only 24% of the federal non-toll roads were in good condition – 54% of them were in normal condition and 22% in poor condition (SCT). Federal roads are becoming safer – the number of assaults on cargo trucks was reduced from 952 in 2000 to 209 in 2004.
6. Mexico's road density is about 3.5 km per 1 000 people. By contrast, Argentina and the United States, which are also large countries, have a road density of 6.1 and 21.9 respectively (*source:* World Development Indicators).
7. Following the 1995 crisis and the financial collapse of toll roads, no new road concessions were awarded to the private sector for almost a decade. Recently, SCT has developed two new models for private sector involvement in roads – concessions and PPPs. Concessions are used for toll roads, and PPPs are mainly used to improve the toll-free network. Under the new system, in the recent years to 2006, awarded concessions in the road sector included investment of a total US$1.54 billion for 712 km of roads; in 2006, concession bids in progress and in preparation represented 452.7 km. Awarded contracts within public private partnerships, which are contracts to design, finance, modernize and maintain a highway for periodic payments based on the availability of the road and its traffic levels, (labelled Service Provision Contracts *Proyectos de Prestacíon de Servicios* – PPS) represented 213 km, while bids in progress and in preparation amounted to 1 543 km (*source:* SCT).
8. In the aftermath of the 1995 crisis, toll roads built under Built-Operate-Transfer agreements went insolvent. The trust FARAC (*Fideicomiso de Apoyo a1 Rescate de Autopistas Concesionadas*) was created by the government to take over the debt. In fact, toll revenue since then has been sufficient to repay FARAC's loans.
9. See Bureau of Transport and Regional Economics (BTRE), 2003, and European Conference of Ministers of Transport (CEMT) 2005, for a discussion of these issues.
10. This would introduce some element of Ramsey pricing (see Annex 4.A3).
11. The majority of APIs are owned by the Federal or State Governments (20 out of 22). OECD (2006a) provides a good summary of the structure and performance of the Port Industry in Mexico.
12. Cargo flows grew at an average of 4% annually between 1978 and 1993 and, following privatisation in 1993, at 8% between 1994 and 2003.
13. Between 1995 and 2000, US$1.5 billion was invested in infrastructure, including in specialised terminals and cargo handling; and capacity increased from 59 to 120 million tons per year.
14. For containers, the average waiting time in storage is ten days compared to seven days at US ports and four in Asian ports. See Peyrelongue and Martínez (2004).

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15. Different agencies, including the Ministry of Agriculture (SAGARPA) and Ministry of Health (SSA), are involved in inspections. Because there is no co-ordination, 60% of containers are being opened more than once, which both takes more time and damages the cargo (Peyrelongue and Martínez, 2004).
16. Clark, Dollar and Micco (2004) find that an important determinant of port efficiency is the level of organised crime which is regarded as particularly serious in Mexico.
17. In 2006, Mexico ranked 114th out of 125 nations surveyed in the Global Competitiveness Survey for the perceived level of organized crime; it ranked 48th out of the 125 surveyed nations for making extra payments or bribes connected with export or import permits and was the 4th weakest OECD country in this regard.
18. For background information on competition issues in the airlines sector and the CINTRA privatisation process, see Annex 3.A2 in *OECD Economic Survey of Mexico*, 2005.
19. If a firm builds a cargo facility on land next to airports, the airport company will demand 10-15% of the revenue from the cargo project for the use of the airport services associated with the project (runway use, etc.). Alternatively, if the firm builds a facility on airport land, it will pay rent for 15 years and then the ownership of the building reverts to the airport. This ownership change after only 15 years can be viewed as an excessively high depreciation rate from the point view of the investor.
20. These are part of international air service agreements between countries which govern airline routes. Fifth freedom rights are the rights to fly from the home country to another, set down and pick up passengers and freight, and fly onto a third country , for example, Mexico City, New York, London.
21. Commissioners are now appointed by the President and approved by the Senate for fixed and staggered terms. Previously they were appointed by the Secretary of SCT and could be removed at any time.
22. The Federal Electricity Commission (*Comisión Federal de Electridad* – CFE) has around 80% of total effective generating capacity. Central Light and Power (*Luz y Fuerza del Centro* – LFC), which supplies the Federal District, has around 2% of effective generating capacity.
23. CFE's productivity appears to have increased, based on the number of electricity users per employee in production (from 1998 to 2006), and also electricity generated per employee up to 2001 (employment data are not provided beyond this date). The site *www.cfe.gob.mx* provides some indicators or quality and productivity.
24. SENER (2006), *Prospectiva del Sector Electricó 2006-2015*. This projection's assumptions of 3.8% GDP growth and the underlying relationship between demand and GDP growth are reasonable based on past trends.
25. This would meet the demand, based on past patterns. Demand is forecast to rise by 113 Terrawatt hours (TWhrs) from 2005 to 2015. At a load factor (*i.e.* percentage of power generated relative to maximum) of 52% achieved by CFE across the whole system in 2005, 24 000 MW of capacity generates 109 TWhrs of power.
26. Private sector investment in MW is estimated based on SENER's projected investment requirements, which implicitly price 1 000 MW of generation capacity at approximately US$1 billion (SENER, 2006).
27. The operative reserve margin (*i.e.* the percentage difference between installed, available, capacity and peak demand) is set to fall to the minimum standard set by CFE of 6% by 2012.
28. A proposal for an in-depth reform of the sector was submitted to Congress in 1999 with no success. Another, less ambitious, reform proposal made in 2002 was not approved. The restructuring of CFE that started almost a decade ago with the splitting of the company into several specialised units has not led to independence of those units.
29. International experience in electricity market liberalisation is discussed in IEA (2005).
30. Gas production reached 11% annual growth in 2006. Instituto Nacional de Estadistica y de Información Geografia (INEGI) and PEMEX Statistical Yearbook 2006.
31. The CFC has only approximately 170 staff. By comparison, the Australian Competition and Consumer Commission (ACCC) has around 550 staff dealing with competition issues in the Australian economy, which is approximately the same size as Mexico's.

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ANNEX 4.A1

Improving water infrastructure and management

Ensuring a sustainable supply of high quality water for households, agriculture, industry and commerce is a key factor to promote economic growth directly and indirectly through better health. Without a change in the framework for managing water in Mexico, a lack of clean water is likely to become a constraint on growth across the economy. This problem is exacerbated by the geographical location of water use and supply – over 80% of the population and economic activity are located in the centre and north of Mexico, which only has a third of the country's natural water resources, and where water availability is low by international standards. Four main problems arise in the use of water in Mexico: *i)* unsustainable exploitation of ground water sources; *ii)* inefficient use of water resources, *i.e.* the diversion of water away from activities with a high economic return to activities with a low return; *iii)* insufficient coverage of piped water and sanitary drainage and high water costs for the poor; and, *iv)* the large incidence of low quality, polluted water.

Management of water resources used for agriculture is a key issue, as irrigated agriculture accounts for around 80% of water use in Mexico. This is one of the highest shares in the OECD and well above the OECD average of 43%. A large proportion of this irrigation relies on unsustainable extraction (extraction rates are greater than recharge rates) of ground water in the north of the country, mainly for the production of low value crops. Total water rights allocated to agriculture are above environmentally sustainable levels and the existence of price subsidies for water and electricity to pump ground water encourage over-use. The number of over-exploited acquifers is increasing, and the over-exploitation of ground water has many negative effects, including: depletion of water resources; salt water intrusion in aquifers; increased soil salinity; increasing water production costs due to increased pumping with the lowering of the water table; and, land subsidence. For example, the acquifer supplying drinking water to Ciudad Juarez and El Paso may be exhausted by 2025 at current pumping rates. In parts of the Mexico-United States border region, there is annual land subsidence of over 5 cm, causing damage to property and the network of pipes and canals used for wastewater disposal (OECD, *Economic Survey of Mexico*, 2004). Subsidence is also an issue in the Federal District where it has increased flooding risks.

Despite improvements in coverage, there are also serious problems in access and quality of water. In particular, over 11 million inhabitants (more than 10% of the population) still lack access to piped water and over 21 million to sanitary drainage. Furthermore, much of the existing infrastructure is in poor condition, with around 40% of the water supplied being lost through leakages and only 45% of connected households receiving a continuous water supply. These problems arise from: *i)* a lack of accountability for service delivery; *ii)* insufficient human capital and technical resources at the municipal level; and *iii)* insufficient spending on maintenance and investment in water infrastructure. Spending on water infrastructure, both private and public, amounted to 0.2% of GDP in 2001, well below that in most other OECD countries. Spending is constrained by low revenues earned by suppliers, with tariffs below cost, even in wealthier areas, and inefficient collection of even these low tariffs. Price subsidies to the household sector also blunt price signals that are needed to ensure efficient demand decisions. The lack of adequate water and sanitary drainage infrastructure means that only a quarter of waste water is treated and, as a consequence, water pollution is high with over 90% of water bodies in Mexico at least somewhat polluted. The environmental and health consequences of this are extremely serious, contributing to higher infant mortality in Mexico, when compared with a wide range of countries, than might be expected after allowing for differences in GDP per capita.

Solving problems of over-exploitation of resources and insufficient and poor quality water infrastructure requires a multi-pronged approach. Increasing the efficiency of irrigation is important and should be encouraged as it will help to reduce water use, but this will not be sufficient to solve the problem of over-exploitation. Total water use in agriculture will have to be reduced, to ensure sustainability of the resource. The federal government should conduct a review of current water allocation rights without delay, with the aim of reducing the total allocation to sustainable levels. There needs to be greater incentives for water use to shift to agricultural activities with the highest economic return. Subsidies for agricultural water use and electricity for pumping ground water should be phased out and a transparent and open market for water rights encouraged. This requires adequate measurement and control systems to be in place to prevent fraud (*e.g.* selling rights and then continuing to use the water). The government should also ensure that there are no regulatory or economic obstacles to efficient agriculture in the south of Mexico where rainfall is much higher than the north and development needs are more acute. This strategy should also include improving business conditions in the south through other infrastructure spending, including roads.

To increase funds for maintenance and investment in the water sector, public funding should be supplemented by increased user charges to households. At present, user charges only cover around 30% of capital and operational costs. Concern is often expressed that poorer households cannot afford higher water charges. However, in the case of Mexico, the poorest households are generally not connected to the piped water supply and purchase it from individual vendors. They are paying much higher proportions of their income for water than connected households (15-30% of income compared to 1-4% for connected households). As well as being used to upgrade the quality of water systems, higher user charges could be used to fund increased infrastructure to the poorer households. Even when connected, poorer household would pay only a fraction for water compared with the cost from purchasing water from individual vendors. Water usage could also be priced progressively, with a basic water block being charged at lower rates and extra blocks being charged at higher rates.

The public is only likely to accept higher water charges if there is a significant improvement in service quality (OECD, 2003). Hence, careful consideration needs to be given to the timing of water charge increases that Mexico needs to break the current vicious circle whereby households are unwilling to pay much for water because the service is of low quality while utilities do not have the funds to improve service efficiency. Charge increases will need to be accompanied by significant quality improvements. Tariffs are set at the municipal level often with no regard to efficiency or cost recovery and there is a large range of tariffs across Mexico. The federal government can play a role in promoting more efficient tariffs by making federal spending for water infrastructure contingent on local tariff increases.

Public investment can also be supplemented by private investment. The federal government should facilitate this by providing a framework model that municipalities and states could apply at the local level for offering concessions to the private sector. The recently introduced concession programme for roads, which has been successful in encouraging private sector investment, provides a possible model. Key elements of the roads programme include the long-term nature of the concession (15-30 years) and a high degree of certainty in the terms.

Finally, current water management and water services provision is inadequate. This partly arises from a lack of accountability and transparency. There needs to be a clearer distinction of functions, with municipalities setting policies and the autonomous utilities acting on their behalf concentrating on water service delivery. Contracts should be used to clearly define the responsibilities of each party and regular public performance reports issued to increase accountability and facilitate yardstick competition between the municipalities. The federal government could facilitate this by introducing a nation-wide measurement and reporting system in which municipalities would have to participate, in return for any federal transfers. Yardstick competition could be used to shift consumer focus towards getting value for money, rather than just enjoying the lowest tariff. It would also facilitate demand side pressure for better services: if consumers in one city know that the neighbouring one has higher quality water at the same cost or lower, this will enable them to put pressure on their local politicians to improve the situation.

Implementation of the required measures is likely to be difficult because of the opposition from interest groups that benefit from the current situation. Pilot testing the solutions in one or two states and clearly demonstrating the benefits would help to refine the approach and improve the effectiveness of implementation nationwide.

[This annex draws from the OECD Environment Directorate's chapter on water in Mexico in OECD (2007), Getting it Right: OECD Perspectives on Policy Challenges in Mexico.]

ANNEX 4.A2

OECD competition assessment toolkit

The OECD's recently-developed "Competition Assessment Toolkit" is a methodology for identifying unnecessary restraints and developing less restrictive ways to achieve policy objectives. The threshold step is to apply the basic questions of its Competition Checklist, to identify existing or proposed laws and regulations that require more detailed competition assessment. The toolkit methods for competition assessment can be used to review existing laws and regulations and to evaluate drafts and proposals in regulatory impact assessment programs. They might also be used by ministries and agencies developing proposals and reviewing policies. The materials are designed for use by officials with no specialised economics or competition policy training.

Competition checklist

A competition assessment should be conducted if the proposal has any of the following three effects.

1. Limits the number or range of suppliers. This is likely to be the case if the proposal:
   - grants exclusive rights for a supplier to provide goods or services;
   - establishes a license, permit or authorisation process as a requirement of operation;
   - limits the ability of some types of suppliers to provide a good or service;
   - significantly raises cost of entry or exit by a supplier;
   - creates a geographical barrier to the ability of companies to supply goods or services, invest capital or supply labour.
2. Limits the ability of suppliers to compete. This is likely to be the case if the proposal:
   - controls or substantially influences the prices for goods or services;
   - limits freedom of suppliers to advertise or market their goods or services;
   - sets standards for product quality that provide an advantage to some suppliers over others or that are above the level that many well-informed customers would choose;
   - significantly raises costs of production for some suppliers relative to others (especially by treating incumbents differently from new entrants).
3. Reduces the incentive of suppliers to compete vigorously. This may be the case if the proposal:
   - creates a self-regulatory or co-regulatory regime;

- requires or encourages information on supplier outputs, prices, sales or costs to be published;
- exempts the activity of a particular industry or group of suppliers from the operation of general competition law;
- reduces mobility of customers between suppliers of goods or services by increasing the explicit or implicit costs of changing suppliers.

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ANNEX 4.A3

*Access pricing to key facilities**

Increasing competition is a powerful tool for increasing efficiency, lowering prices and improving innovation. In infrastructure sectors a key issue that arises for policy makers aiming to increase competition is how to price access to key facilities. Many infrastructure sectors can be divided into parts that are competitive and parts where competition is not feasible and that may have natural monopoly type characteristics. For example, electricity grids, local loops in telecommunications (usually a copper wire connection from the local exchange to individual customers) and railway tracks where duplication would normally be extremely expensive and inefficient. This leads to the access pricing problem: how to price access in the most economically efficient way to these key facilities, where competition is not feasible, to facilitate competition in the parts of the sector that are competitive. An example would be how to price access to the local loop to facilitate entry of new firms in providing broadband Internet services.

The access pricing problem can be divided into two broad categories. The first is a one-way problem where competing firms must purchase services from a monopoly firm, or network, to provide their final product to the market, but the network owner does not need to purchase a service from them. For example, long-distance telephone companies need to terminate their calls in the local loop of a dominant firm that owns the whole local loop. In this case, the principles for the efficient pricing of a natural monopoly apply.

The most allocatively efficient price is one equal to marginal cost (*i.e.* where the willingness to pay for the last unit consumed is just equal to its cost). In the case of network assets, this will often not cover total costs because building these assets involves large fixed costs, and average costs exceed marginal costs. The issue then becomes how these losses should be recovered. This will depend on the information available to the regulator, the policy tools (can the regulator use taxes and subsidies as well as price regulation) and the constraints that regulated prices must comply with (for example geographically uniform retail prices).

In some cases, these losses may be covered by taxes imposed on the final service prices of all firms, but if tax tools are not available, then the issue is how should the access price be set above marginal cost so that total costs are recovered in a way that will minimise both consumption efficiency and investment incentive losses in the network asset.

Access price rules have to balance entry and investment incentives. There are two main approaches used in OECD countries: *i)* cost-based access prices; and *ii)* retail price of the incumbent minus the cost saved by providing the facility to a competitor rather than

* Based on OECD (2002) and OECD (2004a).

the end user. The first approach ensures correct investment incentives, but can lead to limited entry and force the incumbent to change its possible efficient retail price structure. The second approach can lead to incorrect investment incentives. This conflict only arises if the final product being offered is a substitute for the incumbent's product, which is the usual case. If the product is a complement, the retail price structure of the incumbent is irrelevant and a cost based approach is optimal.

In practice, regulators often use cost-based access prices (often long-run incremental costs), which favours investment incentives over retail price efficiency. A possible compromise would be to use cost-based access prices as the general rule and then make some adjustments to accommodate some of the more obviously efficient retail price structures.

If the retail price structure is efficient, access prices should try to mimic retail price structure. If there is two part pricing at the retail level (a fixed charge and variable user charge) or a single flat fee, then this should be also implemented for access prices to maintain the efficiency at the retail level and also facilitate entry. For example, if an Internet Service Provider (ISP) wants to use the local loop as part of its service, the access price to the local loop should reflect the retail price plan chosen by the consumer. If a flat fee is chosen by the customer, then the access price should also be a flat fee. If it were a per minute fee, competitors to the incumbent may be squeezed because they have to offer flat fee packages to compete at the retail level but face a variable charge that could exceed this fee. If price discrimination is not allowed at the access price level when it exists at the retail level, the network owner may be unable to fully cover its costs and would have to change its efficient set of retail tariffs.

With price discrimination at the final level, it is possible to introduce Ramsey access pricing to minimise efficiency losses, *i.e.* charging higher access prices for network inputs used in final services that have more inelastic demand, than for those final services with a more elastic demand, thereby allowing prices closer to marginal cost for services with a lower elasticity of demand. This will reduce efficiency losses, because the fall in quantity demanded below the allocatively efficient level will be lower for final services with inelastic demand. Of course, if the retail price structure is not efficient, or at least efficiency could be improved, the regulator can structure access charges in a way that will eventually impose a more efficient retail price structure via competition.

Another consideration related to the retail price structure is to ensure that the access price is not set above the stand alone cost of providing a facility, thereby encouraging inefficient investment. This can happen for example, where the retail price is constant across the country, *e.g.* in mobile phone prices, but the cost varies enormously across geographical areas. In this case, if a flat average access fee is charged, this may induce inefficient extra investment in densely populated areas well served by the existing infrastructure, because the fee is above the cost of investment in these areas.

Two-way problems occur when owners of key bottleneck facilities must purchase the use of these facilities from each other to provide a final service, for example, for railway companies that want to provide interlinear services using both their tracks and the tracks of other companies or where a telecommunications company wants to provide a call from its subscriber to a subscriber to a different network. As yet there are no generally applicable principles for these cases and they are dealt with in the literature on case by case basis. Discussion of two way problems that have arisen in Mexico's case, in particular concerning calls between fixed to mobile phone networks, are discussed in the main text.

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Chapter 5

Creating more and better jobs and reducing poverty

Stronger economic growth is the most effective way to boost job creation and incomes. There are few disincentives to work in Mexico and low open unemployment. But many workers are involved in low productivity and low rewarding jobs, often in the informal sector. According to most indicators, informal activities are pervasive and have been expanding over the past decade. A number of factors contribute to informality. First, low human capital makes it difficult for many workers to take up more productive jobs. Second, employment protection legislation is relatively restrictive, reducing labour demand in the formal sector and, in the absence of income support for many dismissed workers, these cannot afford staying unemployed, taking up the first job they find. Furthermore, measures that strengthen the incentives to work in the formal sector are required. Labour market difficulties are closely related to poverty and exclusion. Social policies have a key role to play in promoting access to the formal labour market and pulling people out of the poverty trap. This chapter argues that what is required to foster the creation of more jobs in the formal sector is a comprehensive approach, including: measures to improve the efficiency and reliability of social security services; a modernisation of labour market legislation with a view to better balance flexibility and workers' protection; measures to upgrade competences, by promoting effective training programmes. It is also important to maintain the focus of policy intervention on fighting poverty and addressing basic social needs. The coherence between policies is the key to enhancing the adaptability of the workforce, helping workers take advantage of new work opportunities in the formal sector and allowing the most vulnerable to escape from poverty and exclusion.

Overview

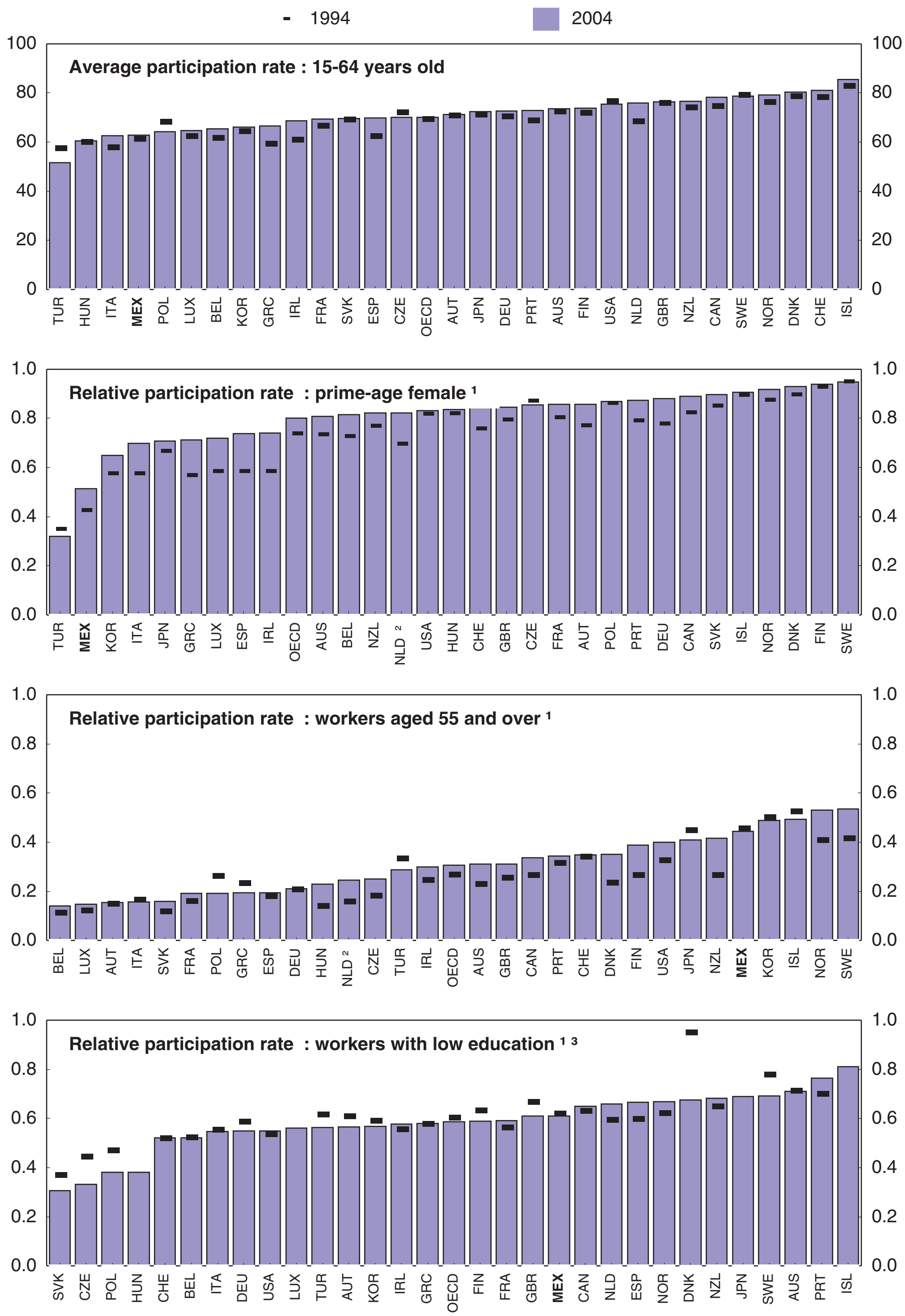
Typically, there have been few dis-incentives to work in Mexico. The overall participation rate is below the OECD average, reflecting low female participation, but participation rates for older workers and for workers with low education attainment are above average (Figure 5.1). Open unemployment rates are low, but, as in many other Latin American countries (and less advanced OECD countries such as Turkey), the main labour market issue lies in the quality of jobs, which are often low in productivity and pay. Many jobs are created and destroyed every year but this high labour mobility is not always associated with the efficient allocation of labour to its most productive uses. Indeed, because of the absence of unemployment insurance, many Mexican workers, lacking savings or other sources of income, cannot properly search for a job and have to accept any job available. Job seekers who are displaced often find employment in the informal sector. The existence of a large informal sector is often associated with social hardship, scarce training opportunities and poor job security. There are also individuals caught in a poverty trap, who have limited or no employment opportunities and do not participate in the process of economic growth.

This chapter first presents a broad overview of labour market performance and poverty developments in Mexico. Then it discusses in more detail the specific factors contributing to adverse labour market outcomes and the way to address them. Social policies are examined in the following section. The chapter ends with a set of specific policy recommendations, which are summarised in Box 5.8.

Labour market trends and informality[1]

Informal activities are widespread in Mexico, with about a quarter of total employment in the informal sector in 2005-06. The large size of the informal sector makes tax collection difficult and has high social costs because it is often associated with a limited investment in human capital, precariousness and poverty. The informal sector is, however, heterogeneous and its dynamics are complex.[2] Many salaried workers displaced by structural changes who fail to find new jobs in the formal sector take up low-productivity occupations in the informal sector, provided they accept remuneration lower than in the formal sector. But part of informal employment also results from a choice, as workers assess costs and benefits associated with one type of activity over another. Evidence shows that the self-employed can often earn more in the informal sector than do salaried workers in the formal sector.[3] This reinforces the hypothesis of self-selection in informal activities, at least for the self-employed at the high end of the earnings distribution. Finally, school leavers with low school attainment – *e.g.* drop-outs of young age – often have no other option but to enter the labour market through the informal sector, many of them remaining trapped in low-earning jobs. While flows between informal and formal jobs occur at any time in the cycle, there is some evidence that the informal sector also acts as a buffer during downswings, which explains why open unemployment rises only moderately during recession periods.

Figure 5.1. **Participation rates, 1994-2004**



1. Relative to prime-age male participation ratio.
2. 2003 for Netherlands.
3. Lower upper-secondary level of education (ISCED level 0/1/2); 1995 instead of 1994, for France, Korea, Mexico, Poland, Slovak Republic and United Kingdom; 2002 instead of 2004, for Iceland, Italy and the Netherlands.

Source: OECD, *Labour Force Statistics.*

StatLink http://dx.doi.org/10.1787/104621888760

The high incidence of informality and its persistence have different explanations. For one, the cost of doing business, which is particularly high for small firms, acts as a deterrent to formality. Informality also reflects certain rigidities in the formal labour market coupled with weak enforcement of labour regulations. Employment protection legislation (EPL) tends to be restrictive; and severance pay for workers with permanent contracts is high, albeit unpredictable. In this environment, many individuals choose to either be self-employed or to run small informal activities with only a few employees.[4] The evaluation of benefits and costs associated with compliance, against the risks of being controlled and sanctioned for non-compliance, also comes into the decision of formal firms to hire part of their workforce without a regular contract (Davila, 2000). For the many low-skilled workers, however, informality is not a choice but rather the employment of last resort, often with very low pay and poor working conditions.

Employment growth and firm dynamics

Mirroring the expansion of the labour force, total employment has recorded positive growth overall since the 1995 downturn, with an average annual growth of 2.5%. In the last downturn (2001-03), total employment remained broadly unchanged as the decline in formal sector employment was offset by growing informal activities. With the recovery, formal sector employment increased, and even manufacturing employment, which had been particularly hit by the recession, started to show positive growth.[5] The on-going restructuring has been reflected in a reallocation of labour between branches as well as within branches.

The lack of stronger growth in formal employment is not related to low dynamism in the formal sector but rather to the inability of many formal firms to expand, innovate and create more productive jobs. Indeed, microeconomic evidence shows relatively high job and firm dynamics in the formal sector of the Mexican economy. In common with several other OECD countries and non-OECD countries in Latin America, Asia and Central Europe, Mexico is characterised by a continuous process of reallocation of resources across industries, firms and locations. Many, often small, firms are created or destroyed every year in the formal sector of the Mexican economy, and overall job creation plus job destruction accounts for more than 25% of total formal employment. The market selection for new firms is particularly severe, and many of them fail rapidly, while only a few productive firms manage to survive and expand in terms of employment.[6] High firm and job dynamics in Mexico suggest that institutional settings are not impeding the "creative destruction" process: the entry of small productive firms seems easy. There is a strong expansion of the few successful ones, and there is a rapid exit of less productive ones.

In Mexico, however, the process of creative destruction has not clearly been associated with better allocation of labour to more productive uses and a sizeable improvement in productivity. One hypothesis is that, although employment has been reallocated in Mexico from lower to higher productivity sectors, those activities that experienced stronger productivity growth achieved that by downsizing rather than by expanding and hiring more workers.[7] Reforms to promote within-firm productivity growth are particularly important. Reducing labour market rigidities is a prominent one, but it needs to be accompanied by complementary policies, strengthening the quality of human capital, promoting competition in product and factor markets, fostering innovation, and furthering financial deepening.

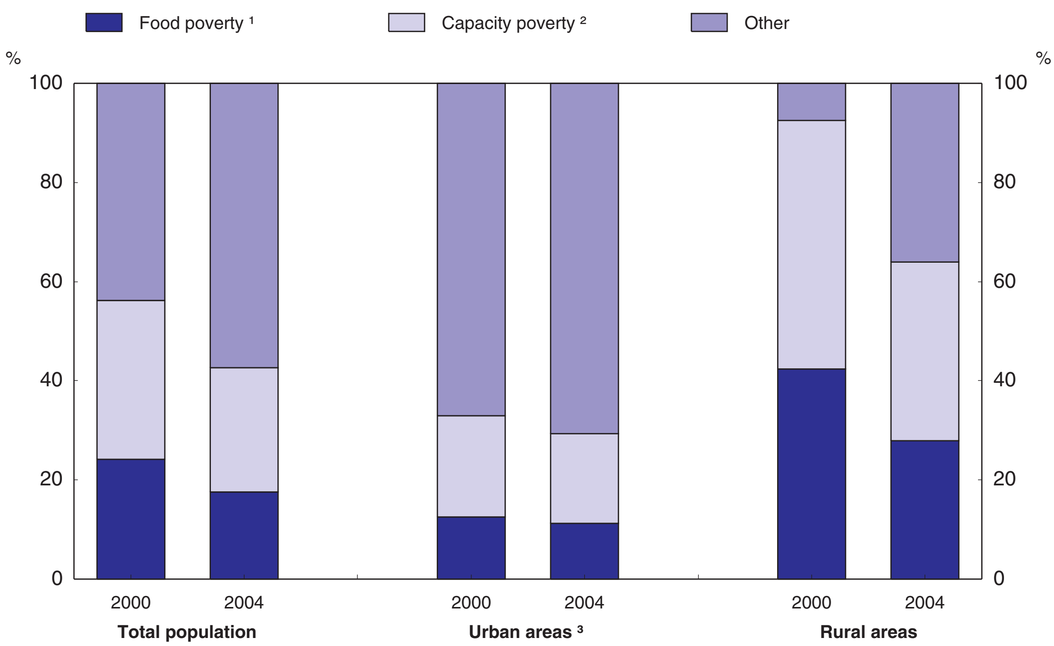
Adverse labour market outcomes and poverty

Poverty and exclusion are closely related to labour market difficulties. Mexico has made solid progress in reducing poverty. According to the World Bank, the proportion of the population living with less than US$2 per day has fallen by half between 2000 and 2004 to around 12% in 2004. Over the same period, the incidence of malnutrition and mortality rates for children under age five also decreased. The results were achieved in a stable macroeconomic environment, with positive income growth, low inflation and an expansion in the scale of targeted programmes. Nonetheless, poverty levels remain high. National estimates, while also declining, indicate that in 2004 a little less than 20% of the population were still living below the "food poverty" line, while 43% of the population were in overall poverty – referred to as "capacity poverty", *i.e.* having an income insufficient to satisfy basic food, health and education needs.[8] The most acute poverty problems affect rural areas, mostly in the south-eastern part of Mexico, whereas overall poverty is also a semi-urban and urban phenomenon (Figure 5.2). In rural areas, poverty is often linked with difficult access to education and health services, and living conditions that create health risks (homes with dirt floors, and no clean water supply or sewage infrastructure). The poor in urban areas generally have better access to basic services, but the quality of these services is generally low. Indeed, indicators such as infectious diseases, education enrolment rates and test scores are not very different for the poor in rural and urban areas.

The distribution of income in Mexico is the most unequal in the OECD and only modest progress has been achieved in reducing inequalities in the last decade. The highest two deciles together capture 50% of total income (monetary and non-monetary), while the

Figure 5.2. **Poverty in Mexico**

As per cent of population



1. Population having income insufficient to purchase the basic food basket.
2. Population having income insufficient to purchase basic food, health and education services.
3. Municipalities with population larger than 15 000.

Source: World Bank calculations, based on ENIGH *Generación de Ingreso y Protección Social para los Pobres.*

StatLink http://dx.doi.org/10.1787/104648321864

lowest two get around 5% of the total. The unequal distribution of income underpins important economic policy issues, such as the difficulty of raising tax revenue. There is also limited social mobility in Mexico and poverty reproduces itself from one generation to the next. The intergenerational persistence of poverty is caused by limited investment by the poor in human capital and health, which leads to poverty traps (Box 5.1). Reducing poverty is important in its own right; it is also important to break the intergenerational vicious circle by allowing new generations to acquire much-needed human capital and thus access more productive jobs.

Box 5.1. **Growth and the poverty trap**

The poverty trap in Mexico arises from – and leads to – an underinvestment in human capital, in an intergenerational vicious cycle. This is constraining labour productivity and hampering economic growth, since the availability of skilled workers is one of the key conditions for pro-market reforms to have positive effects on growth (see Box 3.3 in Chapter 3).

Analysing the market failures in human capital accumulation in Mexico, Mayer-Foulkes (2003, 2006) carries out Mincerian regressions on labour income and shows that there are increasing returns to education after completing lower secondary schooling, a result that confirms the findings obtained in several other empirical studies.* However, these increasing returns occur at education levels not achieved by most of the Mexican population: 90% of the population is unable to invest optimally in education. Hence there are highly rewarding investment opportunities that remain unrealised in Mexico, implying that the market mechanisms for investment in education are failing.

A broad definition of human capital includes not only education but also health, which appears to have an important impact on the productivity of education in Mexico (and therefore on future income levels). In fact, Mayer-Foulkes (2006), using a set of probit estimates, suggests that under-investment in nutrition has a negative impact on school attendance. Evidence on other countries proves consistently that early child malnutrition is associated with low educational attainment later.

There is an intergenerational cycle in the formation of human capital, where investment decisions in nutrition, health, child development and education depend on parents. But there can be systematic problems in the evaluation of the benefits of such investments – *e.g.* because of inadequate information, an excessive preference for the present or risks due to poverty. Once the parents have evaluated favourably the human capital investment, they must undertake it, but needed private resources may be unavailable or the government may fail to provide the needed public goods. Appropriate public policies should focus on the main failure mechanisms and hence the policy approach must be an integral one. Poverty traps may persist unless the policies financing education also address deficiencies in nutrition and health which impair human potential, and in particular early child development (Galor and Mayer-Foulkes, 2004). This risk is addressed by the incentives-based programme *Progresa/Oportunidades*, created in 1997 and expanded thereafter.

In addition, the poverty trap translates itself into increased inequality. Pro-market reforms lead to rises in production and technological change and therefore to higher incentives for investment in human capital; however, poorer families, whose initial endowments in human capital are lower, will benefit less from this growth, and if these benefits are insufficient they will not be in a position to supply additional human capital in the future (Mayer-Foulkes, 2006).

* For instance Zamudio (1999) for Mexico, de Ferranti *et al.* (2003) for Latin American countries.

A comprehensive set of employment-friendly measures is needed…

Faster economic growth on a sustained basis is the key to generating more, and especially better, jobs in Mexico; but it is also necessary to create an environment where job creation takes place primarily in the formal sector and where labour productivity increases. In designing employment-friendly measures, a comprehensive reform package is likely to be more effective than piece-meal labour market measures.[9] First, measures are needed to improve the balance of incentives in favour of productive activities in the formal sector. Second, labour market settings and institutions should be adapted to modern practices with a view to facilitate the mobility of workers within firms, and across firms, sectors and regions. Third, measures to widen access to training and improve the quality of training provided would make the labour force more adaptable, thereby facilitating re-employment of displaced workers in expanding – and likely more productive – industries.

… and it should be complemented by effective social protection

At the same time, effective social policies need to be expanded. There is no single policy lever that can durably reduce poverty; rather a wide range of policies is needed. The reforms discussed in the previous chapters, coupled with appropriate labour market measures, would go some way to address the needs of the poorest. Furthermore, it is necessary to ensure equity of access and treatment in education and health and to promote the adjustment in labour market settings to foster work in the formal sector. Although challenging, the implementation of such a range of actions may not be sufficient however; it would have to be complemented by targeted programmes in order to pull the poor out of poverty traps and develop human capital of children from poor families, so as to prevent poverty from reproducing itself from one generation to the next.

Another reason for deploying effective social policies is that some reforms may have adjustment costs in the short run, making it necessary to establish a safety net to alleviate them. By protecting vulnerable citizens against hardship, safety nets can also help overcome resistance to reforms, notably to liberalisation of product and labour markets.[10] Finally, an adequate social safety net can play a useful role in facilitating mobility across jobs and regions, and reduce adjustment costs in a context of rapid structural changes related to globalisation.

Policy interventions to improve labour market outcomes

The balance of incentives to work in the formal labour market has to be adjusted

Public policies play a key role in influencing wage settings, the costs and benefits of social security and more generally incentives to work – or create jobs – in the formal sector.

The minimum wage is relatively low and non-binding…

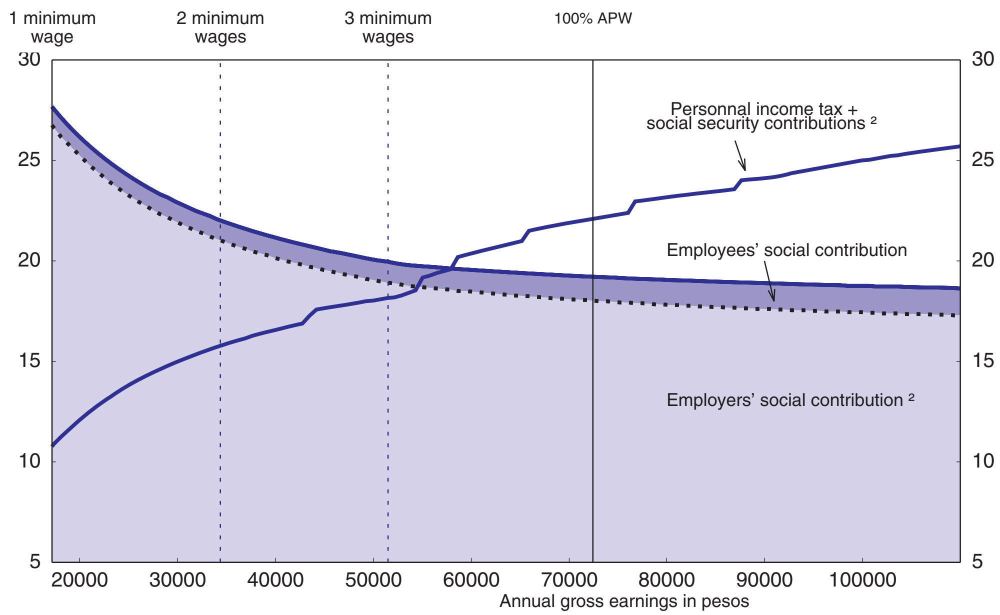
Broad indicators of wage-setting mechanisms do not provide much evidence of policy-induced distortions pushing workers into informal activities. In particular, the minimum wage has, over time, fallen to low levels relative to the median wage and is no longer binding. It is appropriate to maintain it at a relatively low level to avoid dis-employment effects among the low skilled in the formal sector. The minimum wage is also a poor instrument to fight inequality and poverty in countries with widespread informality as indicated by empirical evidence from a range of Latin American countries (Kristensen and Cunningham, 2006). In Mexico, the adjustment of the minimum wage level should be set by law so as to avoid unwarranted hikes. This would limit the risk of seeing an upward adjustment, by any amount, at any moment in time. Other means can be used to support low-skilled and low-income workers without pricing them out of the (formal) labour market, for instance providing basic education of good quality and developing training programmes for low-wage workers.

... while social security benefits are of low quality

The overall tax wedge on labour use is relatively low from an international perspective, suggesting that the gap between the effective labour cost for the employer and the take home pay of the worker is small. However, the benefits associated with the affiliation to the social security system are also perceived as limited. Taking into account the income tax credit schedule in place, the overall tax wedge on labour use, which combines social security contributions and personal income tax, is progressive (Figure 5.3).[11] However, the tax wedge on low income has increased somewhat over the past years.[12] Over the same period, the quality of benefits provided by the social security did not improve and there are now more social benefits available to the population outside the social security system than a few years ago. In this context, a first step would be to improve the efficiency and reliability of social security services, as this would enhance incentives to formal sector employment. In the longer run, more cost-efficient provision of social security services could allow a reduction in their cost, which could translate into a lowering of social security contributions on low-wage workers to shift labour demand towards them and increased reliance on general budget financing.

Figure 5.3. **Total tax wedge by income level, 2006**

Per cent of gross labour costs[1]



1. Personal income tax plus social security contributions (employers' and employees'), as per cent of gross wage plus employers' contributions, for a single worker.
2. Based on tax equations reported in *OECD Taxing Wages 2005-06* also including contributions made by employers to the retirement fund (SAR) and the housing fund (INFONAVIT) as well as for discharge and old-age insurance.

Source: OECD Taxing Wages 2005-06.

StatLink *http://dx.doi.org/10.1787/104654435482*

Besides social contributions, there are a number of additional compulsory payroll contributions that raise labour costs for employers. These include payments into the housing fund, INFONAVIT, at a rate of 5%, as well as contributions to day-care centres. Unbundling them from social security would allow a reduction of total costs of formal work, without entailing a reduction in benefits for the vast majority of workers. Other payroll costs (payroll taxes and fringe benefits, such as paid leave and the end-of-year bonus) also add to the problem of raising labour costs for workers on permanent contracts.

More generally there is the need to improve the balance between social security contributions and the benefits provided by the different schemes, so as to increase incentives to work in the formal sector (Box 5.2). At present, the quality of benefits in the contributory programmes is poor, and some benefits have become available to workers in the informal sector (for instance health insurance for the uncovered population, *seguro popular*) or workers with only part of their work experience in the formal sector (such as the guaranteed minimum pension for private sector workers).[13] Moreover, second earners in households with a formal employee are covered by social security schemes, further reducing their incentives to seek jobs in the formal sector. The development of a basic safety net is appropriate both from a social policy point of view and on economic grounds. However, the whole package, including taxes, social benefits and labour market settings should be reviewed to avoid distorting incentives. Adjustments should be gradual, but with a coherent view of the desired direction. Measures to improve the quality of services and increase "value for money" in the contributory programmes would be important to strengthen incentives for workers to opt into the formal sector.

Labour taxes are too high relative to taxes on small business profits

Until now, tax arrangements in Mexico have not provided any incentive for employers to declare low-wage earners. The income tax rate for small businesses (small taxpayers with entrepreneurial activity) is low relative to taxes on labour, which is not unusual in the OECD. Exemptions from income tax are granted for low annual income – and a low taxation rate of 0.5 to 2% is applied to intermediate income. As a result, entrepreneurs have only a weak incentive to deduct labour income from gross revenue and hence, to declare them.[14] If the minimum tax on firms is introduced, as envisaged in the government's public finance reform proposal, this would create an incentive for firms to declare their employees (see Chapter 2). Furthermore, because social security contributions are transferred to the social security institute, while income tax on small businesses is collected and kept by the states, the states have little incentive to enforce the obligation for employers to declare their workers. In a country like Mexico, where the capacity for monitoring and control is weak, it is all the more necessary to reduce non-wage costs.

Reviewing employment protection legislation

The current settings for employment protection are outdated. They tend to place excessive emphasis on job stability at the time when firms are confronted with increasing needs to be innovative and adapt to technological change. From an international perspective, employment protection legislation (EPL) is relatively stringent in Mexico, especially for collective dismissals of regular workers and temporary employment (Figure 5.4). Moreover, while protection of regular workers against individual dismissal is close to the OECD average, protection is effectively very strict because conditions for justified dismissals are very tight (redundancy on economic grounds is not recognised as

Box 5.2. **Labour market incentives and social protection**

Analysis done in various research papers based on OECD country experience shows that when safety nets are introduced, replacement rates should be kept at reasonable levels in order to minimise disincentives and to achieve sufficient wage flexibility and resilience to macroeconomic or other shocks (Bassanini and Duval, 2006). Issues linked to the interactions between social protection in place in Mexico and incentives to work in the formal sector can be sketched as follows:

Concerning *pension benefits*, the transformation of the system into a fully-funded system with individual accounts has helped restore the link between contributions and benefits. In principle, this should encourage private sector workers to remain formal or become formal. Some features of the new system, however, can have perverse effects. At present, workers need to be registered in the IMSS for a minimum of 25 years in order to qualify for the minimum guaranteed pension, the amount of which for the majority of workers – mostly low-wage earners – would be higher than the benefits from their individual pension accounts. If they are in their 40s and have only worked in the informal sector, they have little incentive to move into the formal sector, because they would have to remain there until an advanced age. If they have been working in the formal sector since they were young, they have an incentive to leave the formal sector after 25 years of work. Another problem has been the relatively high commissions of private managers of individual pension accounts (AFORES) combined with restrictive investment rules, which have resulted in low rates of return (net of management costs).[1] As a result, many workers choose not to save in pension accounts, but rather start a small business in the informal sector, where they expect a higher rate of return than future pension benefits. The 2007 reform of individual savings accounts (SAR), by improving transparency of information and reducing management costs, should help to increase net rates of return, thereby making pension accounts more attractive.

Regarding *health insurance* provided by IMSS, benefits received are considered of insufficient quality relative to their cost.[2] Improving the cost-efficiency of IMSS health institutions would help by reducing the wedge between what workers pay and their perception of what they receive. The development of the Popular Health Insurance (*Seguro Popular*), which aims to gradually provide the population outside the social security with a voluntary health insurance system for basic health care, does not improve the incentive to hire people formally. In the longer term, moving towards a unified system of the public health services and the social security system would be appropriate. Before the process is completed, efficiency-enhancing reforms have to be made across all health providers.

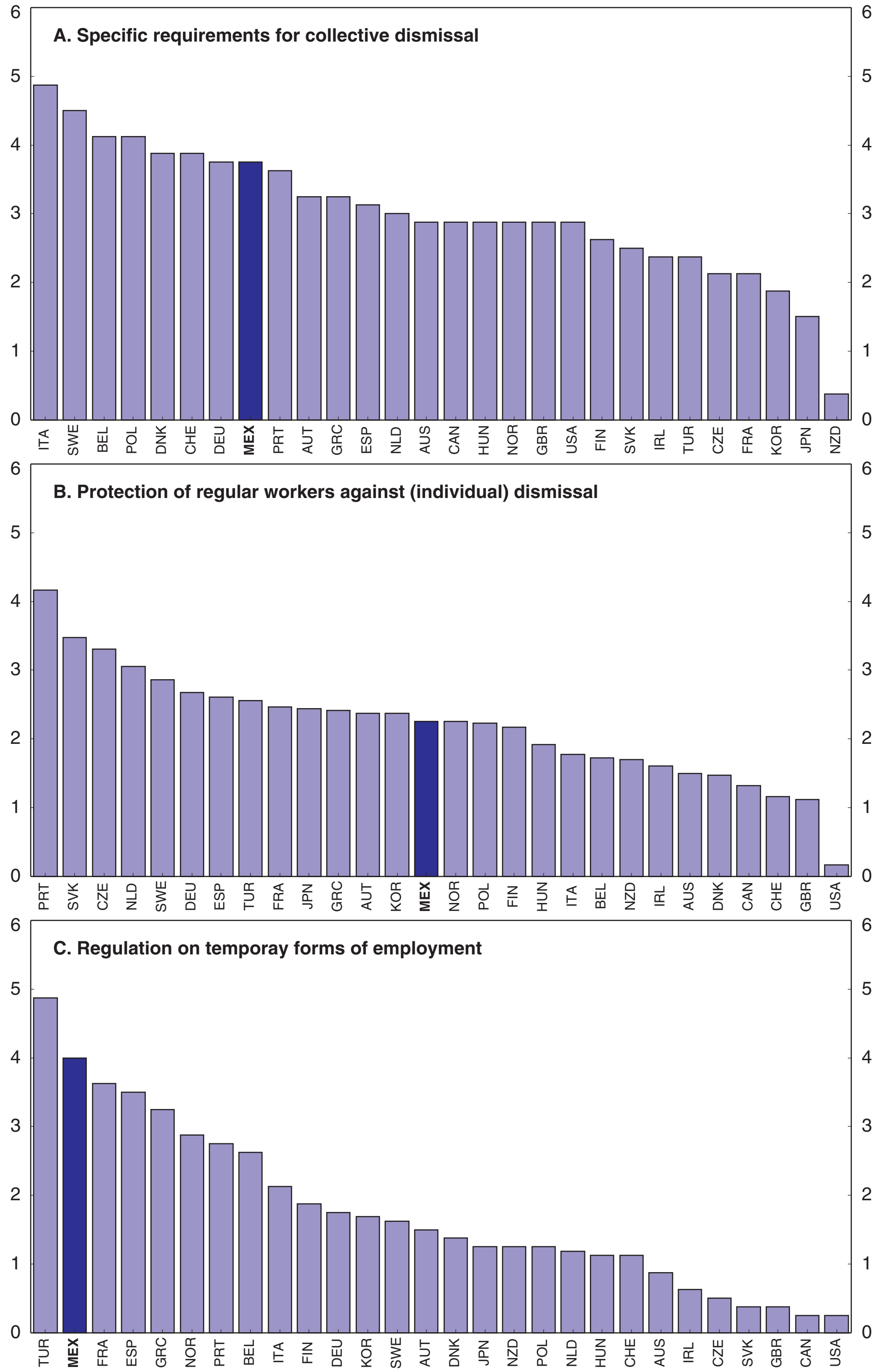
Housing benefits benefit few workers, but require contributions from all. Payments to the housing fund INFONAVIT should not be part of mandatory contributions, but be financed by general taxes.

Day care also should be funded by general tax revenue rather than by a payroll tax.

1. Pension funds have been investing the bulk of their portfolio in government securities rather than in private sector debt or equity because of a relatively restrictive regulatory regime that practically excludes most of the private sector.
2. The high share of private spending on health care by all income categories indicates dissatisfaction with the quality of care. Overall, there is much scope to increase efficiency in health care provided. An extensive review of Mexico's health care system is done in OECD (2005), including specific recommendations to improve quality and cost efficiency of health care, which vary a lot across institutions and across states.

Figure 5.4. **Employment Protection Legislation (EPL), 2003**

Index scale of 0-6 from least to most restrictive



Source: OECD, *ELS* database.

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lawful). As a consequence, most dismissals are considered as "unfair" and compensation is typically high, discouraging hiring on regular contracts. In addition, procedures to settle disputes are long and uncertain.[15] Employers find ways to avoid the regulations and procedures for dismissals and most dismissals are settled out of court. As a result, the regulations are not effective in protecting the workforce. Uncertainty and potentially high costs of dealing with dismissals of workers under permanent contracts is coupled with tight restrictions on hiring. First there is no probation period when hiring on a regular contract. Second, the use of temporary contracts is limited to specific situations, such as a replacement or temporary increase in workload. Furthermore, temporary work agencies are not allowed.[16]

Evidence in other OECD countries shows that to some extent restrictive employment protection legislation (EPL) protects existing jobs, but that it also restrains job creation, with only a small impact on total employment (Box 5.3). By reducing labour turnover and hiring in the formal sector, it hinders the adjustment of labour from shrinking sectors (or firms) to expanding ones. Reducing obstacles to mobility is an important complement to Mexico's overall strategy and will enable the economy to draw greater benefit from its

Box 5.3. **The impact of employment protection legislation on labour market performance**

Recent econometric estimates based on panel data undertaken within the context of the reassessment of the OECD Jobs Strategy found no significant impact of EPL on aggregate unemployment (OECD, 2006). However, EPL is found to have robust, detrimental effects on several aspects of labour market performance, including the incidence of long-term unemployment, the employment rate of the most vulnerable groups such as those in younger age cohorts, and the resilience of labour markets to shocks.*

Stricter EPL for permanent workers is also typically associated with greater labour market dualism, in the form of high incidence of temporary work and lower transitions from fixed-term to permanent jobs. New hiring is likely to be delayed and, when there is job creation, regular contracts are less likely to be used. In Mexico, where stringency of regulations on temporary work is very high, employers tend to use informal labour or do subcontracting to small informal firms. Strict EPL is a barrier to labour mobility, by discouraging workers to change jobs, since long-tenure workers who quit their job have to forego their right to large severance payments. There is also evidence of EPL curbing job flows, especially in those industries that require more frequent adjustments of the workforce to cope with market and technological changes (Haltiwanger, Scarpetta and Schweiger, 2005). Finally, there is evidence that stringent EPL is detrimental to other aspects of economic performance, such as the adoption of new technologies or the ability to introduce major innovations, as these typically require some adjustment of the workforce.

The summary measure of EPL may also be imperfect. The index is computed for "typical" permanent and temporary contracts; it takes little account of the role of labour courts and jurisprudence which play a major role in practice in Mexico as in many other OECD countries. The long and variable delays that characterise the administrative and legal procedures through which EPL is implemented in Mexico and the fact that settlements are often made without going to court is an important source of uncertainty, and contributes to job insecurity.

* A number of microeconometric studies for Latin America suggest that restrictive EPL affects aggregate employment levels. See for instance the collection of papers in Heckman and Pages (2004).

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integration in the global economy. It will help businesses to adapt more quickly to developments in world markets and reduce the flow of workers into unemployment or into the informal sector in response to adverse shocks.

A comprehensive reform of employment protection legislation should be envisaged. Limitations on temporary contracts should be reduced and it would be desirable to ease EPL on regular employment at the same time, in particular by allowing dismissals for economic reasons. OECD experience shows that a partial reform that relaxes the strict limitations on temporary employment while maintaining strict EPL on regular employment can facilitate job creation, but in the longer term it may run against good labour market functioning.[17] It would be appropriate to better balance workers' protection in case of unlawful and lawful dismissals. A simplification of dismissal procedures is also required to facilitate recruitment into formal jobs.

Reforms of employment protection legislation in Mexico should be accompanied by strengthening of income support schemes for the unemployed. One option would be to develop an unemployment insurance system. OECD experience suggests that this can be achieved while keeping replacement rates at reasonably low levels, in order to minimise disincentives to job search. However, in Mexico, administrative settings are probably not in place to impose strict enforcement of job search requirements for unemployment benefits, prevent abuses and thus promote return to work. Mexican workers who have individual pension savings accounts can draw a small proportion (10%) from these every five years, if non employed; but this is a limited option for income support in case of job loss. A more appropriate option, replacing the costly (for the employers) and unreliable severance payments with suitable income support in case of job loss, would be to develop individual unemployment savings accounts, as done in a number of countries in Latin America, including Chile and Colombia, Peru and Venezuela, as well as in Austria (Box 5.4). The main weakness of such a system is that, unlike a traditional unemployment insurance, it does not

Box 5.4. **Protection against job loss in Austria and Chile**

Austria converted its severance payment system in 2003, introducing individual accounts: employers contribute a proportion of the payroll during the contract duration (1.5% of the payroll). If workers leave before three years of tenure, the individual accounts are transferred to their new job. If they leave after, they have the option of receiving a severance payment from the account or transferring the account to their new position. At the end of a career they can use the accumulated balance for their pension. The new system helps to provide adequate security to workers while at the same time allowing job mobility.

Chile, like several other Latin American countries, has adopted individual savings accounts which are used as a type of unemployment insurance. Employees contribute 0.6% of their wages to individual accounts; employers contribute 1.6% of wages to these individual accounts, and an additional 0.8% to a solidarity fund. Reasons for withdrawal include job loss due to dismissal, end of a fixed-term contract, or voluntary separation. Workers are required to work for at least 12 months before being entitled to access their savings. Workers can draw 30 to 50% of their previous wages – for up to five months – depending on the number of years they have been employed. In case of dismissals, insufficient balances are covered by the solidarity fund financed by employers' contributions. Balances upon retirement are rolled into the workers' pension accounts.

pool the risk of unemployment across workers with different risks of dismissal. However, in a country with a weak monitoring capacity and a large informal sector, it avoids the moral hazard inherent in traditional unemployment insurance and has the potential to attract informal sector workers.[18] The Chilean example that combines individual accounts with a solidarity fund is a way to provide some pooling of unemployment risks.

All in all, replacing severance payments with a system of individual savings accounts would lift the uncertainty for the employer about the specific cost of dismissal when hiring an employee on a regular contract, and could thus increase formal labour demand. It would also allow more effective workers' protection.

Complementary measures to help job creation in the formal sector

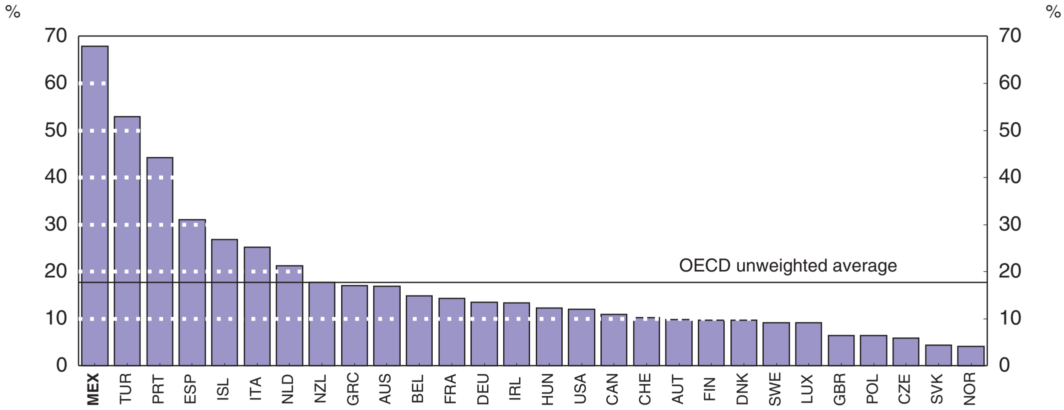
Other policies are needed to facilitate the "formalisation" of the urban workforce. The burden of firm registration costs, tax compliance and labour obligations weighs particularly on smaller firms, which are also more affected by the lack of effective communication and transport infrastructure. In the face of this costly burden of working in the formal sector, many firms opt to operate informally. This limits their ability to build up human and physical capital, to increase in size and thereby reap economies of scale and build international partnerships. Reducing the cost of doing business and improving framework conditions in general, as discussed in Chapter 4, would help attract smaller firms into the formal sector, and allow them to expand in size. It would also benefit large enterprises which often rely on sub-contracting to smaller firms, including informal ones, to get the flexibility they need in adjusting their workforce.

Appropriate conditions should also be created to foster female participation in the formal labour market. Although on a steady upward trend, labour participation rates for prime-age women remain among the lowest in the OECD. In addition, many women are employed in unpaid jobs in small businesses and are a large part of the informal labour force. Two main economic factors are at work: first, the low education attainment of women; and, second the lack of flexibility in working arrangements in the formal sector, which makes it difficult to balance work and family responsibilities. Econometric estimates (Bassanini and Duval, 2006) confirm that female participation in full-time employment increases with education. Childcare subsidies generally have a positive impact on female participation, but unless additional budget resources can be found, Mexico's budget constraints will limit the financing available to develop such programmes. Easing the rules that govern part-time employment would prove useful to promote labour market participation of women, as observed in other OECD countries (Jaumotte, 2003).

A strategy specifically aimed at the youth should seek to improve their skills and competences. Mexico's youth unemployment rate (7% of the labour force) is high relative to the open unemployment rate, but it is the lowest in the OECD. By contrast, Mexico stands out in the OECD regarding school attainment of the youth, with two-thirds of young adults having completed less than upper secondary education (Figure 5.5). The value of school is not obvious to students and their parents, so that, despite high private education returns, drop-outs due to dissatisfaction with the school system are frequent.[19] A high proportion of the 15 to 24 age group is working in the informal sector. Of course, to some degree, informal activities in small businesses can provide a stepping stone to young individuals, who are often unpaid children of the shop owner, before they move to salaried jobs in the formal sector, but the risk is high that for lack of education, they will stay trapped in low-skilled jobs.

Figure 5.5. **Share of youth leaving school without a qualification, 2003**[1]

Percentage of out-of-school persons aged 20 to 24 with less than upper secondary education



1. For Iceland, Italy, the Netherlands and the Unites States, data refer to 2002. For New Zealand data, refer to 2001.

Source: OECD Employment Outlook 2006.

StatLink http://dx.doi.org/10.1787/104734581637

Youth employment is closely related to overall labour market conditions, so that as long as overall employment is limited in the formal sector, it would be unrealistic to expect many job opportunities for youths in that sector. The best option is to design and implement policies that reduce obstacles to employment in the formal sector (as discussed above). A programme was created in 2007 in Mexico to lower the cost of first employment, with the objective of favouring entry in the formal sector. While details on its implementation were not known at the time of writing, the effectiveness of such a programme is likely to be limited, given the high mobility of workers in and out of formal employment during their work career – and not just at the beginning. Furthermore, the experience of OECD and, increasingly, developing countries shows that programmes introduced to subsidise employment of specific categories tend to be costly and not very effective. This is because of deadweight losses: the individuals might have been hired even without the subsidy – and substitution effects – one group is hired in substitution for another. To improve the impact of such programmes, it is important to carefully target beneficiaries and monitor employers to reduce these substitution and deadweight costs. Moreover, the experience of some OECD countries suggests that programmes which were successful have included other elements besides wage subsidies, such as training (*Jovenes* programmes in place in some Latin American countries are an example, see below).

Enhancing the human capital of youth is key to improve their employment and earnings prospects. In this context, the provision of scholarships to students from low-income families is appropriate, because it reduces the opportunity cost of staying in school; Mexico has extended this from primary schooling to include secondary education. Other promising lines of action to improve employment prospects for youth should aim at:

- preventing failure at school and drop-outs;
- ensuring that those who complete schooling are employable, by improving the school-to-work transition.

To facilitate the school-to-work transition, it is important to induce youths to invest in post-secondary education and vocational training, as well as in higher education (notably in scientific and technological streams). The policy strategy should create bridges between the three education streams (general, technical and professional). A good balance is needed between general knowledge and technical skills for workers to adjust to new work practices (and be innovative). As vocational training and technological schools are developed, it will be necessary to better co-ordinate the supply at the local level and closely monitor the relevance of the training proposed and labour market needs. The business sector should be closely involved. In some cases, it might also contribute to the financing of professional schools, with small and medium-sized enterprises (SMEs) playing an active part in these interactions.[20]

With school scholarships introduced for low-income youth to remain in upper secondary education, it is all the more important to improve the quality of education services. Strong action is needed, starting in primary and in secondary education, as discussed in the 2005 *Economic Survey of Mexico*.[21] The reform of curricula and teaching practices launched a few years ago in lower secondary education should continue, and be extended to upper secondary education, which has been neglected up until now. Concrete actions have yet to be taken to offer more and better services to coming cohorts. For reforms to be effective it is necessary to establish efficiency-enhancing mechanisms, which are practically non-existent. This concerns, in particular, the devolution of responsibilities within the system and the setting up of appropriate evaluation and accountability schemes. To reap the benefits of evaluations which are being done in Mexico, results must be used broadly to influence policy decisions, school management and users' choice.

The attractiveness and quality of technical and vocational education need to be improved in order to facilitate the school-to-work transition. Strengthening technical education should be part of the more general reform of upper secondary education, with a view to reducing drop outs and increasing employability of those who decide not to go into higher education. Reforms were launched in 2004 to match technical education with the educational needs of the productive sector and the needs of students who do not find jobs matching their skills when they finish school. The ongoing measures to improve the attractiveness and quality of technical and vocational education should be deepened. Close co-operation between the business sector and vocational schools is required to ensure the relevance of education programmes for the labour market.

Developing an apprenticeship system, which is almost non-existent in Mexico, would help the transition from school to work and is particularly important for a country more and more specialised in the exports of manufactures, which are intensive in the use of skilled trades and of services. For the cohorts who have already left the school system, active labour market programmes (ALMP) can play a role.[22] Although the experience of other OECD countries with activation policies (and welfare-to-work) would have to be adjusted to the Mexican context, success seems to have been be associated with the following practices:

- making the distinction between teenagers, who should be helped to remain in (or return to) school, and young adults, who should be helped to acquire work experience;
- providing job search assistance (career guidance and counselling), which is found to be the most cost-effective action for youths in terms of higher earnings and employment;
- tailoring training programmes to local needs, which requires involvement of the private sector and community leaders to assess local demand for skills. In particular, the *Jovenes* Programmes developed in some Latin American countries have been rather successful in improving labour market outcomes of youths. They are aimed at youth

from low-income families with low educational attainment and little job experience, and include training, work experience and various services including job search assistance (see Betcherman, Olivas and Dar, 2004).

Upgrading the competences of the labour force through adult training

Participation in training programmes is low, while returns are high

Because of the large number of drop-outs and early school leavers, adult training has a key role to play in providing workers with a second chance to acquire new qualifications. However, Mexico, like some other OECD countries (*e.g.* Hungary and Portugal), tends to devote limited resources to adult training.[23] Many factors converge to explain the low investment in training in Mexico, including lack of awareness on the part of workers and firms about learning activities and about the return from the investment, and uncertainties about the quality of training provided. Financing difficulties can also make it difficult for individuals to invest in their human capital. Furthermore, there are supply constraints in some remote areas where there are no training providers. Looking ahead, to fully exploit its comparative advantage in manufactured exports, and cope with skill-biased technological change, Mexico needs to strengthen its training effort to facilitate adjustment of the workforce to higher value-added production.

International studies show that training programmes can have positive impacts on the employability of workers if properly targeted, especially towards workers with low qualifications. In Mexico, as in several other OECD countries, the small investment in training is largely concentrated on workers with high educational attainment. Those more in need (in particular older generations or less educated) participate the least in post-school education and training. In a changing environment, the risk is that they become less adaptable and find themselves trapped in low-productivity jobs, typically in informal activities. Policies to widen access to training would raise Mexico's growth potential, at the same time as addressing equity concerns. Promoting and improving benefits from adult learning implies a wider participation of those who need upgrading of their competences and driving up the quality of training. In a country with a low training culture, it is important to provide better information on available training programmes through promotional campaigns, including via public television, while also strengthening the collaboration with entrepreneurs and associations. This can help raise the awareness and motivation of those more in need.

The state has a role to play as a facilitator and where there are market failures

The government has a clear role to play in promoting job training and helping job search through public employment services and active labour market programmes. Most countries involve public institutions as well as private firms in training job seekers. Individual assistance and matching job seekers with vacancies is typically done by public services, except for a few exceptions (Lundsgaard, 2002). Owing to Mexico's tight budget constraint, policy makers need to target support to those who need it most. Some lessons can be drawn from successful experiences in other OECD countries:

- In small and medium-sized enterprises, firms need assistance to promote worker training.
- The programmes which are more effective are those with larger private sector participation, such as private institutions providing courses or courses offered in private firms.
- If there is need to rationalise existing instruments, a gradual approach has been found to be preferable.[24]

Improving the scale and effectiveness of training

The Mexican adult training system has the objective of both providing initial qualifications and upgrading competences throughout the working life. The first pillar relates to improving secondary education and the school-to-work transition, to provide better opportunities for the young (as discussed above). The second pillar, adult training support, is aimed at upgrading competences throughout the working life. This second pillar could potentially concern the millions of workers who did not complete secondary schooling and who have only at most four to five years of schooling. Some of the preconditions for the development of effective training have been established over the years. An important step has been achieved with the creation of the Labour Competence Standardisation and Certification Systems (*Sistemas Normalizados y de Certificacion de Competencia Laboral*), which serve for the recognition and transferability of competences, even those acquired through non-formal training. Recognition of prior learning has already been implemented on a large scale.[25] This should facilitate the employability of poorly qualified adults or their return into education or training.

Co-ordination between the different levels of government has improved. But there are still problems to be solved, mostly reflecting the complexity of the training system. There are many programmes and schemes, and multiple players are involved in policy design and in implementing programmes (see Annex 5.A1). Responsibilities are shared between levels of government and the states have to deal with different national agencies. When it comes to implementation, it is difficult to avoid overlapping of programmes and fragmentation of government action. Higher co-ordination is needed to avoid programme duplication and create synergies. In particular, there is a clear need to integrate the strategies defined in the distinct ministries involved at the federal level.

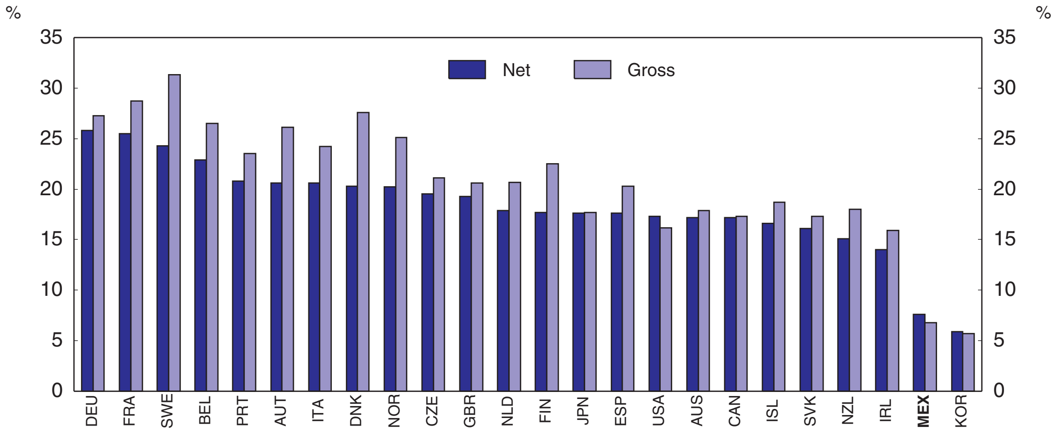
A key issue in training policy is how to ensure that the training provided is efficient, *i.e.* meets labour market needs and thereby improves the trainee's working prospects. Effectiveness of training is related to incentives, target groups, the content, duration and mode of training, the system of recognition and certification. Developing short-duration training modules with only a few hours of training per week would help widen the coverage by facilitating attendance for working adults. Also important are the pedagogical qualifications of those who provide training. Progress has been made with the introduction of certified training programmes. E-training for the workforce has been introduced to widen access to training for the workforce. Improvements could be made by defining targets better, strengthening evaluation and using results to adjust programmes. Developing an adequate information base would allow monitoring of what is achieved at each level of government, in order to evaluate the cost effectiveness of nationwide public funds for training.[26] The focus should be on follow-up studies based on longitudinal evidence to assess the impact of training events on earnings and employment advantage over several years. The government needs to be particularly aware of supplier capture and the offer of non-labour market relevant courses, which has occurred in other OECD countries. Training providers should be assessed by private sector firms or industry associations with which they are involved.

Social policies and poverty alleviation

A wide range of policies is needed

Public spending on social protection has risen threefold in Mexico since the mid-1980s, but at 6.3% of GDP in 2003, it is still at the low end among OECD countries (Figure 5.6).[27] As a share of public expenditure, however, public social spending in Mexico is not low by international comparison, suggesting that the priority given to the reduction of poverty in the budget is as high as it is in other countries at similar income levels. However, the limited tax base and low tax revenue result in social spending being insufficient to address the basic needs of the population.

Figure 5.6. **Public social spending in comparison, 2003**



Source: OECD, SOCx database.

StatLink http://dx.doi.org/10.1787/104802643828

Social protection remains limited in scale, and is also unequal in coverage. As in many Latin American countries, the social protection system in Mexico leaves the most vulnerable citizens largely unprotected, despite some progress over recent years. The system is dualistic. On the one hand, the social security system, which essentially provides health insurance and pension benefits, covers workers in the formal labour market who are registered in one of the national social security schemes – *i.e.* about half of the population (see below). On the other hand, there are social assistance programmes which provide benefits to the "uncovered" population, including most workers in the informal sector and their families in urban areas, as well as the poorest segments of the population who typically live in remote rural areas.[28]

The poverty alleviation strategy includes effective programmes, but lacks co-ordination

Social assistance programmes have increased steadily over the past ten years, but their funding remains low in relation to the scale of the problem. There are dozens of programmes in operation, both at the federal and the state level. In general, transparency has improved and there is an increased – and commendable – emphasis on data disclosure and rigorous evaluation. The newer programmes tend to be better designed, targeted and managed than past food-subsidy and earlier poverty-assistance programmes. In particular, the most innovative *Progresa/Oportunidades*, which has been in place for about ten years, focuses on improving educational attainment, with a view to pulling the most marginalised families out of poverty. Working as a complement, a basic health insurance (*Seguro popular de Salud*) was introduced in 2001 to cover basic health risks of poor families and avoid catastrophic health-related spending.

Lifting families out of poverty through the targeted Oportunidades programme

Oportunidades was designed to promote investment in education and health by the poor for a limited period of time; its main impact occurs through the accumulation of human capital to help younger generations obtain higher lifetime incomes and break the intergenerational transmission of poverty (Levy, 2006). The programme is more effective than any of the programmes that existed before in Mexico. It has been extensively evaluated by national and foreign researchers and institutions and is generally considered to have positive results: *i)* per capita food consumption has increased in programme families and the use of preventive health services has risen substantially; *ii)* a clear reduction in rural infant mortality rates has been observed; and *iii)* the impact on education is also significant, reducing failure rates and increasing enrolment in secondary school, in rural areas in particular where enrolment is critically low, while lowering the probability of young children working (Box 5.5).

Box 5.5. **The conditional transfer programme for poverty alleviation: *Oportunidades***

Oportunidades is the largest poverty alleviation programme in Mexico. Created in 1997 in the aftermath of the peso crisis, under the name *Progresa*, it was rapidly extended thereafter. By the end of 2006, the programme covered 5 million families (twice its coverage in 2000), which correspond to about one-quarter of the total population in Mexico. The programme is active in all 2 441 Mexican municipalities.* It is an incentives-based programme: it intends to enhance the formation of human capital (in an integrated approach that includes education, nutrition and health) through conditional cash transfers – *i.e. Oportunidades* provides cash grants to poor families to promote food consumption, the grants being conditional on children staying in school and having regular health checks. The subsidies are given periodically and can reach as much as 22% of the beneficiaries' total income. The programme also provides basic health services to all family members and special care services for pregnant and nursing women and to children less than two years of age. Administrative costs are low, at around 6% of the total *Oportunidades* budget.

Significant results have been achieved: rural infant mortality rates declined by 11%; there has been a decline in the number of children suffering from malnutrition and an increase in the average height of children; in education, where about 5.1 million scholarships (*becas*) were distributed in 2006, the impact is also notable – in primary schools, where enrolment is high, failure and dropout rates have come down; in secondary schooling, including in upper secondary levels, enrolment has increased, especially in rural areas. Participation in the programme is also associated with a substantial reduction in the probability of children aged 10-14 from rural areas working (Parker, Behrman, and Todd, 2005).

* For details on the programme, see *www.oportunidades.gob.mx*.

The *Oportunidades* programme is clearly progressive, as it transfers about 60% of its benefits to the poorest quintile of the population and less than 10% to the richest half of the population (Scott, 2005). Besides having an impact on school enrolment, the programme is contributing to a reduction in the number of poor households and especially a reduction in the depth and severity of poverty. The impact has been particularly striking in rural areas where the proportion of people living in poverty dropped significantly, while the impact in urban areas was less marked.[29] This illustrates how the programme has been successfully targeted to the poorest of the poor (Cortes, Solis, and Bagenas, 2006; Levy, 2006). The favourable results to some extent may reflect the ability of the authorities to self-correct errors and make continuous improvements.

Although *Oportunidades* is well-designed and has been quite successful, there is still room for improving the programme itself. Moreover, in order to realise its full potential, more effective implementation of other policies is required. First, the certification of school attendance and medical controls (upon which the cash transfers depend) should be rigorous and there should be an effective supervision of the distribution and consumption of nutritional supplements; second, the coverage of the programme should be improved to ensure that it reaches all of the population in extreme poverty.[30] The currently inadequate coverage implies that there is an important amount of potential human capital not being developed in Mexico. Third, the programme needs to be adjusted when it is applied in urban areas, where the opportunity cost of staying in school is likely to be higher than in rural (or even semi-urban) areas.[31] Finally, the quality of both the educational and public health systems needs to be enhanced. The programme aims at increasing the demand for health services and education. Supply must keep up if the incentives in place for the poor to invest in education and health are to be effectively translated into human capital.

Protecting poor families against health hazards: Seguro Popular

Access to health care varies across population groups, reflecting the wide income disparities in the country: certain groups and certain regions have access to modern, high-quality health care through their insurance (including private insurance); others, who are not covered by contributory insurance schemes, have access to lesser quality care or find it difficult to access services (because they live too far from clinics). Because insurance coverage is positively related to income, the poorest part of the population faces larger catastrophic or impoverishing out-of-pocket health care expenditure.[32] The 2000 survey on household expenditure (ENIGH) showed that 19.3% of the population in the bottom income quintile had experienced impoverishing or catastrophic expenditure and that 98.5% of the impoverishing expenditure was concentrated in the bottom quintile (Ministry of Health, 2004, and OECD, 2005a). Illness that generates catastrophic expenditure for the uninsured leads to more poverty, which in turn is associated with losses of human capital and constrains productivity and growth. The basic insurance *Seguro Popular* was created to extend the coverage of health insurance and reduce the risk of catastrophic out-of-pocket health care spending (Box 5.6).

At present, families in *Seguro Popular* can only access services supplied by State Health Services. However, the objective of the programme is to allow all providers operating in the Mexican National Health System to offer health services. This will be an important first step towards the breakdown of the vertically integrated system in place where financing and provision of health services are linked, and it is expected to encourage providers to improve quality and efficiency of provision. The outcome, however, will depend decisively

Box 5.6. **The development of basic health insurance: *Seguro Popular***

The *Seguro Popular*'s target is to cover families that have no access to social security benefits with a package of 307 pharmaceuticals and 249 health interventions (including treatments for selected events that are catastrophic financially for the non-insured). At the end of 2006, the programme reached 5.1 million families, about 16 million individuals, representing about one-third of the population not covered by the social security system. A year earlier, it was covering 11.4 million individuals.* Sources of funding comprise contributions from the federal government and the states. In theory, affiliated families would also contribute, but since they nearly all belong to the two bottom income deciles, the system is financed in practice by the federal and state governments (Ministry of Health, 2006). The programme is clearly progressive. Total coverage of the uninsured population is expected to be achieved by 2010, a goal that seems to be feasible. Already, the new government introduced in 2007 the health insurance programme for the youngest generation, which gives priority to this age group in the widening of *Seguro Popular*.

Although enrolment in the *Seguro Popular* is voluntary, the states have a strong incentive to ensure that the currently uninsured population is enrolled and remains so, since the allocation of new federal resources depends on the number of affiliated families. Payments to the providers will go where patients are actually treated.

* For details, see *www.seguro – popular.gob.mx*.

on the capacity and willingness of the various "insurers" to move from a model in which money is used to finance supply, to a purchaser model where money follows the patient. Introducing a clearer purchaser-provider split in the health system remains a key requirement in Mexico (OECD, 2005).

Two main difficulties are slowing the implementation of *Seguro Popular* and limiting its effectiveness. First, sizeable resources are required to expand the coverage of the system in the coming years. Some of these resources could be obtained by reducing the excessive administrative costs of the national health system at large – which at 9.5% of total health spending are among the highest in the OECD area. The remainder of the financing will have to come from additional public resources (an estimated funding requirement of 0.8% of GDP per year), which can only be generated by reallocating budget resources or a revenue-enhancing tax reform (Chapter 2). Besides finding adequate financing, the expansion of enrolment in the *Seguro Popular* and effective protection of those affiliated depend upon improvements in the quality of provision of health services and physical access to health facilities. Affiliation to the programme will not be an attractive option for many Mexican families, unless quality and access are improved. These are both open to question: for instance, medication available for affiliates is notoriously insufficient and access is difficult, particularly in rural areas where some families have to walk several hours to use the services of a medical unit. A "health bus" programme has been announced to make basic health services accessible in remote communities.[33] A useful complementary measure would be to provide incentives to doctors and nurses working on a more permanent basis in remote areas.

The overall strategy for poverty reduction should be better integrated

One important challenge facing social policy in Mexico is to better co-ordinate the myriad of programmes in place. In principle, this is ensured by the *Contigo*"umbrella", introduced in 2000 which regroups all social programmes currently operating in Mexico. It aims at avoiding duplication and exploring synergies in order to maximise the outcome of social programmes. There is some evidence, however, suggesting that *Contigo* has not been fully implemented yet and remains little more than a (good) theoretical construction. Some rationalisation and greater co-ordination must be done. Even taking into account that the target population is heterogeneous and therefore cannot be reached with a limited number of programmes, the number of programmes in place is excessive, creating duplication. There are programmes which differ in the type of instruments employed or the entity responsible for their operation but are targeted at the same population. While some families might be covered by more than one programme, due to poor co-ordination, others may be left unattended.[34] Furthermore, the large number of programmes in place for poverty alleviation implies more bureaucracy, hence higher administration costs.

Two older programmes – DICONSA (operating public rural stores) and LICONSA (providing milk at subsidised prices) must be reviewed to evaluate whether they should be refocused or even perhaps withdrawn.[35] They may have become an easy marketing channel for non-poor national producers and thus be a part of rent-seeking strategies (Levy, 2006). Price subsidisation is costly and interferes with price signals. The overall process of adjusting the poverty programmes in place and rationalising the various instruments should be gradual, to avoid the risk of creating social hardship in the process.

Improving the micro-region strategy

Mexico took an innovative step in 2001, with the introduction of the micro-region strategy, led by the Ministry of Social Development (SEDESOL). The objective was to co-ordinate and monitor rural development policies in the most marginalised and poor rural areas – where around one-quarter of the population lived. The strategy involves a mix of measures, including social emergency relief. It does not focus on subsidies but rather on investments, integrating efforts of different ministries in specific areas. Introducing a strategy that focuses on the poorest areas of the country is appropriate, given the weaknesses in the allocation of transfers from the federal government to sub-national governments (through earmarked grants or revenue-sharing), which typically does not achieve much equalisation across jurisdictions.[36]

The micro-region strategy has yielded some results. It could be strengthened through better co-ordination with other relevant ministries, in particular in the areas of road construction, sanitary services and water provision. It would be appropriate to explicitly establish the responsibilities of the various ministries involved and guarantee the continuity of the strategy. A review of fiscal relations across levels of government should be part of the overall strategy to correct inequities, as noted in Chapter 2. There is also room to improve co-ordination between the micro-region strategy and the rural development programme of the Ministry of Agriculture (SAGARPA), thereby exploiting synergies between the two most relevant actors in rural development (OECD, 2007).

Further developing the microfinance framework

Microfinance can contribute to reducing poverty and marginalisation by fostering the development of the micro-enterprise sector. The development of savings is an important vehicle for the improvement of the poor population well being, through tangible effects on wealth accumulation and protection against catastrophic events (as well as more intangible effects such as self confidence, increased security, formalisation). A number of measures have been taken over the past few years in Mexico to develop an adequate

Box 5.7. "Social banking" in Mexico

The microfinance sector (social banking in Mexico) is made up of about 600 privately or collectively-owned financial intermediaries closely linked to their communities. The sector provides financial services, including technical assistance, to people who do not have access to traditional banking (*e.g.* shop-keepers, self-employed with low levels of income). BANSEFI and intermediaries of social banking use a common Internet network (L@ Red de la Gente) that facilitates the sale and promotion of products and services to people who do not use the traditional financial sector; it can channel migrants' remittances and distribute government aid (such as *Oportunidades*). Since traditional financial intermediaries only serve about 35% of the labour force, the potential market is estimated to be as high as 30 million people (based on BANSEFI estimates). The new framework is already showing results in promoting a savings culture and demand for micro-credit is potentially considerable. In June 2006, the number of savings accounts that had been opened in BANSEFI's network had reached 3.3 million individuals *vs.* less than a million when the institution started operating. By extending the coverage of financial services to those who typically have no access to traditional banking and drawing marginalised individuals into productive job opportunities, the full development of the social banking system is an important complement to the overall strategy to tackle poverty and exclusion. It can encourage saving and investment in poor communities, notably by helping spread the benefits of migrants' remittances more widely across communities and over time. (See *www.bansefi.gob.mx* for further details.)

regulatory and prudential framework for the microfinance sector, with two main steps: *i)* the approval of the microfinance law in 2001; and *ii)* the creation of BANSEFI, a development bank operating as the "social banking" sector's central bank (Box 5.7).

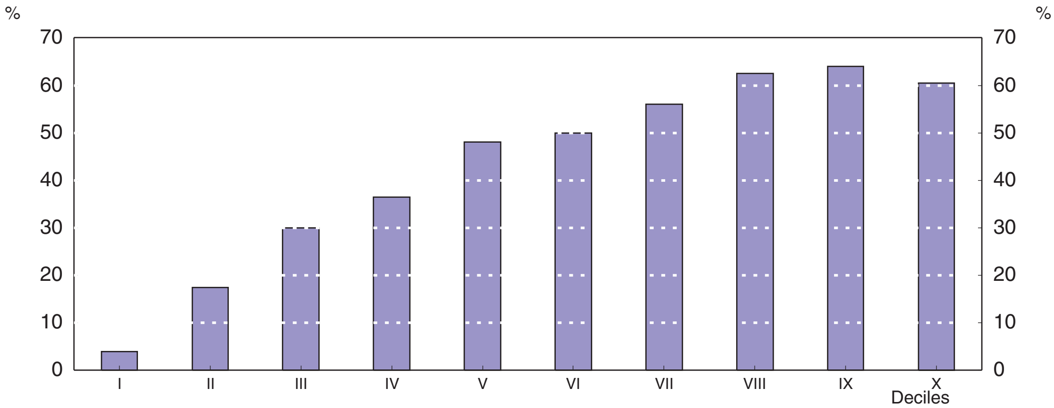
Social security does not provide an effective safety net to the population

In addition to social assistance, Mexico has a contributory social security system for health and pensions. In many OECD countries, social security plays a role in protecting the poor against risks, with a large variance across countries in the degree to which this is achieved and the share of budget resources going into the schemes. In Mexico, the social security system is ill adapted to protecting the poor. It covers workers in the formal labour market and their dependants – in total only about half of the population – and its incidence is regressive. There is a direct link between informality and the narrow coverage of social insurance, as workers choose to be excluded from social security, or employers prefer hiring outside the formal sector, as discussed above. The bulk of Mexican workers from the private formal sector are covered by the IMSS (*Instituto Mexicano del Seguro Social*), which is financed by employer-employee contributions plus a flat contribution by the government for each affiliated worker. In addition, there are various other institutions, in particular for public sector employees.The contributory social security system, which is thus very fragmented, serves the part of the population that is less vulnerable. At the same time, the sub-systems absorb budget resources, as a result of government contributions and because the schemes are not financially sustainable (reflecting the overly generous treatment of beneficiaries and poor efficiency). Thus, the various subsystems are creating implicit liabilities for future generations to pay.

Inequity

There is inequity in access and quality between the covered and uncovered population. There is also inequity in the distribution of government resources; the incidence of social security, considering both health and pension insurance, is regressive (Figure 5.7).

Figure 5.7. **Coverage of health and pension insurance by income deciles**[1]



1. Refers to IMSS, ISSSTE and PEMEX schemes for health and pension.

Source: World Bank (2005), *Mexico: An Overview of Social Protection*, based on ENIGH 2002.

StatLink http://dx.doi.org/10.1787/104802672807

Looking at health care, in particular, the various social security systems provide services to distinct population groups, which altogether represent only about half of the population (OECD, 2005). The development of basic health insurance through *Seguro Popular* has broadened the coverage, but it is a very rudimentary scheme in comparison with other OECD countries. In total, Mexican health insurance coverage remains well below standard practices in other OECD countries, where, on average social security covers almost 95% of the population. Health care spending by the social security system per insured person (workers and their families) is much higher than public health spending per person in the uncovered population. IMSS expenditure for its beneficiaries, for instance, is twice as high per capita than spending by the federal and state government for the uncovered population (measured on the basis of actual users).[37] This disparity, given the government's participation in the IMSS budget, is not consistent with the objective of equitable allocation of government resources. Moreover, about half of total health care expenses were financed out-of-pocket in 2002, by far the highest share among member countries, with low-income households spending out of pocket almost in the same proportion as middle-income families.

There are also wide disparities in the protection system regarding old-age pensions. On the one hand, workers who have not contributed to one of the formal sector insurance regimes (public or private) have no entitlement to pension benefits. The only protection available against old-age poverty is through informal risk management mechanisms, such as family network, private transfers (migrants' remittances), accumulation of private assets and the subsistence economy. A limited pension for those aged 70 and over in small communities in rural areas was created in 2007. The programme's geographical targeting and age requirement are likely to limit its scale *de facto*, hence also its budget cost. But because of the lack of reliable budget resources, committing resources on a permanent basis to a pension programme is premature. Experience from other countries, including less developed ones, with non-contributory pension programmes targeted at the poor, shows that these programmes may end up creating large fiscal costs, which can quickly get out of hand. Moreover they may introduce disincentives for people to participate in the contributory system, hence in the formal sector.

On the other hand, workers who have been enrolled in the formal sector for at least some period in their work life are eligible for old-age pensions. Even among this relatively protected population, there are strong inequities across the various regimes, with pension schemes for public sector employees usually much more generous than the general private sector scheme. Ten years ago, the reform of the IMSS pension system created a fully-funded capitalisation system, with individual pension accounts. The current system incorporates two redistributive elements: a fixed subsidy for all affiliated workers (*Cuota social*) and a guaranteed minimum pension. Because of low net rates of returns on their "forced" savings, many workers do not accumulate enough benefits in their work life in the formal sector and are eligible for the guaranteed minimum pension. As a consequence, the system may have lowered incentives to work in the formal sector over a full working life (see Box 5.2 above).

Pension regimes of public sector employees tend to be overgenerous; they are not financially sound and absorb budget resources. First, serious problems of inequity are associated with the overly generous pension scheme for IMSS staff (doctors, nurses and other medical staff). Although some steps were taken to reduce the generosity of the pension regime for IMSS staff, it remains much more generous than for private sector employees, with replacement rates currently between 100 and 130% and eligibility rules that are not strict.[38] The federal government employees pension scheme (ISSSTE) was reformed in March 2007. The reform introduced individual savings account comparable to the IMSS pension scheme, although they will remain centrally managed for at least three years. The reform addresses the financial unsustainability of the former ISSSTE system (Box 2.1 in Chapter 2). It also allows portability of benefits and rights to workers moving to another sector.

The reform process should be pursued, involving the pension schemes for state government employees (state-level ISSSTEs), as well as those of state-owned enterprises, such as PEMEX and CFE. Some of these maintain very generous schemes, which also run large annual deficits. Such privileged – and financially unsustainable – contractual conditions reflect to a large extent the negotiation power of public sector unions. But they also represent an unfair burden on tax payers (who generally are not affiliated to such generous pension schemes) and it constitutes a deficient allocation of scarce budget resources. Besides creating inequities, the fragmentation of pension systems is an impediment to job mobility between the public and private sectors.

Options for reform in social security

The first-order principle of further reforms of the social security system should be the provision of equitable access to social security. Poorer households are ill-provided with insurance against health risks, and many face catastrophic and poverty-creating health care expenditures. A first step has been made with the creation of *Seguro Popular*, although the success of the system is conditional on budgetary resources being available on a reliable basis.

Gains in equity and cost-efficiency in health services are potentially large if the appropriate polices are put in place. The reforms that started in the early 2000s should continue, with a view to gradually transforming the health care system into an integrated system in which all Mexicans can have access to an adequate level of financial protection against health risks. The current system of vertical segmentation, whereby each insurer is a provider for its own beneficiaries, is inefficient and inequitable. The vertical structure should be replaced by a horizontal structure over the long term, with a purchaser-supplier split and contractual arrangements between insurers and providers. Reorganising service provision along these lines would contribute to reducing overlaps and inefficiencies, with the benefits of improved co-ordination and lower administrative costs.[39] It would also encourage improvements in the quality of services.

The system in place remains at a considerable distance from the desired arrangements. Regardless of which option is chosen in Mexico for expanding coverage over the longer run, reforms in health care delivery need to be deepened (both in insurance systems such as IMSS and ISSSTE and in the national health Services, SSA) with the objective of increasing efficiency and improving the quality of basic services that are provided to Mexicans across the entire income distribution. Cost-efficiency measures would allow a widening of coverage, without the risk of encountering unsustainable financing difficulties. Once a consensus has been reached on the transformation to be made, it is important that the measures that are taken over time follow a coherent line of action that goes in the desired direction.

Further reform is also desirable in the pension arrangements for government workers so as to reduce distortions which currently strongly favour specific group interests, especially regarding the overly generous regime for administrative and medical staff of the IMSS. In the current Mexican context of weak monitoring and control capacity, it is not advisable for Mexico to introduce a broad non-contributory pension programme targeted at the poor, because of the disincentives this would create for people to work in the formal sector and pay social security contributions, and because of the large fiscal costs, such a programme would imply. A drastic strengthening of the capacity to tax and administer is required before Mexico can develop even a low level of income security in old age. In this context, the protection against poverty of the uninsured population will essentially remain the family network, migrants' remittances, saving and investment over their period of work or the subsistence economy.

Concluding remarks

A comprehensive labour market reform is needed to improve the functioning of the labour market and to raise incentives for employment in the formal sector. Beyond changes to labour market legislation, other initiatives to consider include enhancing the quality of benefits provided to formal workers and reducing the tax wedge, in particular employers' social security contributions for low-skilled workers.

The strategy being developed for about ten years now to lift the population out of poverty on a lasting basis, through incentives to develop human capital and enhance social infrastructures, is appropriate. Recent efforts to insure the most vulnerable against health risks can also contribute to reduce poverty and develop human capital. The social security system itself, on the other hand, is not effective in helping the poor. Although considerable public resources are spent on pensions and health care, the distribution of resources is skewed in favour of the least vulnerable. The ultimate objective of social security reforms is to make the system less regressive and expand the coverage.

It is of crucial importance that social policies – together with other policies, namely education, tax and subsidies, and labour market settings – are designed in a way that contributes to attracting workers into the formal sector. This should be a horizontal concern and must be considered in the very early stages of policy formulation. For instance, a mix of improvements in the quality of benefits provided by the IMSS and lower employer-employee contributions at the low end of the income distribution, would help rebalance employment towards the formal sector, thereby limiting problems of exclusion and loss of human capital associated with informality. Specific recommendations for the multidimensional reform that is required are included in Box 5.8.

Box 5.8. **Main recommendations to enhance the attractiveness of formal employment and reduce poverty**

Rebalancing incentives towards formal employment

- Review the tax-benefit package, especially to improve the reliability and efficiency of social security services, as this would help enhance incentives for formal sector employment, especially for low-paid workers.
- Strengthen control over compliance to tax and social security obligations, although it can only be an element of the comprehensive strategy to foster registration of informal activities.
- In the longer run, more cost-efficient social security services could allow a reduction of social security contributions for low-wage workers, and increased reliance on general-budget financing.

Reviewing employment protection legislation

- Improve the balance between labour market flexibility and protection of workers, by extending legal grounds for dismissals and replacing costly (for employers) and unreliable severance payments with a system of individual savings accounts.
- Broaden the scope for using short-term contracts and part-time work – atypical contracts can be especially useful to promote women's participation.

Complementary employment-friendly measure

- Introduce new types of work contracts, akin to apprenticeship, for initial training of workers. The use of these contracts may have to be regulated to avoid abuses.
- Introduce a probation period, with a view to facilitating job creation under long-term contracts.
- Promote privately provided training; the priority should be put on stimulating demand for training by improving information about training opportunities, and providing guidance. The development of short-duration modules would facilitate training while working.
- Public support to training should be limited and targeted to "low-opportunity" individuals.

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Box 5.8. **Main recommendations to enhance the attractiveness of formal employment and reduce poverty** *(cont.)*

Poverty alleviation

- Adjust the coverage of *Oportunidades* to include the segments of the poor population who may not be covered, and avoid duplication. Improve the quality of supply of health and education to reinforce the programme's effectiveness.
- Further widen *Seguro Popular*, provided additional financing is obtained from increased tax revenue. Improve access to – and quality of – health services (*e.g.* availability of medication) to raise the programme's effectiveness.
- To help the poor, in general, replace subsidies by targeted cash transfers. Review programmes such as DICONSA and LICONSA, in particular: refocus them on providing basic food to the poor or discontinue them.
- Rationalise the numerous programmes which have a social objective, to avoid duplication; improve co-ordination among programmes and agencies involved in implementing them so as to draw synergies.
- Review the mix of interventions targeted at rural poverty; reinforce partnerships among the actors involved in rural development, including through better co-ordination between the Ministries of Social Development and Agriculture.

Social security

- Increase the cost efficiency of IMSS health care to provide higher quality services, at lower cost for affiliates (thereby making formal employment more attractive, and reducing financial pressures on budget).
- Take gradual steps to integrate health insurance systems, move to split financing from providers, and broaden coverage of health insurance.
- Continue to take measures to ensure higher net rates of return on individual savings accounts for pensions as this would increase the attractiveness of formal employment.
- Move ahead with reform of public sector employees' pension schemes, building on the recent ISSSTE reform, with a view to ensuring financial sustainability and contributing to labour mobility.

Notes

1. The absence of adequate statistics makes it difficult to provide a comprehensive analysis of the Mexican labour market. The discussion of labour market trends and forces acting is based on data available from various sources, including national accounts, the national employment survey, and social security registers.
2. See Maloney (1999 and 2003).
3. See Kaplan, Martinez and Robertson (2005). Maloney (2003) also finds that workers who become self-employed in the informal sector often earn 25% higher wages on average than they did as salaried workers in the formal sector. Salaried workers in the informal sector, on the other hand, generally earn less that salaried workers in the formal sector.
4. Mexico has one of the highest shares of self-employment in the OECD, at 25% of non-agricultural employment (Figure 1.9).
5. Employment by sector reviewed here refers to the private formal sector, based on the number of workers registered in the private sector social security institute IMSS. The IMSS data show that net job creation in *maquiladoras* (in-bond industries) has been the main source of employment growth in manufacturing in 2004-06, reflecting buoyant export growth. Starting a year earlier, in 2003-06, formal employment has also been expanding markedly in construction and services (wholesale and retail trade, services to enterprises and households).

6. Firm-level data suggests that, on average over the 1990s, only about 30% of new firms were still in operation seven years after entry in Mexico, but those firms that survived increased their size on average by almost 80%. As a comparison, survival rate in the United States after seven years was close to 50%, and post-entry growth of successful new firms was about 40%. The data for Mexico refer to the total population of firms with at least one employee reported in the social security records over the 1990-2001 period. See Bartelsman, Haltiwanger and Scarpetta (2004) for more details.
7. See Chapter 3, "Creative destruction, productivity and job creation", in Pages, Pierre and Scarpetta (2007).
8. According to the *Comité Técnico para la Medición de la Pobreza*, based on Mexico's ENIGH survey data, the share of the population living below the lowest food poverty line – *Línea de Pobreza Alimentaria*, referring to per capita income insufficient to cover basic food necessities, according to the nutritional requirements established by the INEGI-CEPAL – came down to 17% of the population by 2004. The 2nd line of poverty – capacities poverty – is broader, referring to an income per capita insufficient to satisfy basic food, health and educational consumption.
9. Research suggests that the combined effect of several employment-friendly reforms is greater than the effects of each of them taken in isolation, because of the important synergies that can be exploited. Evidence from OECD countries' experience is discussed in Elmeskov, Martin and Scarpetta (1998), and in OECD (2006), *Boosting jobs and incomes, policy lessons from reassessing the OECD Jobs Strategy*, free policy report, available online at: *www.oecd.org/els/employmentoutlook/policylessons*, Paris. In Mexico, unlike other OECD countries, an improvement in the functioning of the labour market would be reflected in more job creation in the formal sector rather than changes in the unemployment rate.
10. P. Van den Noord, N. Girouard and C. André (2006).
11. The tax wedge is defined as personal income taxes, as well as employers' and employees' social security contributions less cash benefits. Mexico also has a payroll tax – levied at the state level, at rates between 1 and 2.5%.
12. The tax burden (income tax plus employees' and employers' contributions less cash benefits) for a single person at 67% of average production worker earnings was 17.35% in 2000 and 20.75% in 2006, including employers' contributions to privately-managed pension funds, the housing fund (INFONAVIT) and discharge and old-age insurance. (OECD, *Tax burden trends*, 2000-06).
13. According to survey data, the percentage of beneficiaries who perceive the quality of health care in IMSS as average or poor (27.7%) is higher than for ISSSTE services (17%) or private providers (10.9%). See OECD (2005).
14. Contributions to social security, individual retirement savings and the housing fund made by firms on behalf of their employees became deductible for income tax purpose in 2002. For low-income workers, however, this measure does not provide any benefit.
15. Severance payments in the case of dismissal "without just cause" are three-month compensation plus 20 days per year of service, so that the typical compensation for a worker having 20 years' tenure who is dismissed for economic redundancy or business needs would amount to 16 months. In many other countries (where this cause would be legal ground for dismissal), the severance payment would be significantly lower. In addition, in Mexico, differences in the enforcement of regulations imply different prescriptions of severance payments, this uncertainty imposing an additional burden.
16. For details on employment protection legislation indicators, see OECD *Employment Outlook, 2004*, background material – *www.oecd.org/searchResult/0,2665,en_2649_33729_1_1_1_1_1,00.html*.
17. Relaxing the use of atypical contracts only, with no change in regular contract regulations, has been shown to contribute to a duality of the labour market between regular and atypical work contracts in many OECD countries. (OECD, *Employment Outlook*, 2004).
18. Vodopivec and Raju (2002) view unemployment savings account as a promising option for developing countries, because they improve reemployment incentives, when compared with traditional insurance or assistance. By contrast, they recognize severance payments as the least appropriate scheme, because these adversely affect efficiency, produce high litigation costs and offer limited risk-pooling.
19. Parents and students tend to make short-term rational choices: the education system is of poor quality; students and parents have a high discount factor; and they trade-off a small amount of extra income against a much higher but uncertain, or perhaps unattainable, income because the school system is not good enough to ensure they will get higher qualifications, which leads to early school leaving.

20. *Cf. OECD Review of SME policies*, 2006.
21. The performance of the education system up to the upper-secondary level and policies to improve outcomes were discussed in depth in the 2005 *Economic Survey of Mexico*. See also Guichard (2005). A Review of higher education in Mexico was published by the OECD in November 2006. Mexico's experience with "Emerging models of learning and innovation" was discussed in a conference in Merida (2006) (see *www.oecd.org/* and *www.emergingmodelsoflearning.com/*).
22. ALMP include public employment services and administration, training programmes for the unemployed and inactive, youth measures, subsidized employment and measures for the disabled.
23. Participation of the labour force (25-64 year-olds) in adult learning is adjusted to full-year, full-time equivalent to take into account not only the share of adults participating, but also the duration of training among participants. At the low end, Mexico's Adjusted Participation rate (APR) is around 1%, based on census data for 2001, while in countries with a strong tradition of training, APRs range from 4 to 6%; countries, such as the US, Canada and Korea, are in an intermediate position. See OECD (2005), *Promoting Adult Learning*.
24. OECD *Job strategy revisited* (2006); *Employment Outlook* 2006, Chapters 3 and 4.
25. For more information on the Occupational Competency Standardisation and Certification Council (CONOCER) created in 1995 to plan and organize the standardisation and certification of labour competence systems, see *www.ilo.org/public/english/region/ampro/cinterfor/ifp/conocer/index.htm*.
26. States receive federal grants earmarked for technological and adult education (*Fondo de Aportaciones para la Educación Tecnologica y de Adultos*, FAETA), which are equivalent to about 1% of total earmarked grants for health, basic education, etc. The FAETA funds are allocated to individual states on the basis of actual spending, mainly reflecting historical costs on existing facilities and human resources employed under such programmes, rather than based on objective needs criteria (Joumard, 2005). There is little information available to evaluate the cost-effectiveness of the programmes.
27. Gross public social spending, including cash benefits and social services, is low by OECD standards (2001 estimates). Public social spending in net terms – once adjusted for relevant tax breaks (direct taxation and the low implicit indirect tax rate in Mexico) – is slightly higher than in gross terms, as a percentage of GDP, but it still is only about half the US net social spending effort and one third of the OECD average.
28. Those who are not employed in the formal sector are not covered, but even among those employed in the formal sector, evasion of social contributions limits the effectiveness of social security in preventing poverty.
29. The proportion of the population under the food poverty line, the lowest poverty line in Mexico, dropped from 42 to around 28% between 2000 and 2004. The proportion of those under the 2nd line (capacities poverty) also dropped over the period.
30. SEDESOL estimated that in 2005 20% of the population in the poorest decile and 40% in the following one were not covered by *Oportunidades* (see World Bank, 2005).
31. Moreover, women in urban areas are likely to be engaged in some sort of work activity away from home, and might find it difficult to comply with obligations under the programme. This might to some extent explain why the programme has been much more effective in rural areas.
32. According to the WHO, catastrophic spending is defined as out-of-pocket spending for health that is higher than 30% of disposable income of the household (*i.e.* net of essential goods and services and health-related taxes). Impoverishing spending occurs when the health-related expenditure pushes the household below a poverty threshold.
33. In 2007, in particular, severe lacks of medication were reported in the *Seguro Popular* – as in much of the rest of the national health system. To facilitate access in rural areas, a new programme of mobile medical units (*Caravanas de la Salud* or "health buses") was announced. It aims at reaching 200 poor municipalities (dispersed over 22 states) – with a focus on preventive care. The programme will add mobile units to existing ones (*e.g.* the IMSS or *Oportunidades* fleets). It is expected to reach 1.5 million inhabitants, while avoiding duplications. If effective, its scale will probably have to be expanded.
34. For instance, *Procampo* – a cash-transfer programme for farmers, with a target population of 2.8 million – is not exclusively pro-poor; but in practice, it functions to some degree as a safety net in rural areas. Because it is the only agricultural programme that does not exclude rural families who are landless or have very small plots, it does reach subsistence farmers (OECD, *Agricultural and Fisheries Policies in Mexico*, 2006). *Procampo* is progressive, although not in an absolute sense (the

poorest half of the rural population receiving the same share of transfers as the highest decile). Among the poor households it reaches, however, few are not covered already by *Oportunidades* or another social programme (World Bank, 2005).

35. DICONSA, which was created in 1972, operates 22 000 public rural stores, while the milk subsidy programme, LICONSA, was introduced in 1944. DICONSA's objectives are ambiguous. LICONSA for its part may have a regressive incidence: the share of benefits going to the poorest quintile is about 12%, while that reaching the richest half of the population is 50% (Scott, 2005).

36. The design of earmarked grants (*aportaciones*) tends to perpetuate regional disparities, with poorer states generally receiving less than richer states, notably for health care and for education. Only the grant earmarked for basic infrastructure is redistributive across states and municipalities. Although the distribution of transfers through revenue-sharing (*participaciones*) has been improved, it still achieves little equalisation. *Cf.* OECD *Economic Survey of Mexico* 2005, and I. Joumard (2005).

37. Ministry of Health estimates for 2002, based on the potential population covered by the IMSS. In practice, only ¾ of the people entitled to IMSS actually use it. The proportion of the uninsured population using federal and state health services is a little higher, so that spending per actual user in the IMSS is even higher. There are also large disparities in per capita spending among the various social security schemes, with spending on health care for PEMEX workers and their dependants being more than four times higher than what IMSS spends per beneficiary.

38. The average retirement age of IMSS staff is currently 53. Under the new regime, workers hired up until October 2004 must complete 28 years in the job in order to have a pension with a replacement rate of around 130%; workers hired since then will need to work 35 years (with a replacement rate of 100%).

39. Under the "ideal" arrangement, a number of insurers (social security or private) would be purchasing health care from providers (public and private, hospitals and practitioners. This kind of transformation has been undertaken by many OECD countries (Docteur and Oxley, 2004). A detailed review of Mexico's health system and reforms underway is provided in OECD (2005).

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ANNEX 5.A1

Training programmes

The National Council of Education for Life and Work (CONEVyT) was created to take responsibility for policy design and programme evaluation in the area of adult learning. Furthermore, to improve co-ordination in policy design and implementation of training programmes, the Ministry of Labour and state governments have joined their efforts in the National Employment Service (SNE), which manages employment programmes. It helps job seekers with different employment services, including the provision of information and guidance on job vacancies and training opportunities. The SNE uses diverse communication channels to support job seekers, including for instance the Internet (with Chambanet) and telephone (with Chambatel).

As in many other OECD countries, Mexico has set up a comprehensive system of information on learning opportunities and career guidance. A system of 1 500 one-stop centres, the *Plazas Comunitarias*, has been developed throughout the country. These *Plazas Comunitarias* are an initiative of Mexico's National Institute for Adult Education (INEA). Similar initiatives have been developed in joint partnerships with US institutions to serve Spanish-speaking communities in the United States. These efforts should be further strengthened. Counselling and face-to-face discussion between individuals and professional experts are well-suited to low-skilled individuals, and are a useful complement to information posted on the web.

The main responsibility for adult training lies with the Labour Ministry (STPS). The objective of the Ministry is to improve training accessibility for the workforce, without focusing on particular categories of workers (by age, education level or occupation). One of the main pillars of the strategy, however, the Training Support Programme (PAC, see below) is typically targeted to small and medium-sized enterprises (SMEs) to help them with technological change. Mexico's strategic support programmes for SMEs include several actions for upgrading entrepreneurial human capital with a focus on facilitating the absorption of new technologies. Another line of action aims at smoothing the transition of workers from declining sectors to growth sectors. The "training voucher" (*Becate*), for instance, which is one of the various schemes to provide training support aims at retraining unemployed workers. This is an important complementary policy required to obtain the full benefits from greater trade liberalisation by facilitating the rapid the reallocation of labour resources to more productive sectors.

In general, public financial support goes to the trainees or the firms, helping to stimulate demand rather than to training operators. This practice is consistent with other OECD countries experience. In many OECD countries, training policy has shifted from direct subsidisation of external providers (public or private) of training services to co-financing schemes – where employers and employees bear some of the costs – which can be designed to increase incentives for employers, for individuals, or for both, to invest in training. Mexico was one of 17 OECD countries which participated in a review of policies and practices in adult learning: for more details [see OECD (2005), *Promoting Adult Learning*].

Promoting adult learning is also seen in Mexico as part of the strategy to reduce poverty. In this context, various programmes, designed by the Agriculture Ministry (SAGARPA) or the Social Development Ministry (SEDESOL) are targeted at highly marginalised areas. There are also innovative initiatives at the state level, Chiapas for instance, to meet training needs of indigenous communities.

Selected training programmes of the Ministry of Labour

The training support programme – PAC, Programa de apoyo a la capacitacion, formerly known as CIMO – is focused on employees and employers from small and medium-sized enterprises (SMEs), where the lack of training is the most severe. It provides co-funding for training in enterprises. Representatives from the productive sector, local authorities and chambers of commerce are involved. The programme was broadened in 2005 to include family businesses.

The training voucher for displaced workers (*Becate*, formerly PROBECAT), provides support to unemployed and under-employed workers who need to update and complement their knowledge or work aptitudes. In this case, the beneficiary gets a voucher which is used to pay for the training services (tuition and materials) for a period of no longer than six months, in any of the training centers registered for this purpose. The voucher is valid only for regular courses offered in these training centers, with a preference for the privately-owned ones. The *Becate* programme pays the cost of the voucher up to an amount between one and one and half times the minimum monthly salary of the corresponding geographic zone, varying with the area of expertise and the academic level of the training programme. The registered training centers enroll beneficiaries of the *Becate* programme in the regular course it provides when the worker hands out the voucher. The candidates have the possibility of choosing the training center, taking into account the advice of SNE staff. The scale of the programme has increased over the years. By the late 1990s already about 550 000 people per year were participating. Although evaluations done in earlier years suggested that the programme was effective in reducing unemployment and increased earnings, more recent evaluations showed disappointing results (Wodon and Minowa, "Training for the urban unemployed: a reevaluation of Mexico's training programme", PROBECAT, 2000). This is not surprising as many retraining programmes in the OECD have been found to have only a limited impact over time. The fact that the programme may not be beneficial in the medium to long run for participants does not mean it should be suppressed. It can be considered as a temporary safety net in the absence of any other protection in case of job loss. It can also be improved to provide training with lasting impact.

The *E-Training Program for the workforce* (PROCADIST) was created to take advantage of new technology as a mean to provide training and strengthen the workforce competence. The programme, which uses electronic media, aims at facilitating interactions between tutor and participants, and among participants.

Upgrading entrepreneurial competences in SMEs

The Programme for Training and Strengthening SME capabilities aims at upgrading entrepreneurial competences in management, administration and marketing to allow a wider and deeper absorption of new technologies. It facilitates access to training for owners and managers of SMEs, leaving aside micro firms. Several actors at the federal and state levels are involved in implementing the programme, including the Ministry of Economy, state governments, the National Committee for Productivity and Technological Innovation introduced in 1997 (*COMPITE*), training centres, chambers of commerce and educational institutions. Three hundred *COMPITE* consultants have been providing systematic and methodological training to SMEs since 2000, the number of beneficiaries rising to 15 000 in 2006.

At the start, only a limited number of entrepreneurs benefited from training, but as from 2004, new activities of the SME Fund increased access by making entrepreneurs aware of different possibilities to participate in networks, chains and entrepreneurial associations. In 2005, the range of available training programmes was widened further with the systematic inclusion of innovation as a principal aim of human capital upgrading. In 2004-05, *the Programme for Training and Strengthening SME Capabilities* absorbed nearly 13% of financial resources of the SME-Fund. Well focused *COMPITE* workshops and interviews with workers and managers, however brief, seem to have led to significant productivity improvements.

At the same time, "former" training programmes for micro firms were strengthened: for instance, a programme for the retail sector, *PROMODE (Programa de Capacitacion y Modernizacion del Comercio Detallista)*, which was introduced in the late 1990s has helped nearly one million persons to open retail shops (micro firms in commerce) or improve their operations. The target for 2006 is to provide training support for 160 000 micro firms in the retail sector.

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