OECD Studies on SMEs and Entrepreneurship

SME and Entrepreneurship Policy in Brazil 2020

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Foreword

This publication presents the OECD country review of small- and medium-sized enterprise (SMEs) and entrepreneurship policy in Brazil. It was prepared at the request of the Brazilian Ministry of Industry, Foreign Trade and Services (MDIC), which was merged into a new and enlarged Ministry of Economy in early 2019. This publication is part of the series of OECD Country Reviews on SME and Entrepreneurship Policy undertaken by the OECD Centre for Entrepreneurship, SMEs, Regions and Cities (CFE). Previous country reviews have covered Canada, Indonesia, Ireland, Israel, Italy, Kazakhstan, Mexico, Poland, the Russian Federation and Thailand.

The series provides a tool for assessing the design and implementation of SME and entrepreneurship policy, identifying areas for improvement and sharing policy experiences among countries. The reports typically include one or two thematic chapters on issues of special relevance for the government, as agreed between the OECD and the country concerned. This review has two thematic chapters, one on SME export policies and one on the innovative start-up ecosystem.

The report shows that SMEs are critical for economic growth and social inclusion in Brazil, but that the gap in labour productivity between Brazilian SMEs and large companies is wider than in the OECD area. Brazil is also characterised by widespread business ownership, while growth-oriented entrepreneurship is much less common. The business environment presents some challenges for SMEs, for example with respect to the credit market, business regulations and taxation, although important reforms have recently been introduced in each of these areas. SME policy in Brazil rests on the principle of preferential treatment for micro and small businesses, which is enshrined in the Federal Constitution. Accordingly, the main federal policy for SMEs, *Simples Nacional*, consists of a preferential tax and regulatory regime for micro and small enterprises. There are also many targeted programmes for SMEs, some of which could be scaled up.

The report offers policy recommendations across a number of areas. Preferential tax regimes for micro and small enterprises could be tweaked within the context of a broader reform of the corporate tax system. Competition in the credit market could be strengthened through the further development of alternative domestic lenders, such as credit co-operatives. Government-backed loan guarantees could also be more actively promoted in the domestic credit market. More innovation policy spending could go to start-ups and SMEs by scaling up some successful programmes and by introducing adjustments to federal R&D tax credits. Export finance and supplier development programmes could receive more resources, while women's entrepreneurship would benefit from a larger number of programmes specifically aimed at women-owned businesses.

The OECD review series is based on a standard methodology, which includes a diagnostic questionnaire completed by national government authorities, a fact-finding mission by an OECD team to hold detailed interviews with policy and business stakeholders, and discussion of a draft report at a peer review session in the OECD Working Party on SMEs and Entrepreneurship (WPSMEE), which operates under the auspices of the Committee on Industry, Innovation and Entrepreneurship (CIIE). The report of the Brazil review was discussed by the WPSMEE in October 2019 and approved by written procedure in December 2019 [CFE/SME(2019)10].

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The study was co-ordinated and edited by Marco Marchese (Policy Analyst, CFE). The report was drafted by a team involving Marco Marchese (main responsibility for Chapters 1 and 2 and parts of Chapters 3 and 5); Kris Boschmans (Policy Analyst, CFE – main responsibility for Chapter 3 and parts of Chapter 5); Marco Bianchini (Policy Analyst, CFE – main responsibility for Chapter 8 and parts of Chapter 5); Lois Stevenson (independent consultant – main responsibility for Chapter 6); Ricardo Arroja (independent consultant – main responsibility for Chapter 7); Amanda Bullough (University of Delaware – main responsibility for parts of Chapter 5); and Roseli Alves (seconded staff from Brazil's Ministry of Economy – main responsibility for Chapter 4). Additional written inputs were prepared by Erika Soki (Intern, CFE), while statistical support was provided by Thanh Tran (Junior Policy Analyst, CFE). Anne Legendre (Statistician, Economics Department) prepared the "Basic Statistics of Brazil" page. Heather Mortimer Charoy (Assistant, CFE) provided project support.

The report benefited from comments of the members of the Steering Group of the review, who also provided written inputs in the form of good-practice policy examples (international learning models) from their own respective countries. The members of the Steering Group were Deborah Matthews and Peter Whittington (Department for Business, Energy and Industrial Strategy, United Kingdom), Ana Costa Paula (Ministry of Economy, Portugal), and Tanja Wulf (Federal Ministry for Economic Affairs and Energy, Germany). Jens Arnold (Head of the Country Desk of Argentina and Brazil, OECD Economics Department) and Miriam Koreen (Senior Counsellor, CFE) also provided valuable comments to the report.

This report could not have been drafted without the support and continued engagement of key stakeholders from Brazil. Numerous individuals from government organisations, associations, academics, think tanks and other institutions provided vital information and feedback throughout the drafting process. Their assistance during the kick-off and fact-finding missions, the detailed information submitted through the questionnaire, and constructive comments on earlier draft versions of this report proved crucial to the finalisation of this study. Special thanks are reserved for José Ricardo de Freitas Martins da Veiga (former Secretary for Micro and Small Businesses, Federal Government of Brazil) and Patricia Lima Favaretto (Trade Analyst, Federal Government of Brazil) for providing tireless support throughout most of the project duration. Liliane Trinidade de Sousa (Trade Analyst, Federal Government of Brazil), Pabline Araújo Reis (Trade Analyst, Federal Government of Brazil), Jorge Hargrave (Programme Director, Federal Government of Brazil) and Juliana Natrielli (Sub-Secretary for Micro and Small Businesses, Federal Government of Brazil) also supported the project at different stages.

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Abbreviations and acronyms

ABDI	Industrial Development Agency
ABGF	Brazilian Guarantees Agency
ALI	Local Innovation Agents
ALMP	Active Labour Market Policy
ANPROTEC	Brazilian Association of Science Parks, Incubators and Accelerators
Apex-Brasil	Trade and Investment Promotion Agency
APL	Industry Business Clusters
BMP	Brazil More Productive (federal policy)
BNDES	National Bank for Economic and Social Development
BNDESPAR	BNDES subsidiary (equity participations)
BRL	Brazilian Real (national currency)
CAMEX	Chamber of Foreign Trade
CERNE	Reference Centre for Start-up Support
CGSIM	Steering Committee of REDESIM
CGSN	Steering Committee of Simples Nacional
CIT	Corporate Income Tax
CNC	National Trade Confederation
CNI	National Industry Confederation
CNPJ	National Cadastre of Legal Persons (business registry)
CNPq	National Council for Scientific and Technology Development
CONFAC	National Trade Facilitation Committee (CAMEX)
CRM	Custom Relations Management
CVM	Brazilian Securities Commission
DREI	Department of Business Registration and Integration
DSE	Simplified Export Declaration
DUE	Unified Export Declaration
ECLAC	Economic Commission for Latin America and the Caribbean (UN)
EIB	European Investment Bank
EMBRAPA	Brazilian Agricultural Research Agency
EMBRAPII	Brazilian Agency for Industrial Research and Innovation
ERP	Enterprise Resource Planning
ESC	Simple Credit Enterprise
EU	European Union
EUR	Euro
FAMPE	Guarantee Fund for Micro and Small Enterprises
FAT	Worker Support Fund
FGE	Export Guarantee Fund
FGE	Export Guarantee Fund
FGI	Investment Guarantee Fund
FGO	Operations Guarantee Fund
FGTS	Guarantee Fund of Work Time
FGV	Getulio Vargas Foundation (university)
FINEP	National Innovation Agency

FPMPE	Permanent Forum on Micro and Small Enterprises
GDP	Gross Domestic Product
GEDI	Global Entrepreneurship and Development Institute
GEM	Global Entrepreneurship Monitor Research Consortium
GTP-APL	Permanent Working Group on Industry Business Clusters
GVC	Global Value Chains
HGF	High-Growth Firms
IBD	Inter-American Development Bank
IBGE	National Statistical Office
ICMS	State-level Tax on the Sale and Circulation of Goods
ICT	Information and Communication Technology
IEL	Euvaldo Lodi Institute
ILO	International Labour Organization
IMF	International Monetary Fund
INPI	National Industrial Property Office
IP	Intellectual Property
IPEA	Applied Economics Research Institute
IPI	Federal Tax on Industrial Products
ISS	Municipal Tax on Services
LAC	Latin American and Caribbean
LAVCA	Latin America Venture Capital Association
MCTIC	Ministry of Science, Technology, Innovation and Communication
MDIC	Ministry of Industry, Foreign Trade and Services
MEI	Individual Micro Entrepreneur (policy)
MNE	Multinational Enterprises
MPE	*Micro e Pequena Empresa* (micro and small business)
MPOG	Ministry of Planning, Development and Management
MRE	Ministry of Foreign Affairs
NIT	Technology Innovation Hubs
OECD	Organisation for Economic Co-operation and Development
PEIEX	Export Qualification Programme
PIE	Enterprise Innovation Plan (federal policy)
PINTEC	National Innovation Survey
PISA	Programme for International Student Assessment (OECD)
PMR	Product Market Regulations
PNCE	National Programme of Export Culture
PNEE	National Programme for Entrepreneurship Education
PNI	National Programme of Incubators and Technology Parks
PNMPO	National Programme for Productive Microcredit
PROCOMPI	Support Programme for the Competitiveness of Micro and Small Enterprises
PROEX	Export Financing Programme
PROGER	Programme for the Generation of Employment and Income
PRONATEC	Vocational Education and Training Policy (former)
PSAI	SENAI Programme of Inclusive Actions
PSG	SENAC Gratuity Programme
PSI	Investment Support Programme (BNDES)
REDESIM	Regulation Harmonisation Policy
RIA	Regulatory Impact Analysis
RME	Women Entrepreneur Network
SCE	Export Credit Guarantee

SCE/MPME	Export Credit Guarantee for Micro, Small and Medium Enterprises
SDBS	Structural and Demographic Business Statistics (OECD)
SEBRAE	Support Service for Micro and Small Enterprises (SME Agency)
SEDE	Economic Development Departments (state-level)
SENAC	Wholesale/Retail Trade Training Organisation
SENAI	Industrial Training Organisation
SESI	Social Service of Industry
SISCOMEX	Integrated Foreign Trade System
SME	Small and Medium Enterprise
STRI	Services Trade Restrictiveness Index (OECD)
TEA	Total Entrepreneurial Activity (rate)
TJLP	Long-term interest rate (Central Bank)
TLP	Long-term rate (Central Bank)
USD	United States Dollar
VAT	Value-Added Tax
VC	Venture Capital
VET	Vocational Education and Training
WB	World Bank
WEF	World Economic Forum
WGI	Worldwide Governance Indicators (World Bank)
WTO	World Trade Organisation

Basic statistics of Brazil

Population and electoral cycle					
Population (million)	209.5		Population density per km²	25.1	(37.8)
Under 15 (%)	21.3	(17.8)	Life expectancy at birth (years, 2017)	75.5	(80.1)
Over 65 (%)	8.9	(17.1)	Men	71.8	(77.5)
International migrant stock (% of population)	0.3	(10.1)	Women	79.2	(82.9)
Latest 5-year population growth (%)	0.8	(0.6)	Latest general elections	Oct-2018	
Economy					
Gross domestic product (GDP)			Value-added shares of GDP (%)		
In current prices (billion BRL)	6 889.2		Agriculture, forestry, and fishing	5.1	(2.4)
In current prices (billion USD)	1 895.6		Industry including construction	21.6	(27.3)
Latest 5-year average GDP growth (%)	-0.8	(2.3)	Services	73.3	(70.4)
Per capita (000 USD PPP)	16.2	(47.0)			
General government					
Revenue (% of GDP)	31.3	(38.2)	Gross financial debt (OECD: 2017)	86.2	(109.5)
Expenditure (% of GDP)	38.5	(41.2)	Net financial debt (OECD: 2017)	54.2	(69.4)
External accounts					
Exchange rate (BRL per USD)	3.63		Main exports (% of total merchandise exports)		
Value in USD of BRL 1 million	273 673		Crude materials, inedible, except fuels	30.6	
PPP exchange rate (USA =1)	2.03		Food and live animals	18.3	
In % of GDP			Machinery and transport equipment	16.9	
Exports of goods & services	14.9	(55.5)	Main imports (% of total merchandise imports)		
Imports of goods & services	14.5	(51.3)	Machinery and transport equipment	36.6	
Current account balance	-1.2	(0.3)	Chemicals and related products	24.1	
Net international investment position	-32.6		Mineral fuels, lubricants and related materials	14.4	
Labour market, skills and innovation					
Employment rate (aged 14 and over, %)	54.6	(57.1)	Unemployment rate, Labour Force Survey (aged 14 and over, %)	12.0	(5.3)
Men	64.3	(65.3)	Youth (aged 14-29, %)	22.3	(11.1)
Women	45.6	(49.4)	Long-term unemployed (1 year and over, %)	5.1	(1.5)
Participation rate (aged 14 and over, %)	62.0	(60.5)	Tertiary educational attainment (aged 25-64, % 2017, OECD: 2018)	17.2	(36.9)
Mean weekly hours worked	62.0	(60.5)	Gross domestic expenditure on Research & Development (% of GDP, 2016, OECD: 2017)	1.3	(2.6)
Society					
Education outcomes (PISA score)			Public and private spending (% of GDP)		
Reading	413	(489)	Health care (2016, OECD: 2018)	9.2	(8.8)
Mathematics	384	(492)	Pensions (public, OECD: 2015)	13.1	(7.9)
Science	404	(491)	Education (public, 2017)	6.1	(4.5)
			Income inequality (Gini coefficient, OECD: 2016)	0.54	(0.31)
			Relative poverty rate (%, OECD: 2016)	24.2	(11.6)
			Median disposable household income (000 USD PPP, OECD: 2016)	4.8	(23.6)

Note: Statistics updated of 2018 unless stated otherwise. Values in parentheses are OECD averages. PISA: Programme for International Student Assessment.
Source: OECD, International Energy Agency, International Labour Organization, International Monetary Fund, World Bank.

Executive summary

This report presents the main findings of the OECD review of SME and entrepreneurship policy of Brazil, which was undertaken between the end of 2018 and 2019. This was an important transition period for Brazil, due to the election of a new government in October 2018 and the creation of a new and enlarged Ministry of Economy in January 2019, which merged the functions of four previous ministries.

The report assesses the main strengths and weaknesses of Brazilian SME and entrepreneurship policies and offers policy recommendations to help address existing challenges. It includes chapters on SME performance and entrepreneurial dynamics, the business environment, the governance of SME and entrepreneurship policy, federal SME and entrepreneurship programmes, export support, the innovative start-up ecosystem, and the local dimension of SME and entrepreneurship policy in Brazil.

Key findings

SME productivity and growth-oriented entrepreneurship need to be strengthened

SMEs play an important role for economic growth and social inclusion in Brazil, accounting for 62% of total employment and 50% of national value added, slightly below the corresponding OECD averages (70% and 55%). The difference between Brazil and the OECD area in SME contributions to employment and value added is more marked in industry than in trade and other services. Labour productivity levels between Brazil and the OECD area have diverged in the last 15 years; from a firm size perspective, productivity gaps between SMEs and large companies are wider in Brazil than in the OECD area, and especially so in industry. Low SME productivity is, among other things, the result of little innovation and export propensity among Brazilian SMEs. Business ownership and business creation are common, but there is a lack of growth-oriented entrepreneurship, both in the form of young high-growth firms and business scale-up.

The business environment presents some challenges, many of which are being addressed

The business environment presents some challenges for SMEs. Brazil is not sufficiently integrated into global trade, which is a precondition for SME participation into global supply chains; business regulations are often cumbersome; and credit market conditions are tight, notably through high interest rates and short loan maturities. Nonetheless, the federal government has introduced some important policy reforms in each of these areas. In trade policy, local content requirements have been reduced and a major free-trade agreement has recently been signed between Mercosur and the EU. A major effort has been ongoing for many years to harmonise federal, state and municipal regulations, notably through the REDESIM initiative. In addition, the Central Bank has increased competition in the credit market by easing the entry and growth of smaller financial institutions, including credit co-operatives.

Brazil also operates two important preferential tax and regulatory regimes for SMEs: *Simples Nacional* and the *Micro Empreendedor Individual* (MEI). *Simples Nacional* is the main federal policy for SMEs, to the extent that 65% of Brazilian companies operate under

this regime which accounts for one-quarter of federal tax exemptions. MEI, which is much smaller than *Simples Nacional*, is mostly aimed at own-account workers. Both policies have encouraged the formalisation and survival of micro and small enterprises. Some elements of both could be reformed within the context of a broader fiscal reform of the corporate tax system.

The Federal Constitution of Brazil grants preferential treatment to micro and small companies

SME policy in Brazil hinges on the 1988 Federal Constitution, which grants a preferential treatment in different policy areas (e.g. tax and labour law) to micro and small enterprises, to be defined based on annual gross revenues (currently BRL 4.8 million). As a result, most SME policies are aimed at this target group, whereas mid-sized enterprises are largely missing in the national policy debate. So-called *Sistema S*, which consists of organisations that do not officially belong to the government but that work under its direction, plays a key role in SME policy implementation. Co-ordination in SME and entrepreneurship policy is strong both at the policy formulation and policy implementation levels.

Brazil operates a large number of targeted programmes for SMEs, some of which could be scaled up

Government loan subsidies are the main direct policy instrument used by the federal government to foster SME development; between 2016 and 2018, the share of business loans by BNDES (Brazil's largest public development bank) granted to SMEs increased from 30.6% to 46.8% of the total. On the other hand, loan guarantees are much less common. While Brazil operates some successful innovation programmes (e.g. *Brasil Mais Produtivo* and FINEP *Conecta*), most innovation policy spending goes to large companies through two large federal R&D tax credit schemes. Entrepreneurship education is widely available in Brazil, although there is scope for streamlining the offer of firm-level management and workforce training. Finally, support for women's entrepreneurship could be enhanced, notably through more women-dedicated programmes favouring access to finance, skills development and innovation in women-owned businesses.

SME export support should be enhanced

Micro and small enterprises account for a trivial share of Brazilian exports. National SME export policies mostly focus on export-readiness (e.g. export culture and export training) and export promotion (e.g. trade missions), while export finance could be enhanced by expanding export guarantees. Supplier development programmes could also be scaled up and tweaked to include foreign multinational enterprises as possible anchor firms for local SMEs.

Brazil has a well-functioning innovative start-up ecosystem

The start-up ecosystem of Brazil consists of many public, semi-public and private organisations, which collaborate well with each other. On the upside, Brazil has a strong and effective network of business incubators and business accelerators, and there are some promising open innovation programmes that connect start-ups and small companies with large companies requiring specific technology solutions. On the downside, the patent system is affected by a severe backlog and federal R&D tax credits are virtually inaccessible to innovative start-ups. Recent reforms include a major restructuring plan at the national industrial property office (INPI) and the set-up of ad-hoc organisations tasked with the management of university intellectual property.

There is strong heterogeneity in business performance across Brazil, but also some clear regional patterns

Unsurprisingly for a country of the size of Brazil, there are some important differences in terms of business activity and business performance across its five macro-regions. Nonetheless, there are also some discernible patterns. The South and the Southeast, which are the industrial heartland of the country, show the highest business density and the largest proportion of employment in micro and small enterprises. Second, these two regions also have higher-than-average rates of SME innovation and SME export. The main local development policy at the federal level has focused on business clusters, with several studies pointing to positive effects from cluster participation on the performance of local SMEs (e.g. in terms of job creation and wages).

Selected recommendations

- **Strengthen competition** in the economy by further streamlining product market regulations, including entry regulations, and further promoting openness to trade.
- **Consider an overall reform of corporate income taxation** in which the standard system is significantly simplified (for example, adopting some of the *Simples Nacional*'s provisions), the statutory corporate income tax rate is reduced, and the income threshold of *Simples Nacional* is lowered.
- **Encourage more competition in the credit market** by simplifying entry procedures for foreign banks and by fostering the development of alternative domestic lenders (e.g. credit co-operatives and fintech organisations).
- **Increase innovation support for SMEs** through targeted measures with the aim to reduce the productivity gap with larger firms, including programmes which encourage collaborative innovation.
- **Make sure that women's entrepreneurship policies** are not limited to ensuring that mainstream programmes are available to everyone, but also include initiatives specifically targeted at women.
- **Encourage SME exports** through a comprehensive approach which stimulates the export culture, offers export training opportunities and provides export finance solutions.
- **Use supplier development programmes** to promote business linkages between local SMEs and multinational enterprises (MNEs), with a view to increasing the participation of Brazilian SMEs in global supply chains.
- **Introduce carry-forward or cash-refund provisions in existing R&D tax credits** to make them more appealing to innovative start-ups operating under the real-profit corporate income tax regime.
- **Address the patent backlog** at INPI by modernising and digitalising the patent application and review process, in line with the recently launched restructuring plan. As part of this plan, consider contracting out the first stages of the patent review process to external accredited institutions (as done in Japan).
- **Give priority to export-oriented sectors** in the national cluster policy with a view to supporting SME internationalisation.

Chapter 1. Assessment and recommendations

This chapter summarises the main findings and policy recommendations for the full report. Each section reflects the main messages of each thematic chapter: i) small- and medium-sized enterprise (SME) performance and entrepreneurial dynamics; ii) the business environment for SMEs and entrepreneurship; iii) the governance of SME and entrepreneurship policy; iv) federal programmes for SMEs and entrepreneurship; v) SME export policies; vi) the innovative start-up ecosystem; and vii) The local dimension of SME and entrepreneurship policy.

Preamble

The review of SME and Entrepreneurship Policies of Brazil was undertaken between 2018 and 2019, an important transition period for Brazil. Following general elections in October 2018, in January 2019 a new government was sworn in. The new government instituted a major change in government structure, notably with the creation of a super Ministry of Economy that merged four previous ministries: the Ministry of Finance, the Ministry of Industry, Foreign Trade and Services, most of the Ministry of Labour and the Ministry of Planning, Development and Management.[1]

The Ministry of Economy has, therefore, become the main player in national SME and entrepreneurship policies, notably through the Special Secretariat for Productivity, Employment and Competitiveness, which works on productivity-related issues; the Special Secretariat for Federal Revenues, which follows the implementation of *Simples Nacional*, the preferential tax and regulatory regime that is also the main federal policy for micro and small businesses; and the Special Secretariat for Foreign Trade and International Affairs, which is responsible for policies related to business internationalisation.

Two SME definitions are mostly used throughout the report. The first, employment-based, defines SMEs as companies with less than 250 people employed. It is mostly used in Chapter 2 of the report (SME performance and entrepreneurial dynamics in Brazil), as it allows a comparison between similar-sized enterprises in Brazil and the OECD area. Within this definition, micro-enterprises are defined as companies with less than 10 people employed, small enterprises have between 10 and 49 people employed, and medium-sized companies have between 50 and 249 people employed. The second definition follows the Brazilian legislation, notably *Lei Complementar* 123/2006, which defines micro and small enterprises as companies with annual gross turnover respectively below BRL 360 000 and between BRL 360 000 and BRL 4.8 million. In this case, the acronym MPE (*micro e pequena empresa*) is used to make a distinction from the first SME definition.[2] This second definition is used in most of the rest of the report.

SME performance and entrepreneurial dynamics in Brazil

Wholesale and retail trade play a large role in the Brazilian business sector

One of the main features of Brazil's business sector is the large proportion of companies and employment in wholesale and retail trade, i.e. 53% and 33% of the respective totals.[3] By way of comparison, in the OECD area, trade-based companies account for 26% of the total stock of companies and 24% of total employment. Brazilian trade-based companies are, on average, small and feature low average labour productivity, making a large trade sector one of the causes of slow productivity growth in Brazil. Brazil's share of industry (which includes manufacturing) in national value added is in Brazil similar to the OECD area, 36% vs. 33%, but lower than in other main emerging markets, which is a consequence, *inter alia*, of Brazil's limited integration into global trade and global supply chains.

Labour productivity levels between Brazil and the OECD area have diverged in the last 15 years

Although Brazil has grown more rapidly than the OECD average in the last 15 years, labour productivity levels between Brazil and the OECD have diverged. In 2016, Brazil's labour productivity was one-third of the OECD average (33%), similar to Colombia (34%), but lower than Costa Rica (45%), Mexico (47%) and Chile (56%). Productivity gaps between

Brazil and the OECD area are largest in industry and trade, while they are smaller in services and construction.

Average labour productivity grows less linearly in Brazil than in the OECD area (from a firm-size perspective)

From a firm-size perspective, average labour productivity grows less linearly in Brazil than in the OECD area. Brazil's micro and small companies have similar average labour productivity, with the latter that only starts to grow from mid-sized firms. In industry, labour productivity growth along the firm size distribution is even flatter: average labour productivity in micro, small- and medium-sized companies does not change considerably, but it leapfrogs in large companies (i.e. twice as large as in mid-sized firms). Thus, the gap in labour productivity between SMEs and large companies is comparatively wider in industry than in the rest of the economy.

SMEs are not much involved in innovation and exports

Business R&D (research and development) is a main source of technological innovation, but only 4% of small companies (10-49 people employed) and 18% of mid-sized companies (50-249 people employed) undertake R&D in Brazil, compared with 34% of large companies (250+ people employed). In total, SMEs only account for 21% of total innovation spending by innovative companies in Brazil. As a result, only 4.8% of Brazilian SMEs (10-249 people employed) undertake product/process innovation and only 3.7% have introduced new products to the market.

There are many reasons behind the low innovation propensity of Brazilian SMEs, but one reason at the policy level is that national R&D tax credits are only available to companies under the "real profit" (*lucro real*) corporate income tax regime, whereas most SMEs operate under either the preferential income tax regime, *Simples Nacional*, or the presumptive profit (*lucro presumido*) corporate income tax regime. Going forward, SMEs would benefit from more targeted innovation support, including measures aimed at enhancing collaboration with research organisations. R&D tax credits could also be reformed to make them friendlier to innovative start-ups.

With respect to export performance, data from SEBRAE (i.e. the *de facto* national small business agency) show that MPEs (i.e. companies with annual gross revenues below BRL 4.8 million) are nearly half of the total number of exporting companies (41%), but account for a trivial share of the total export volume. The average export value of an MPE is only USD 131 600, which is the result of many MPEs being one-off exporters.

Business ownership and business creation are common, but more growth-oriented entrepreneurship is needed

Business ownership and business creation are very common in Brazil, but they are mostly the outcome of lack of other job opportunities. Brazil's self-employment rate (the rate of employers and own-account workers in total employment) is more than twice the OECD median value (32% vs. 15%), but the average SME size did not change over the period 2008-14, although this was a time of rapid growth at the national level. Similarly, there is a lot of business churning (i.e. the process by which new companies are created and older ones exit the market) in the Brazilian economy, but this process has not been associated with strong job creation.

Lack of growth-oriented entrepreneurship is also confirmed by business statistics on high-growth firms and survey data from the Global Entrepreneurship Monitor (GEM) research consortium. While Brazil has a high proportion of high-growth firms[4], 5.4% in 2015, these are relatively old and large by international standards. The average age of a Brazilian high-growth firm is nearly 14 years, and only 0.75% of companies aged less than five years are high-growth (i.e. gazelles). Furthermore, while over half (55%) of Brazilian high-growth firms are small, 60% of the workforce in high-growth firms is in large companies.

With respect to GEM survey data, Brazil's Total Entrepreneurial Activity (TEA) rate is high from an international perspective (18% compared with the OECD average of 11%), but only 6% of those involved in TEA in Brazil expect to create six or more jobs in the next five years (i.e. the rate of high job creation expectation), compared with 24% in the OECD area.

Brazil continues to have a large informal sector

Business statistics only cover the formal sector. However, Brazil's informal economy is larger than in countries at similar levels of income, suggesting that there are specific institutional and legal barriers, such as the complex tax system, which makes informality particularly widespread in Brazil. In this respect, the main business formalisation policy of the federal government – i.e. the *Micro Empreendedor Individual* (MEI) tax and regulatory regime – has proved successful in bringing more own-account workers into the formal sector.

Selected recommendations on SME performance and entrepreneurial dynamics

- Strengthen competition in the economy by further streamlining product market regulations, including entry regulations and further promoting openness to trade.
- In the frame of SME policies, consider reducing generic support for wholesale and retail trade and strengthening support for knowledge-intensive activities in both manufacturing and services.
- Increase support for collaborative innovation between SMEs, on the one hand, and larger companies and research organisations, on the other.
- Encourage SME exports through a comprehensive approach which stimulates the export culture, offers export training opportunities and provides export finance solutions.
- Foster growth-oriented entrepreneurship through targeted programmes such as business incubators and business accelerators, making sure that the latter are open to companies of different size, age and sector.
- Increase awareness of the MEI regime with a view to further encouraging business formalisation.

The business environment for SMEs and entrepreneurship in Brazil

Brazil has made important strides in the levels of education, but important challenges remain

Brazil has made important strides when it comes to education; between 2007 and 2017, the proportion of the population aged 25-34 with upper secondary and tertiary education increased respectively by 17% and 7%. Nonetheless, there are still a number of challenges to address. Over half of the population aged 25-64 has less than upper secondary education; 17% within the same age groups lacks primary education; the rate of enrolment in the education system still drops considerably after the age of 14. Brazil also scores worse than most Latin American countries in the OECD Programme for International Student Assessment (PISA) (e.g. Argentine, Chile, Costa Rica, Mexico and Uruguay).

Brazil has recently introduced an important labour market reform, but active labour market policies continues to be tilted to self-employment support

In 2017, Brazil introduced a major reform to increase flexibility in the labour market by strengthening provisions related to probation periods, fixed-term contracts, intermittent work and labour outsourcing. This reform, among other things, has reduced the number of labour lawsuits.

A peculiarity of Brazil is that above half of spending on active labour market policies (ALMP) goes to self-employment support, while only 42% is spent on employment subsidies. This distribution of spending is unusual and could be adjusted, for example by reforming *Abono Salarial* to help employers recruit first-time job seekers and disadvantaged workers. This reform could also support the scale-up of Brazilian SMEs.

Vocational education and training policies have recently been reformed to increase their effectiveness

Until the last federal elections of October 2018, the main national policy for vocational education and training (VET) was PRONATEC (*Programa Nacional de Acesso ao Ensino Técnico e Emprego*), which between 2011 and 2017 reached about 8 million students through a budget of BRL 14.5 billion. Evaluations of PRONATEC have pointed to modest impacts on the employment and wages of participants, with the exception of the part of the programme run by the former Ministry of Industry, Foreign Trade and Services (MDIC), which achieved better results through a closer relationship with the private sector in the identification of local skills needs.

The new government is expected to launch in 2019 a new flagship VET policy called *Emprega Mais* (Employ More), which will pursue three main objectives: the re-insertion of the unemployed in the labour market; the upskilling of existing workers; and the inclusion of the youth in the labour market. *Emprega Mais* should learn from the experience of PRONATEC, notably about the importance of taking inputs and feedbacks from firms when designing the content and scale of skills training.

Recent reforms have aimed to strengthen Brazil's participation in global trade

Brazil is not sufficiently integrated into global trade, which is a precondition for SME participation into global supply chains. Trade flows (i.e. the sum of imports and exports) were only 29% of national gross domestic product (GDP) in 2018, compared with 56% of the world average, while the foreign value-added content of gross exports, a proxy for

backward linkages in global supply chains, amounted to 10.2%, compared with the world average of 16.5%. Different simulation exercises convene that the potential benefits of trade liberalisation would be large, including for SMEs.

Brazil has recently undertaken some important trade policy reforms, such as a reduction in the number of local content requirements and the recent free trade agreement negotiated by the EU and Mercosur (June 2019). These steps go in the right direction and should also favour SME internationalisation, although the EU-Mercosur free trade agreement will have to be ratified by national parliaments to come into effect.

Brazil's corporate tax system is expensive and complex for businesses

Tax revenues amount to 32.2% of national GDP in Brazil, close to the OECD average (34.2%), but well above the Latin American and the Caribbean (LAC) average (22.7%). Against this backdrop, Brazil's statutory corporate income tax (CIT) rate and non-wage labour costs are particularly high. In addition, tax compliance is made difficult by the high number of taxes and the complexity and predictability of tax rules (Brazil ranked 184th out of 190 countries in the "paying taxes" dimension of the World Bank's 2019 Doing Business report).

Brazil has two major preferential tax regimes for micro and small businesses

Brazil operates two important preferential tax regimes for micro and small businesses: *Simples Nacional* and the *Micro Empreendedor Individual* (MEI). In different forms and with different names, *Simples Nacional* has been in place since 1996. It allows MPEs to lump the payment of eight different taxes into a single one and to receive preferential tax rates which change depending on the type of activity and annual revenues.

The fiscal advantage from *Simples Nacional* is significant, to the point that 65% of Brazilian companies operate under this regime, making *Simples Nacional* the main federal SME policy. In 2015, based on estimates from the Special Secretariat for Federal Revenues, *Simples Nacional* accounted for 25.63% of total federal tax exemptions, corresponding to BRL 69.2 billion. Like other preferential tax regimes, *Simples Nacional* has been reported to cause "threshold effects" by which business growth is discouraged beyond the legal revenue threshold set out in the law.

Going forward, any reform of *Simples Nacional* should go hand in hand with an overall reform of the Brazilian tax system to make the latter simpler and less costly for all businesses. A mere abolition of *Simples Nacional* could, indeed, push micro and small companies towards the informal sector, defeating any eventual purpose to increase tax revenues. A possible broad tax reform could hinge on three linchpins. First, the corporate tax system should be simplified, including by adopting some of the provisions of *Simples Nacional* and extending them to the whole enterprise population. Second, Brazil could gradually decrease its statutory corporate income tax from 34% to a level between 20% and 25%, in line with the average of OECD member countries. Third, the income threshold of *Simples Nacional* could be lowered to approach those of other countries, such as Colombia or Mexico.

A second preferential tax regime for micro and small enterprises is the *Micro Empreendedor Individual* (MEI), a policy introduced in 2009 to support the formalisation of micro-enterprises employing no more than one worker and with annual gross revenues below BRL 81 000. Under this regime, the micro-entrepreneur pays a single monthly amount that covers pension contributions and tax duties. MEI is a relatively inexpensive

policy, accounting for 0.52% of federal tax exemptions (BRL 1.4 billion), and there are signs that it has supported the formalisation of micro-enterprises and strengthened the survival of own-account workers.

However, cases of misuse of MEI have also been reported under the so-called practice of *pejotização*. Under this practice, employers contract workers who should be hired as employees as MEI self-employed to avoid paying social contributions and other social obligations. Going forward, the federal, state and local governments should tackle this abuse to guarantee the long-term financial sustainability of this policy.

Product market regulations have been simplified and harmonised

The government has recently introduced some important reforms to make doing business easier in Brazil, including a regulatory guillotine to revoke obsolete laws that have no longer legal effect and mandatory regulatory impact analysis (RIA) on federal regulations and normative acts expected to have an impact on businesses. In the future, one of the priorities will be to continue streamlining and harmonising federal, state and municipal regulations, as currently done by the federal REDESIM initiative, as well as to expand the use of RIA across all government ministries and agencies.

Credit market conditions are tight in Brazil

Credit market conditions are generally tight in Brazil, the main reported problems being high interest rates, collateral requirements and short loan maturities. This is the consequence of a number of factors, among which high banking industry concentration, long insolvency procedures, high taxation of financial institutions and high credit default rates.

Brazil's Central Bank has recently introduced some important reforms to ease credit conditions. Since 2017, trade receivables can be used as collaterals, which will especially help SMEs with fewer collateral assets. Still, since 2017, the Central Bank has applied proportional treatment in bank prudential regulations, taking into account the institution's size and risk profile. This has reduced licensing requirements and entry costs for smaller financial institutions – notably peer-to-peer lending companies and platform lending companies – which has in turn increased competition in the credit market. Competition in the credit market has also been strengthened by a new regulation that allows credit co-operatives to take savings deposits and to issue trade notes (*letras financeiras*), which will put these institutions in a better position to compete with larger financial institutions Finally, credit bureaus have been allowed to collect and share positive information on individuals without their prior approval, which will help reduce information asymmetries in credit markets.

Equity finance is well developed by regional standards

Brazil has the largest venture capital (VC) market in Latin America, both in absolute terms and relative to national GDP. A recent reform by the Brazilian Securities Commission has increased the number of assets eligible for equity investment, divided funds in different categories, and reduced restrictions to invest abroad. Equity crowdfunding has also been formally authorised since 2017. In addition, there are a number of funds backed by public development bank BNDES (*Banco Nacional de Desenvolvimento Econômico e Social*) and the national innovation agency FINEP (*Financiadora de Estudos e Projetos*), which invest in promising start-ups and SMEs.

Selected recommendations on the business environment for SMEs and entrepreneurship

- Improve support for vocational training through the new *Emprega Mais* programme, making sure that training courses benefit from inputs and feedbacks from the private sector.
- Consider an overall reform of corporate income taxation in which the standard system is significantly simplified (for example, adopting some of the *Simples Nacional*'s provisions), the statutory corporate income tax rate is reduced, and the income threshold of *Simples Nacional* is lowered.
- Increase oversight of MEI to ensure that this policy is not used by employers to contract people who should be legally hired as employees as self-employed workers (i.e. the so-called practice of *pejotização*).
- Expand the use of regulatory impact assessment (RIA) by establishing an independent body comparable to CONAMER (National Commission for Regulatory Improvement) in Mexico.
- Encourage more competition in the credit market by simplifying entry procedures for foreign banks and by fostering the development of alternative domestic lenders (e.g. credit co-operatives and fin-tech organisations).
- In line with the recent regulation of electronic trade notes and centralised registration of payment receivables, continue to improve, digitalise and centralise the registry for movable collateral assets with a view to strengthening secured business lending.
- Reform insolvency procedures by streamlining the overall process (e.g. enforcing deadlines within the foreclosure procedure), encouraging out-of-court settlements and strengthening creditor rights (e.g. the right to have a say on re-organisation plans).

The governance of SME and entrepreneurship policy in Brazil

Brazilian SME policy is based on the principle of preferential treatment

SME policy in Brazil is enshrined in the 1988 Federal Constitution, which granted a "favoured, differentiated and simplified treatment" (i.e. preferential treatment) to micro and small companies, to be defined based on annual gross revenues, in different policy areas such as taxation, regulations, pension contributions, labour law, access to credit and business development (Article 170 and Article 179).

Today, the main federal law that governs the activity of micro and small enterprises is *Lei Complementar* 123/2006, which integrates the provisions of *Simples Nacional* and MEI (see above) and sets out the main programmes supporting micro and small companies (MPEs). One of the main achievements of this law has been to extend *Simples Nacional* to all levels of government (federal, state-level and municipal), whereas it only applied to the federal level until 2016.

Most policies and programmes are, therefore, conceived in Brazil for micro and small companies, which are also the core constituency of the *de-facto* small business agency

SEBRAE (*Serviço Brasileiro de Apoio às Micro e Pequenas Empresas*), whereas mid-sized companies are largely missing in the national policy debate despite their stronger export and innovation potential.

The Ministry of Economy is the main ministry responsible for SME and entrepreneurship policy

The Ministry of Economy is the main ministry responsible for SME and entrepreneurship policy. This new Ministry was created in January 2019 from the merger of four previous ministries: the Ministry of Finance, the Ministry of Industry, Foreign Trade and Services, most of the Ministry of Labour, and the Ministry of Planning, Development and Management. Seven special secretariats operate in the new Ministry of Economy, with four of them most relevant to new and small businesses: i) the Special Secretariat for Productivity, Employment and Competitiveness, which is responsible for many programmes targeted at MPEs; ii) the Special Secretariat for Federal Revenues, which is responsible for the two preferential tax regimes, *Simples Nacional* and MEI; iii) the Special Secretariat for Simplification and Digital Government, which follows the implementation of REDESIM, the initiative that aims to harmonise local business regulations across states and municipalities; iv) and the Special Secretariat for Foreign Trade and International Affairs, which is responsible for policies related to business internationalisation, including by SMEs.

In addition to the Ministry of Economy, two other relevant players are the Ministry of Foreign Affairs (*Ministério das Relações Exteriores*, MRE) and the Ministry of Science, Technology, Innovation and Communication (*Ministério da Ciência, Tecnologia, Inovações e Comunicações*, MCTIC), notably in their respective competency areas: business internationalisation and technology-based entrepreneurship. The Ministry of Agriculture and the Ministry of Tourism also design policies that affect the life of many small businesses, including small farmers, although the latter are not included in the analysis of this report.

Sistema S plays a key role in policy implementation

The so-called *Sistema S* plays a key role in the implementation of SME policies. Organisations in *Sistema S* are qualified as "parastatal organisations" that do not officially belong to the government but collaborate with it and work under its direction in the implementation of certain policies. *Sistema S* is mostly funded through wage levies, although its organisations can also collect fees through some of their activities (e.g. training courses). The most relevant organisation for SMEs in *Sistema S* is SEBRAE, which acts as a semi-autonomous small business agency, although SENAI (Industrial Training Organisation), SENAC (Wholesale/Retail Trade Training Organisation), ABDI (Brazilian Agency for Industrial Development) and Apex-Brasil (Trade and Investment Promotion Agency) also do relevant work for SMEs in their respective areas of work.

One of the main advantages of *Sistema S* is that its organisations rely on a wide network of state and local offices, making it possible for federal policies to reach also remote localities. In addition, these organisations often collaborate with each other on specific interventions, thus complementing their different expertise. On the downside, *Sistema S* is mainly funded through wage levies, which adds to Brazil's high non-wage labour costs. Furthermore, there is little *ex post* programme evaluation, making it difficult to assess which initiatives should be continued and which ones should not.

There is strong institutional co-ordination in SME policy

One of the main strengths of SME policy in Brazil is that it is highly co-ordinated within the government, across different levels of government, and between the government and the private sector. For example, the Management Committee of *Simples Nacional* includes representatives from the Special Secretariat for Federal Revenues and from states and municipalities to discuss the technical aspects of taxation within this preferential regime. Similarly, the MEI Working Group, which follows the evolution of this policy, is co-ordinated by the Sub-secretariat for Micro and Small Enterprises at the Ministry of Economy and includes representatives of the Special Secretariat for Federal Revenues, the National Pension Institute, public development banks and commercial banks, and small business associations.

At a broader institutional level, the Permanent Forum on Micro and Small Enterprises (*Fórum Permanente das Microempresas e Empresas de Pequeno Porte*, FPMPE), which was revamped in 2017 after three years of inactivity, is the official platform to formulate, monitor and evaluate policies aimed at micro and small companies (MPEs). It convenes 80 different organisations representing ministries, *Sistema S*, local governments, financial institutions and business representative organisations. It is organised around six technical committees, each of which has a public and private co-ordinator.

The FPMPE has been the official place to discuss the main issues and policies affecting micro and small enterprises, from the two preferential regimes *Simples Nacional* and MEI, through regulatory simplification, to public procurement policies for MPEs. More recently, in June 2019, the FPMPE launched the first national policy in support of micro and small enterprises (*Política Nacional de Apoio e Desenvolvimento das Microempresas e Empresas de Pequeno Porte*, PNADEMPE). This document gathers information on the various ongoing programmes for MPEs, sets future strategic policy directions, and establishes key monitoring and evaluation criteria for MPE programmes.

Selected recommendations on the governance of SME and entrepreneurship policy

- Prepare an SME Strategy and Action Plan that outlines the main policy objectives, targets and support measures and that defines roles and responsibilities of implementing ministries and agencies.
- Undertake a more regular evaluation of main SME and entrepreneurship programmes to better understand impacts and build the evidence base for future policies.
- Convene regularly the Permanent Forum on Micro and Small Enterprises to encourage institutional dialogue on SME policy and further promote state-level fora to foster policy dialogue also at the local level.

Federal programmes for SMEs and entrepreneurship in Brazil

Government loan subsidies have been the main policy to support access to finance by SMEs

Government loan subsidies have been Brazil's main public policy to help SMEs gain access to credit. BNDES (*Banco Nacional de Desenvolvimento Econômico e Social*) is by far the

main source of SME lending nationwide through a range of credit lines and credit products such as the BNDES Card (a credit card with a pre-approved credit line), FINAME (to support the acquisition of capital assets) or BNDES *Crédito Pequenas Empresas* (a simplified credit line for investments up to BRL 500 000 per year).

Until recently, most BNDES business lending used to go to large companies; however, between 2016 and 2018 the proportion of BNDES business loans (volume) received by SMEs surged from 30.6% to 46.8%. This shift has made the work of BNDES closer to that of other public development banks in OECD countries and should be preserved. Furthermore, since 2018, BNDES has reduced the subsidy component of its credit by adopting the Central Bank's newly-defined long-term interest rate, a step which is expected to reduce distortions in the credit market.

BNDES has also recently launched Canal MPME, a digital platform that provides information on BNDES credit lines and through which SMEs can apply for business loans. Loan applications are then redirected to accredited banks and financial institutions. It is also expected that Canal MPME will integrate fin-techs companies, which could help reduce banking concentration.

Going forward, the Brazilian government could also pay more attention to loan guarantees, which are relatively uncommon in Brazil. For example, in 2017 alone, there were 650 000 users of the BNDES Card, who borrowed BRL 2.7 billion (30% of BNDES lending to SMEs), while there were only 86 000 SMEs using loan guarantees nationwide (BRL 3.8 billion in guarantees). Compared to loan subsidies, loan guarantees can reach more SMEs through a lower budget and can attract more financial institutions in the SME credit market. Furthermore, there is scope for public development banks in Brazil to combine more often credit products with advice and mentoring, including to smaller financial institutions (e.g. credit co-operatives) which deliver their products to final consumers.

The federal government is actively involved in the equity finance industry

The federal government is also actively involved in the supply of risk capital, mostly through the work of BNDESPAR, a subsidiary of BNDES, and FINEP. Since 2001, BNDESPAR has invested in 23 venture capital funds. While in the early years BNDESPAR's commitment could go up to 80% of the total fund (*Criatec I*), it has since then decreased to an average of 40%. FINEP is also actively involved in equity finance together with private investors, especially at the start-up stage.

Brazil's venture capital funds are generally tilted towards seed and early-stage rounds of financing, which are indeed the moments when innovative businesses find it harder to receive risk capital. However, in a context where the private equity industry is not yet fully developed, the government could also encourage follow-on equity finance, still by investing jointly with private investors.

Most innovation government spending goes to large companies

Most of Brazil's innovation policy spending goes to large companies through two large R&D tax credit programmes falling respectively under the *Lei da Informática* and *Lei do Bem*. By way of example, in 2012, 45 large firms (above 500 people employed) received 81% of the R&D tax credits under *Lei da Informática* and 346 firms (above 500 people employed) received 92% of the R&D tax credits under *Lei do Bem*. It should be kept in

mind that tax expenditures accounted for 61% of total spending on business support policies in 2015.

Brasil Mais Produtivo is a noteworthy initiative

Against this backdrop, there are some interesting targeted programmes aimed at boosting innovation in SMEs, although some of them run on relatively thin budgets. One of the most promising initiatives is *Brasil Mais Produtivo* (BMP, Brazil More Productive), which aims to enhance firm-level productivity by improving energy efficiency, reducing waste in the production process and introducing lean manufacturing practices. The programme is well-designed by specifically targeting manufacturing where SME productivity needs, indeed, to be boosted and by giving priority to companies located in business clusters. Furthermore, the first phase of the programme shows positive results beyond the initial objectives.

On the downside, BMP is largely focused on a few low-tech sectors (food, textile and furniture) and on the industrial heartland of Brazil (the South and Southeast regions), whereas more attention could be given to other sectors and regions. In mid-2019, the government was planning to replace some of the on-site activities of the programme with online consulting; however, a more viable solution to preserve the intensive and interactive nature of the programme would be to increase the share of co-funding required of participants.

Brazil also operates traditional SME innovation programmes such as technology vouchers and local innovation agents

The federal government, through SEBRAE and MCTIC, also runs some traditional programmes such as innovation vouchers and local innovation agents. International experience suggests that vouchers encourage small companies to gain first exposure to innovation, but they are much less successful in prompting follow-on investments in innovation.

Brazil's local innovation agents, who are the outcome of a partnership between SEBRAE and the National Council for Scientific and Technology Development (*Conselho Nacional de Desenvolvimento Científico e Tecnológico*, CNPq), have achieved relatively good results. However, the programme would likely achieve even better outcomes if staff with stronger industry experience were also recruited as local innovation agents.

Collaborative innovation programmes are important and should be further enhanced

Because of a lack of internal resources, SMEs often tend to innovate through partnerships with customers or suppliers, other businesses or research organisations. As a consequence, collaborative innovation programmes are often important channels to strengthen SME innovation. Brazil operates some interesting initiatives in this field. For example, PROCOMPI (*Programa de Apoio à Competitividade das Micros e Pequenas Indústrias*) supports collaboration between MPEs and local development organisations, although this programme runs on a very small budget, while FINEP *Conecta* aims to enhance industry-university collaboration.

There is a gap between legislation and implementation in public procurement for micro and small companies

Brazilian legislation on government contracts is generally favourable to micro and small companies (MPEs). All contracts up to BRL 80 000 are by law allocated to this target group, government ministries and agencies must allocate up to 25% of their bid invitations only for MPEs, and MPEs can also be selected when their offer is up to 10% more costly than the one of a medium/large company.

Public procurement for MPEs was first regulated through *Lei Complementar* 123/2006. While the volume of government contracts granted to micro and small companies increased until 2012, it declined from 25% to 15% between 2013 and 2017, pointing to a gap between legislation and implementation when it comes to public procurement for MPEs. This gap could be filled by strengthening existing training for MPEs on bidding for government contracts and by training procurement officers on how to design calls that do not discriminate against small businesses. There is also scope for Brazil to pilot an initiative that uses public procurement to stimulate innovation in SMEs and start-ups, something which has become increasingly common in OECD countries but which is missing in Brazil.

Entrepreneurship education is widely available in Brazil

Entrepreneurship education is widely available in Brazil and is mostly delivered through SEBRAE's National Programme for Entrepreneurship Education (*Programa Nacional de Educação Empreendedora*, PNEE) which has reached 4 million students since 2013. PNEE courses are offered at no cost for schools or students, although enrolment is fully on a volunteer basis. PNEE courses follow a learning-by-doing and experiential methodology, which has proven the most effective in instilling entrepreneurial skills and attitudes in pupils.

Going forward, a major issue concerns the capacity of schools and universities to find space in already tight curricula to offer entrepreneurship education. As a result, the notion of introducing the teaching of entrepreneurship skills into existing courses, rather than through additional bespoke courses, has gained ground in a number of countries and could also inspire Brazil to spread further entrepreneurship education nationwide.

There is scope for streamlining the offer of firm-level training

While the Ministry of Economy is in charge of apprenticeship training mostly through *Emprega Mais*, *Sistema S* has traditionally implemented programmes upgrading managerial and workforce skills at the firm level. Many of the organisations in *Sistema S* directly emanate from national business associations, which give them privileged access to the business community. In this respect, it is important that training courses always reflect local industry needs, including through close consultation with local private companies.

There are also some overlaps in the existing range of training programmes, which could be streamlined to create critical mass and improve training quality. Furthermore, while there are many opportunities for management training, leadership training, which develops a different set of skills and competencies, is much less common.

Support for women's entrepreneurship should be enhanced

Women account for 31% of the total entrepreneurial population in Brazil, but for 47% of individual micro-entrepreneurs (MEI), suggesting that women-owned businesses are on average smaller than men-owned businesses. Other studies also confirm that Brazilian

businesses owned by women are less growth-oriented, export-oriented, innovative and profitable than those owned by men.

The two institutions doing the most to support women's entrepreneurship in Brazil are SEBRAE and *Rede Mulher Empreendedora* (RME). The work of both is noteworthy, but not enough to strengthen women's entrepreneurship in a country of the size of Brazil. Above all, women's entrepreneurship has not yet been mainstreamed in the work of other organisations involved in business support policies, and there is a common perception that targeted initiatives for women are not needed because women have equal opportunities in programmes open to everyone.

However, a mere lack of exclusion is often not enough to build an inclusive culture in which women enjoy equal opportunities to those of men. In particular, international evidence suggests that gender-blind business support policies fall short of supporting women as much as men, even after controlling for the lower proportion of female entrepreneurs. Women-specific programmes in the field of access to finance, training, innovation and internationalisation can help bridge this gap by better targeting the specific needs of women entrepreneurs, which may stem from the sectors in which they are more likely to operate and/or from the possible need for more flexible working/training arrangements.

Selected recommendations on federal programmes for SMEs and entrepreneurship

- Continue to reduce the interest rate subsidy in government-backed loans and expand the use of government loan guarantees to further strengthen access to finance for SMEs.
- Introduce non-financial forms of support in public development banks, based on evidence that combining financial support with technical advice improves the performance of supported companies and/or partner financial institutions.
- Pull ahead in the ongoing trend by which BNDES lending has increasingly shifted from large companies to SMEs. Consider launching a credit line for start-ups, as done by other countries such as the UK (Start-up Loan Programme).
- Ensure that government-backed VC funds also provide follow-on equity finance in addition to seed finance, with a view to ensuring that promising start-ups and high-growth firms receive adequate support for scale-up.
- Increase innovation support for SMEs through targeted measures with the aim to reduce the productivity gap with larger firms, including programmes which encourage collaborative innovation.
- Expand *Brasil Mais Produtivo* to narrow large the productivity gap between SMEs and large companies in industry. At the same time, increase the cost-sharing requirement of the programme to self-select stronger companies, making an exception for companies in lagging regions.
- Strengthen the profile of local innovation agents by hiring more people with industry experience.
- Scale up existing training programmes for micro and small companies on how to bid for government contracts and for procurement officers on how to design calls that are compliant with existing preferential legislation in public procurement.

- Launch a pilot initiative supporting SME innovation through public procurement in which the government demands innovative products or services from small businesses going through a competitive process.
- Consider infusing entrepreneurial skills in traditional school and university courses to further strengthen the outreach of entrepreneurship education.
- Streamline the offer of management and workforce training at the firm level, mostly undertaken within *Sistema S*, with a view to creating critical mass, improving training quality and reducing non-wage costs for employers.
- Make sure that women's entrepreneurship policies are not limited to ensuring that mainstream programmes are available to everyone, but also include initiatives specifically targeted at women.

SME export policies in Brazil

The National Plan of Exporting Culture (PNCE) is an important government initiative to increase the number of SME exporters

The National Plan of Exporting Culture (*Plano Nacional da Cultura Exportadora*, PNCE) is an important government initiative aimed at increasing the number of exporters through the development of a network of state-level institutions involved in export promotion. The PNCE follows a logical framework based on five sequential steps to lead companies to export and encourages state-level organisations to arrange the provision of export support according to this framework.

On the whole, the PNCE is a well-designed policy which would nonetheless benefit from establishing clear results targets, including quantifiable targets on the number of new SME exporters. Following a first evaluation of the pilot initiative in the two states of *Minas Gerais* and *Roraima* and after setting appropriate performance indicators, the PNCE should be rolled out to the other states of the Federation.

There are a number of mechanisms to inform firms about exporting opportunities, but a dedicated guide for MPEs is missing

A number of mechanisms are used by the government to disseminate information on exporting, although there is no dedicated guide for micro and small enterprises as defined by *Lei Complementar* 123/2006 (MPEs). Because there are already specific policies meant to help these companies to internationalise (e.g. training and capacity-building programmes, simplified export and import facilitation regimes, export financing instruments, and tax incentives), it would be useful to gather such information in one single document. The document should be organised to provide a clear journey for users to go through the different stages of the export process.

There is an adequate supply of export training, but existing initiatives need to be better monitored

Brazil offers an adequate supply of export training programmes, with one of the most comprehensive initiatives being the Export Qualification Programme (*Programa de Qualificação para Exportação*, PEIEX) of Apex-Brasil. PEIEX targets SMEs that have never exported or with limited exporting experience and assists them with six months of

export-readiness training and technical support, followed by the opportunity to participate in an international trade mission. Since 2008, 20 000 companies have completed the programme, some of which were already exporters.

Overall, PEIEX is a comprehensive programme that has reached many companies, although there are few metrics on the export performance of these companies, such as the percentage of those that have actually started exporting or that have persisted with regular exporting activity. Monitoring the conversion of learners from the training component through participation in missions to exporting will provide valuable data to assess the effectiveness and impact of the programme, although it may be difficult to detect the export evolution of those companies that export through commercial exporting companies (*empresas de comércio exterior*).

There is scope for enhancing export finance solutions

There are three main SME export financing instruments in Brazil: PROGER Export; BNDES's direct export financing programmes; and export credit guarantees.

PROGER Export is operated by *Banco do Brasil* and is the main export financing tool for SMEs. It extends credit (of up to BRL 600 000 per transaction in national currency) to enterprises with gross annual revenues of up to BRL 10 million to finance the production of goods bound to foreign markets, as well as expenses related to export promotion.

BNDES also offers pre- and post-shipment financing in which MPEs can participate, although the outreach of these credit products is limited.

Finally, export credit guarantees (*Seguro de Crédito à Exportação*, SCE) are backed by the Export Guarantee Fund (*Fundo de Garantia à Exportação*, FGE) under the responsibility of the Ministry of Economy. They guarantee export credit transactions against commercial, political and extraordinary risks that may affect the export of Brazilian goods and services. The Brazilian Guarantees Agency (*Agência Brasileira Gestora de Fundos Garantidores e Garantias*, ABGF) is responsible for monitoring the operations of the SCE, based on a contract with the Ministry of Economy.

In addition to normal export credit guarantees, ABGF also runs a simplified export guarantee for SMEs (SCE/MPME), in this case, defined as enterprises with gross annual revenues of up to BRL 90 million and exports of up to USD 3 million. Export credit guarantees can be demanded by exporting SMEs or by banks financing the export of SMEs. The use of the SCE/MPME guarantee peaked in the first quarter of 2017 when it insured export transactions of USD 13.5 million, but it dropped to USD 5 million in 2018. Still in 2018, the default rate averaged 20% for the whole SCE portfolio and 15% for SCE/MPME, although it was higher for certain riskier countries.

Existing budget resources limit the number of projects that can be insured by the SCE/MPME, as premiums and fees do not cover the administrative costs and indemnifications of the programme. Going forward, to enhance the diffusion of the SCE/MPME, it would be important to improve its risk assessment and pricing methodologies as well as to increase its awareness among SMEs with export potential.

Simples Exportação, a trade facilitation regime for MPEs, could be phased out

Trade facilitation policy targeted at SMEs has mostly occurred through *Simples Exportação*, a simplified export regime reserved for MPEs operating under *Simples Nacional*. The main advantage of *Simples Exportação* used to be a Simplified Export

Declaration for export shipments not exceeding USD 50 000 in each consecutive six-month period and the possibility for MPEs to use international logistics operators to perform export procedures. However, very few micro and small enterprises have used this trade facilitation regime, which has thus fallen short of its objective to increase the participation of MPEs in Brazilian exports. The Single Export Declaration, a further simplified customs declaration that applies to all exporting enterprises regardless of their size, has recently replaced the Simplified Export Declaration, which suggests that *Simples Exportação* could be phased out.

E-commerce could help boost SME exports

Policies to encourage the use of e-commerce among SMEs are relatively new in Brazil and could be enhanced. Among these are Apex-Brasil's e-Xport programme and SEBRAE's online training courses. In the future, the government could also introduce trading online vouchers to support the purchase of e-commerce consulting services by SMEs.

Supplier development programmes should make more efforts to integrate SMEs in global value chains

The main supplier development initiative targeting micro and small enterprises in Brazil is SEBRAE's National Productive Chain programme. The programme helps MPEs to meet the demand requirements of large anchor firms and thereby to establish buyer-supplier relationships. Since the 1990s, the programme has supported 65 000 small businesses and 170 medium and large partner companies for a business volume of BRL 6.6 billion.

However, supply chain programmes are currently not trying to integrate domestic SMEs into the supply chains of Brazil-based multinational enterprises (MNEs). In the future, the government should seek to target MNEs among the selected anchor firms, with a view to helping SMEs to tap into the development opportunities (indirect export, technology transfer, etc.) of global supply chains.

Selected recommendations on SME export policies

- Produce a Guide to Exporting for MPEs that covers special programmes, provisions, and simplified regulations that apply to this business segment (e.g. export training, export finance mechanisms, etc.).
- Implement a management information system to track SMEs participating in the National Plan of Exporting Culture (PNCE) through the exporting path laid out by the programme. In this context, set up quantifiable targets to measure how many SMEs have become active exporters after participation in the PNCE.
- Expedite the PNCE process of mapping state-level export supports in all 26 Brazilian states and the Federal District. In the process, develop a searchable web-based system of local institutions involved in export promotion.
- Set up a monitoring system to track the progression of participants in the Export Qualification Programme (PEIEX) of Apex-Brasil, from training through participation in trade missions to an active exporter status.

- Improve the risk assessment and pricing methodologies of the SME export credit guarantee (SCE/MPME) and increase its awareness among SMEs.
- Support the creation and consolidation of export consortia in Brazil to help SMEs with similar products and distribution channels to reach export markets they would not have the resources or capacity to target individually.
- Use supplier development programmes to promote business linkages between local SMEs and MNEs, with a view to increasing the participation of Brazilian SMEs in global supply chains.

The innovative start-up ecosystem in Brazil

Most programmes for innovative start-ups are the result of multi-level collaborations

The innovative start-up ecosystem of Brazil consists of a large number of public, semi-public and private sector organisations, which actively collaborate with each other in the design and implementation of relevant programmes. Nonetheless, there is scope for engaging sectoral research and innovation agencies, notably EMBRAPA (agriculture) and EMBRAPII (industry), not only at the stage of policy implementation but also of policy design. The national industrial property office (*Instituto Nacional da Propriedade Industrial*, INPI) could also be more closely involved in the design and implementation of start-up policies.

A new innovation legal framework has resulted in the overhaul of different laws impacting innovative start-ups

A new innovation legal framework which came into effect in 2018 has resulted in a revision of different laws that can affect innovative start-ups. Two major changes are that government-owned companies will be allowed to invest in private sector companies and that intellectual property (IP) generated by public sector institutions, including universities, will be managed by decentralised organisations called Technological Innovation Hubs (*Núcleos de Inovação Tecnológica*, NITs).

The first change should be monitored closely to ensure that public equity investments do not become a form of government subsidy. The second change could help bridge the university-industry gap in IP management by increasing the supply of intellectual property and facilitating its marketability to third parties.

Innovative start-ups could benefit more from available R&D tax credits

Brazil's two largest R&D tax credit programmes (*Lei do Bem* and *Lei da Informática*) are virtually inaccessible to innovative start-ups due to the lack of carry-forward or cash-refund provisions that penalise young companies that do not have yet sufficient tax liability against which to claim the tax credit. Accordingly, federal R&D tax credits are used by a small number of (large) companies. Going forward, these provisions, which are quite common among OECD countries (especially carry-forward arrangements) could be introduced to make R&D tax credits more attractive for innovative start-ups, at least for those operating under the real-profit corporate income tax regime.

The national patent system is affected by a severe backlog

It takes on average 10 years for a patent application to be processed in Brazil, something which is partly related to understaffing at INPI but which sets Brazil as an outlier in the international context. Delays in the patent system have negative consequences for the start-up potential of the country. For example, while the number of Brazilian scientific publications has nearly doubled over the last 10 years, the number of patent applications has stalled, pointing to a divergence between basic and applied research.

In the past, the federal government has sought to address the backlog problem mostly through the creation of special regimes for given sectors or types of company. One of these is *Patentes MPE*, which offers reduced patent fees and fast-track procedures to micro and small companies operating under *Simples Nacional*. Between 2016 and 2018, INPI granted 50 patents out of 253 initial applications under this regime. However, while fast-track regimes can help certain target groups, they do not address the underlying causes of the problem, leaving the situation unchanged for most companies, including SMEs.

To address the backlog issue, INPI, with support from the Ministry of Economy, has recently started to work on an important restructuring project which includes four main initiatives. First, the Backlog Combat Plan aims to reduce the backlog by 80% in two years through, *inter alia*, improving the productivity of patent examiners. Second, the IP Digital Plan aims to digitalise all services provided by INPI. Third, an agreement between INPI, ABDI and the Ministry of Economy intends to modernise the patent application process, including through the acquisition by ABDI for INPI of new network equipment, servers and storage system. Fourth, a co-operation agreement between the government of Brazil and the UK Prosperity Fund aims to redesign the whole patent examination process by introducing a quality management system. In addition, all existing fast-track regimes are expected to undergo a review process to make them more uniform and to favour the equal treatment of applicants.

InovAtiva Brasil is a highly recognised programme in Latin America

InovAtiva Brasil, which is operated by the Ministry of Economy, is one of the main government programmes that target innovative start-ups. Between 2013 and 2018, more than 800 start-ups completed the programme, at a rate of 100 companies per semester. *InovAtiva Brasil* is essentially a four-month acceleration programme in which selected entrepreneurs receive bespoke mentoring and training before pitching their business idea to potential investors. Selected entrepreneurs regularly feature in national rankings of "start-ups to watch", and the programme has been praised by national and international institutions for its role in entrepreneurship development in Brazil. Given that 800 start-ups have already completed this programme, an external evaluation could help policymakers assess its actual impact and make a possible case for further enhancing start-up policies.

StartOut Brasil, aimed at born-global start-ups, could be adjusted to enhance its outreach and impact

The Ministry of Economy has also recently launched a new programme aimed at born-global start-ups, called *StartOut Brasil*, whose features closely resemble those of *InovAtiva Brasil*. The underlying principle is to bring selected start-ups to foreign markets where they have the potential to expand by exporting or building a local presence. While this programme was only launched in 2017, some of its elements could be reconsidered. In particular, selecting a cohort of promising start-ups while keeping in mind possible industry and geography targets may result in excessive latitude in the management of the

programme. An alternative could be to reverse the inner workings of the programme by bringing multiple foreign companies or partners from a selected sector/technology into a local immersion camp to meet with promising Brazilian start-ups.

FINEP is a key player in the start-up ecosystem of Brazil

FINEP, Brazil's national innovation agency, specialises in financing projects in technology-based companies, including start-ups. FINEP *Centelha* (Spark), its most recent programme, aims to incubate university-based start-ups through an 18-month period of training and coaching. FINEP *Tecnova* finances innovative projects in selected strategic sectors through the intermediation of state-level institutions and non-profit organisations. FINEP *Start-up*, which was established in 2017, provides seed-funding to MPEs.

FINEP *Centelha*'s success will largely depend on its ability to bridge the traditional gap between university and industry. As such, the programme would likely benefit from an early-on involvement of the private sector, for example by making experimental testing conducted in private companies that are part of the programme. Similarly, sound IP management will be important to ensure that university start-ups receive private investment. FINEP *Tecnova* seeks to address Brazil's industrial policy priorities; as such, it could try to involve more closely specialised research agencies such as EMBRAPA (agriculture) and EMBRAPII (industry). FINEP *Start-up* has so far completed the investment process in 14 companies over 2 years, which points to the difficulty of finding investment-ready opportunities in the MPE business segment.

There are a number of promising open innovation programmes for start-ups in Brazil

There are a number of well-designed open innovation programmes in Brazil. First, NEXOS, a partnership between SEBRAE and ANPROTEC (Brazilian Association of Science Parks, Business Incubators and Business Accelerators), enables MPEs to apply for open innovation calls launched by larger companies, which set the technological specification of the call. To address the technology problem, selected MPEs are allowed to use the knowledge resources of larger companies and of the national network of incubators. Second, ABDI's Industry Start-up Connection Programme operates in two stages: in the first one, medium and large industrial companies apply to the programme by specifying up to eight technological challenges they would like to address; in the second stage, start-ups apply to provide potential solutions to these challenges. Medium and large companies can then choose up to four start-ups to co-develop technology solutions. Third, a collaboration between SEBRAE and EMBRAPII enables industry-based MPEs to use the services and facilities of accredited technology institutes, thus favouring technology transfer.

Brazil has a strong and effective network of business incubators and business accelerators

There are about 370 incubators, 90 technology parks and 35 business accelerators in Brazil. The establishment and life-cycle of business incubators is well formalised through CERNE (*Centro de Referência para Apoio a Novos Empreendimentos*), a reference centre which offers capacity-building to incubator managers and is jointly run by ANPROTEC and SEBRAE. According to estimates by MCTIC, over the period 2009-16, about 5 000 companies completed or were about to complete the incubation process, with an impact on the economy of BRL 15.2 million in sales and 53 000 new jobs.

The federal government also runs an official incubator and technology park programme (*Programa Nacional de Incubadoras e Parques Tecnológico*s, PNI) with the involvement of a large number of institutional players (MCTIC, Ministry of Economy, SEBRAE and ANPROTEC, among others). The PNI was originally set up in 1998 and redesigned in 2009. An evaluation by MCTIC shows that companies in PNI-supported incubators and technology parks reach a larger size and larger revenues than those in other similar organisations.

Selected recommendations on the innovative start-up ecosystem

- Strengthen the role of research agencies operating under sectoral ministries, such as EMBRAPA and EMPRAPII, in policy design to leverage ministerial priorities and sector-specific know-how.
- Strengthen SEBRAE's partnerships with research and innovation institutions at the local level to combine SEBRAE's geographical outreach with local technological knowledge and expertise.
- Focus part of a future pilot project on public procurement for innovation on newly born companies to encourage the emergence of innovative start-ups.
- Introduce carry-forward or cash-refund provisions in existing R&D tax credits to make them more appealing to innovative start-ups operating under the real-profit corporate income tax regime.
- Address the patent backlog at INPI by modernising and digitalising the patent application and review process, in line with the recently launched restructuring plan. As part of this plan, consider contracting out the first stages of the patent review process to external accredited institutions (as done in Japan).
- Monitor the effectiveness of the Technological Innovation Hubs (*Núcleos de Inovação Tecnológica*, NIT) in boosting university start-ups and increasing the supply and marketability of IP.

The local dimension of SME and entrepreneurship policy in Brazil

Brazil is a large and diversified economy with some clear regional patterns

Brazil is a continent-size country only smaller in extension than Canada, China, the Russian Federation and the United States. Unsurprisingly, there are some important differences in terms of population density and economic activity across its 5 macro-regions, 26 states (plus the Federal District of Brasilia) and 5 570 municipalities, although there are also some main discernible patterns.

First, Brazil is largely an urban country, with 87% of the population living in urban areas compared with the OECD and LAC averages of 81%; nonetheless, the contribution of the 12 metropolitan areas to GDP fell from 47.3% to 44.6% between 2002 and 2016. Second, most economic activity takes place in the South and Southeast region, which are the industrial powerhouse of Brazil. Accordingly, these two regions also show the highest business density (number of enterprises per thousand people) and the highest proportions of employment in micro and small enterprises, whereas the North has comparatively higher shares of employment in larger companies. Third, Brazil's South and Southeast also have

higher-than-average rates of SME innovation and SME export, compared to a national average which is however low by international standards.

Business environment conditions vary across Brazil

Business environment conditions vary considerably by state and municipality in Brazil, although the federal programme REDESIM has made headway in harmonising business regulations nationwide.

National legislation can also affect states and regions differently. This is the case of tariffs, which are set at the national level but whose impact at the local level depends on whether states are specialised in sectors more likely to suffer from import competition. Future trade policy reforms will, therefore, have different impacts on job reallocation depending on the industry specialisation of states.

Cluster policy has been Brazil's main local economic development policy

Industry clusters (i.e. *Arranjos Produtivos Locais*, APLs) have been the main federal and state-level policy to foster enterprise development at the local level. In 2015, at the time of the last census, there were 677 APLs in Brazil which included nearly 300 000 companies and over 3 million workers.

There is some heterogeneity in the profile of APLs across the country. For example, the number of APLs ranges from 83 in the South to 210 in the Northeast, suggesting that this policy has also been employed to encourage inclusive growth in lagging regions. There is also strong variation in the average number of firms in each APL, ranging from 197 in the Northeast to 877 in the Centre-West.

The APL policy has evolved over time. Currently, funding is typically transferred from state governments to local institutions such as municipalities, trade unions or business associations. Some states, especially in the South, have dedicated sizeable resources to the APL policy. *Sistema S* also plays an important role, especially when it comes to the development of managerial and workforce skills in the APLs.

Participation in clusters has generally had a positive impact on the performance of local SMEs

Several studies have pointed to positive effects of the APL policy on SMEs, notably with respect to job creation, wage levels and export propensity. Some studies have also shown that the introduction of new technologies has led to productivity growth in the cluster.

Selected recommendations on the local dimension of SME and entrepreneurship policy

- Move forward in the harmonisation of state-level regulations through the REDESIM policy, including by reaching out to municipalities which have not yet joined the programme.
- Set up a web platform and organise a large annual event to favour the exchange of information and good practices on regulatory simplification at state and municipal levels.
- Undertake a more rigorous and frequent evaluation of the impact of the national cluster policy (*arranjos produtivos locais*) on the employment and innovation performance of local SMEs.
- Consider focusing the national cluster policy on priority sectors at the state level, to be identified through an appropriate methodology applied nationwide.
- Give priority to export-oriented sectors in the national cluster policy with a view to supporting SME internationalisation.

Notes

[1] The respective names in Portuguese are the following: Ministério da Fazenda; Ministério da Indústria, Comércio Exterior e Serviços (MDIC), Ministério do Trabalho and Ministério do Planejamento, Orçamento e Gestão (MPOG).

[2] *Micro e pequena empresa* means micro and small business in Portuguese. The use of the Portuguese acronym is to underline that the meaning of micro and small businesses in the two definitions is different, being employment-based in the first case and turnover-based in the second case.

[3] Data on the industry structure of Brazil are from the OECD Structural and Demographic Business Statistics (SDBS) database, which in the case of Brazil uses data from the IBGE Annual Surveys of Industry, Construction Industry, Trade and Services. The analysis of the business sector excludes agriculture and government activities. This results into different figures from those based on Brazil's Continuous National Household Sample Survey (*Pesquisa Nacional por Amostra de Domicilios Continua*, PNADC).

[4] The OECD defines high-growth firms as enterprises with average annualised growth in employment or turnover greater than 20% per year, over a 3-year period, and with ten or more employees at the beginning of the observation period.

Chapter 2. SME performance and entrepreneurial dynamics in Brazil

This chapter presents information on small- and medium-sized enterprise (SME) performance and entrepreneurial dynamics in Brazil from an international comparative perspective. One of the main features of Brazil's industry composition is the large share of wholesale and retail trade in the total stock of companies and national employment. SMEs account for a significant proportion of total employment and national value added in Brazil, but less than the OECD average. Labour productivity levels between Brazil and the OECD have diverged in the last 15 years. Against this backdrop, the gap in labour productivity between Brazil and the OECD is the largest in industry and trade, while it is narrower in construction and services. From a firm-size perspective, productivity gaps between SMEs and large companies are particularly wide in industry, which is also an outcome of the low innovation and export propensity of Brazilian manufacturing SMEs. As to entrepreneurial dynamics, Brazil shows a high rate of entrepreneurial activity, but growth-oriented entrepreneurship and business scale-up are much less common.

The structure of the business sector

Sector analysis

Wholesale and retail trade have an unusual weight in the Brazilian business sector[1]

Data from the OECD Structural and Demographic Business Statistics (SDBS) database shows that Brazil, relative to OECD member countries, has a very large share of companies in wholesale and retail trade (henceforth, trade). More than half of Brazilian (formal) enterprises are registered in the trade sector (53%), compared with 26% in the OECD area. Conversely, Brazil has fewer companies in construction (4% of the total compared with 15% in the OECD area) and "other services" (32% of the total compared with 49% in the OECD area).[2]

Employment statistics confirm the prominence of trade in the Brazilian business sector, but also point to the average small size of trade-based enterprises. While more than half of Brazilian firms are in trade, these companies only generate one-third of national employment (33%). On the other hand, the occupational weight of industry and construction in Brazil is similar to the OECD average: 26% (Brazil) versus 23% (OECD) for industry and 8% (Brazil) versus 10% (OECD) for construction.

These figures point to some relevant stylised facts about Brazilian enterprises in the formal economy. First, while Brazil's share of industry employment is similar to the OECD average, it is lower than in other main emerging-market economies.[3] Second, most employment in services is in low-skilled activities: services account for 65% of national employment, nearly as much as in the OECD area (67%), but half of this employment is in wholesale and retail trade. Third, employment in construction is driven by large companies, to the extent that 4% of the total stock of companies generate 8% of national employment.

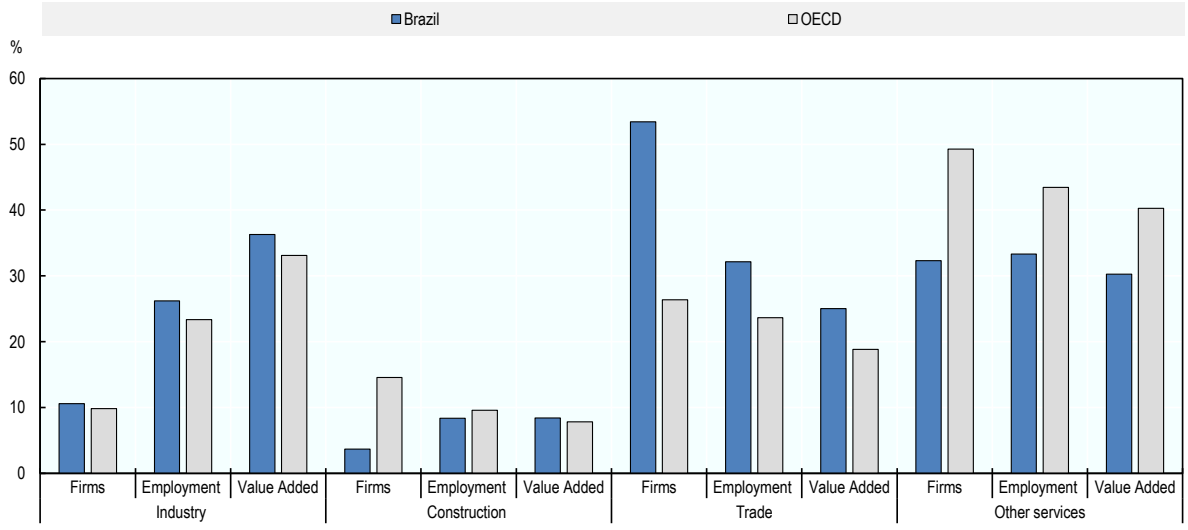
Wholesale and retail trade features low average labour productivity

Trade-based enterprises account for 33% of total employment but for only 25% of national value added in Brazil, whereas they generate 24% of total employment and 19% of value added in the OECD area, pointing to low average productivity in the Brazilian trade sector. Industry accounts for 36% of national value added in Brazil, which is in line with the OECD average (33%) but again less than in other large emerging economies. Finally, the share of construction in Brazil's national value added is similar to the OECD average, suggesting that this sector is not too large compared to the rest of the economy.

Figure 2.1 summarises the information presented so far, highlighting how Brazil compares to the OECD average in terms of number of companies, employment and value added across the four sectors of industry, construction, trade (wholesale and retail), and "other services".

Figure 2.1. Brazil and OECD sector composition of the business economy, 2016

Percentage values



Note: Due to missing information for some countries and sectors and to keep the OECD value consistent, the OECD average does not include the following 7 countries: Canada, Chile, Colombia, Japan, Korea, Mexico and the United States. Data for Brazil are from 2014.
Source: OECD calculations based on OECD Structural and Demography Business Statistics (SDBS).

StatLink http://dx.doi.org/10.1787/888934087838

Firm-size analysis

SMEs play an important role in the Brazilian economy and contribute adequately to gross output (but less so in industry)[4]

The SME definition in this section follows the one most commonly used within the OECD area, i.e. companies employing less than 250 people. The SME category is further broken down in micro-enterprises (1-9 people employed), small enterprises (10-49 people employed) and medium-sized enterprises (50-249 people employed).[5] In the whole business sector, only one in every 300 companies has more than 250 workers, thus falling under the definition of a large company. Only 1 in every 50 companies has at least 50 employees, falling under the definition of a mid-sized firm.

Brazilian (formal) SMEs account for 62% of national employment and for 50% of national value added, which are relevant values although they are lower than the corresponding OECD averages: 70% and 55%. On the other hand, the contribution of Brazilian SMEs to industry employment and industry value added is much less significant, respectively 50% and 29% of the total, compared to 56% and 39% in the OECD area.

There is a lack of business scale-up in the trade sector

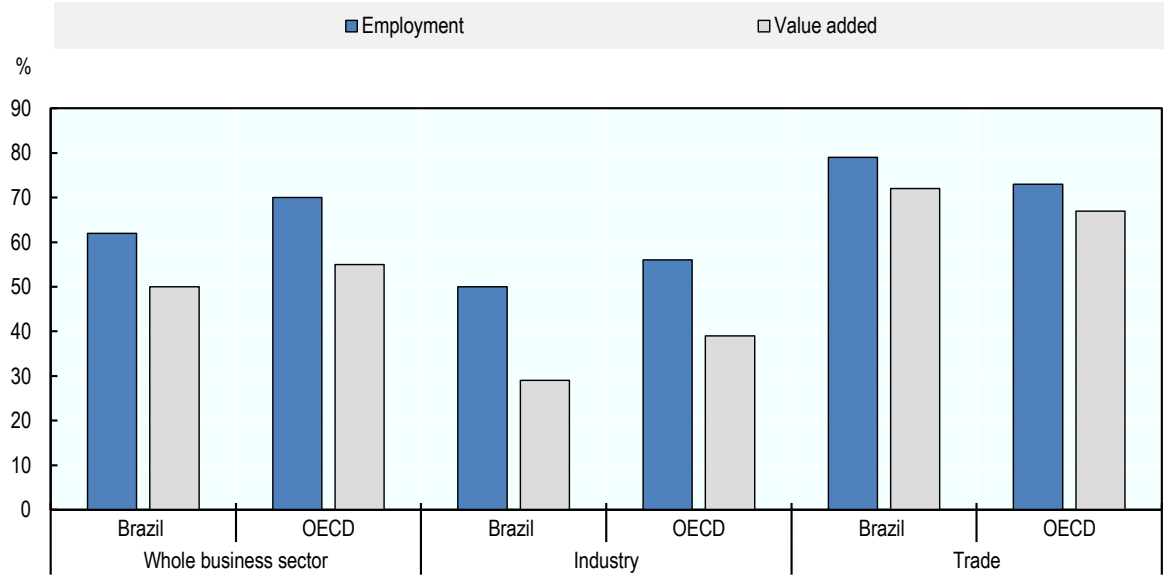
SMEs account for 79% of trade-based employment in Brazil, more than in the OECD area (73%). A further disaggregation shows that the share of trade-based employment in micro-enterprises is relatively similar between Brazil and the OECD area (39% and 40%), whereas the main difference is in the subsequent small size class (10-49 employees). In Brazil, this accounts for 28% of trade-based employment compared with 20% in the

OECD area, suggesting the existence of possible barriers to business scale-up in the trade sector.

Figure 2.2 summarises information on SME shares in total employment and value added by sector in Brazil and in the OECD area.

Figure 2.2. SME contributions to employment and value added across sectors, Brazil and the OECD area, 2016

Percentage values



Note: SMEs are defined as companies employing up to 249 people. The OECD average does not include the following 9 countries for which information is missing or partial: Australia, Canada, Chile, Japan, Korea, Italy, Lithuania, New Zealand and the United States. Data for Brazil are from 2014.
Source: OECD calculations based on OECD Structural and Demography Business Statistics (SDBS).

StatLink http://dx.doi.org/10.1787/888934087857

The main findings from this section can be summarised as follows:

- By international standards, Brazil has a very large share of companies and employment in wholesale and retail trade. However, these companies are on average very small and display low average labour productivity.
- Brazil's shares of employment and value added in industry, which mostly consists of manufacturing, are in line with the OECD average but are lower than in other large emerging economies.
- SME shares in total employment and national value added are significant but lower than those in the OECD area; this is especially the case in industry.

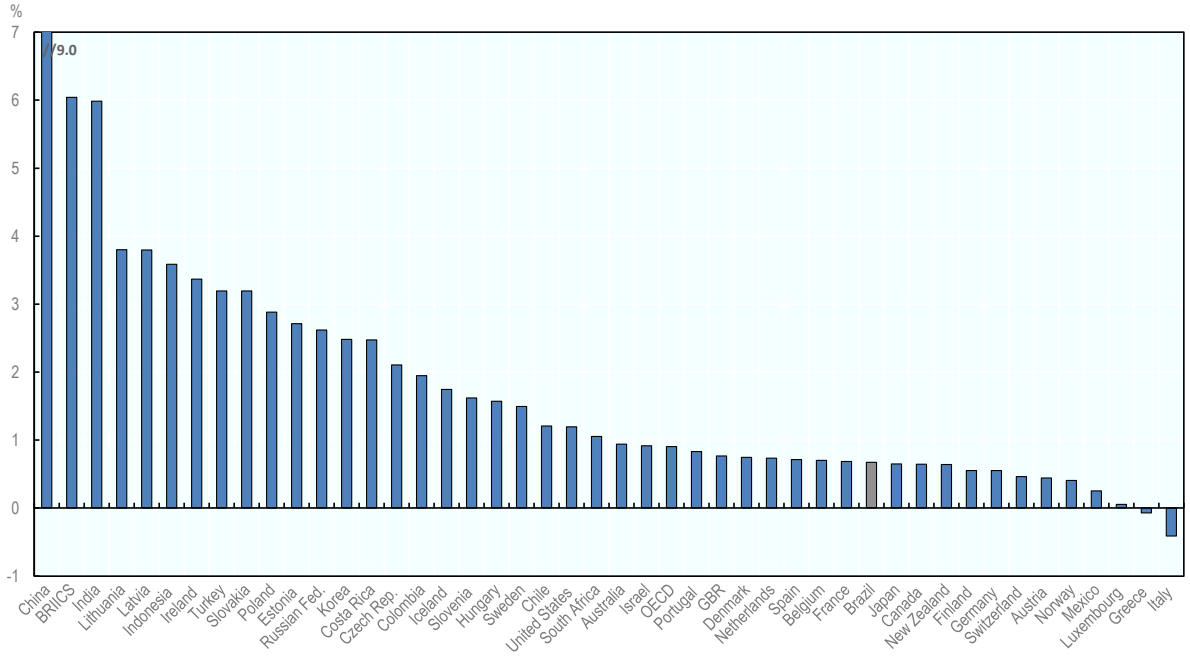
Labour productivity

Labour productivity levels between Brazil and the OECD have diverged in the last 15 years

Brazil grew rapidly between 2001 and 2016, at an annual average GDP growth rate of 2.5% – 3.3% if the recession years of 2015 and 2016 were not included – compared with the OECD average of 1.8%. Brazil's growth since the turn of the millennium has mostly been driven by employment growth – between 1996 and 2014 total employment grew from 72 to 106 million people – whereas productivity growth has played a subdued role. Between 2001 and 2016, growth in labour productivity (measured as GDP per person employed) averaged 0.7% in Brazil, compared with 0.9% in the OECD. Labour productivity levels between Brazil and the OECD have, therefore, diverged since 2001 (Figure 2.3). In 2016, Brazil's labour productivity was one-third of the OECD average (33%), similar to Colombia (34%), but lower than Costa Rica (45%), Mexico (47%) and Chile (56%) (Figure 2.4). Brazil's productivity trends have followed closely those of the whole Latin America and the Caribbean (LAC) region, growing at very similar rates between 1995 and 2014 and both experiencing a decline since 2014 (Qian et al., 2018).

Figure 2.3. Growth in GDP per person employed, 2001-16

Total economy, percentage change at annual rate

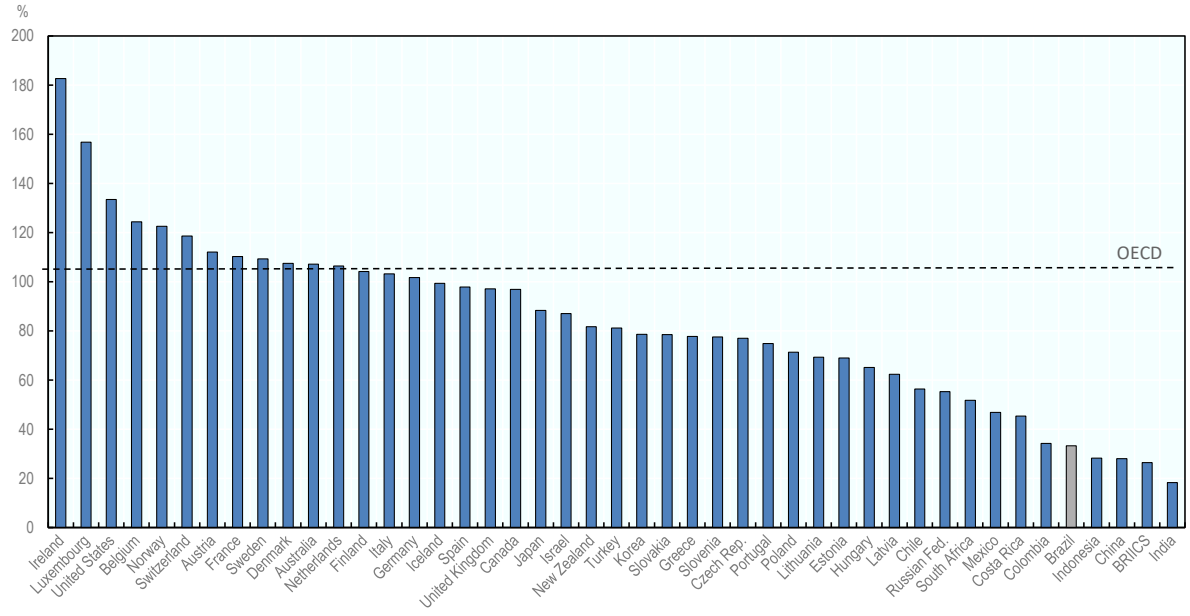


Source: OECD (2018), *OECD Compendium of Productivity Indicators 2018*, https://doi.org/10.1787/pdtvy-2018-en.

StatLink http://dx.doi.org/10.1787/888934087876

Figure 2.4. GDP per person employed, 2016

As a percentage of the OECD average (OECD=100), current prices and current purchasing power parity (PPP)



Source: OECD (2018), *OECD Compendium of Productivity Indicators 2018*, https://doi.org/10.1787/pdtvy-2018-en.

StatLink http://dx.doi.org/10.1787/888934087895

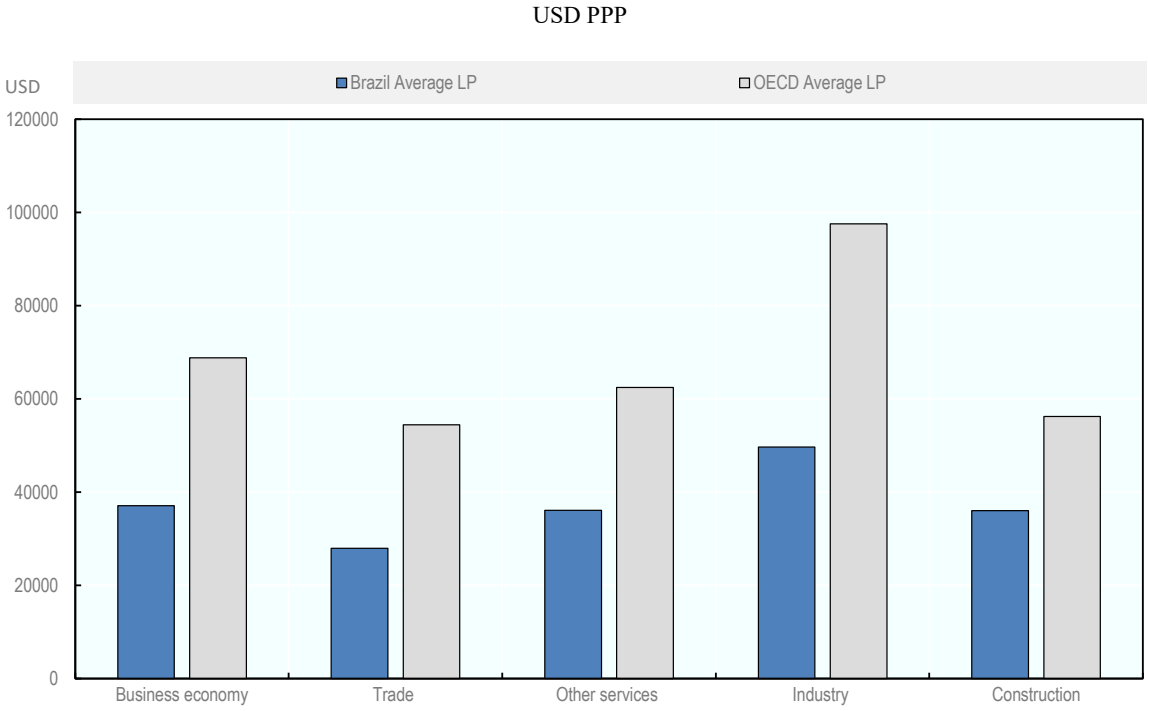
Brazil's slow productivity growth has been the outcome of different factors, among which limited structural change in the economy and poor productivity growth at the sector level. The main structural change in the last 20 years (between 1996 and 2014) has consisted in employment moving from agriculture (from 24.6% to 13.4% of total employment) to services (from 23.9% to 30.7%), whereas the employment share of wholesale and retail trade stalled (around 18.5%) and the one of manufacturing declined (from 12.8% to 11.3%).[6] While employment has shifted from less to more productive sectors (i.e. from agriculture to services), the sector with the highest productivity (i.e. industry) has seen a decline in the employment share of its main component (manufacturing). Productivity growth at the sector level has also been modest. With the exception of agriculture, where productivity has doubled, other sectors experienced growth in labour productivity (value added per worker) of at most 20% (services) in the period 2000-13. In particular, labour productivity increased by 16% in wholesale and retail trade, while it declined by 8% in manufacturing (Qian et al., 2018).

Poor productivity growth is also observed, among other things, in the lack of business scale-up in Brazil, especially among SMEs. OECD data show that the average SME size did not increase at all between 2008 and 2014, although this was a period of rapid growth at the national level, while the average size of large companies surged by 4%.

The Brazil-OECD labour productivity gap is largest in industry and trade[7]

Sector-level data show that Brazilian labour productivity (measured as value added per person employed) is highest in industry (nearly USD 50 000), followed by construction and "other services" (USD 36 000 each) and wholesale and retail trade (USD 28 000). Brazil's labour productivity in industry and trade is 51% of the one of the OECD area, compared with 58% and 64% in services and construction (Figure 2.5).

Figure 2.5. Average labour productivity in Brazil and the OECD area across sectors, 2016



Note: Average labour productivity is measured as value added over people employed. Local currency values are converted to USD at purchasing power parity (PPP) for GDP. The OECD average does not include Canada, Japan, Korea, Mexico and the United States for which information is partial or missing, as well as Chile and Colombia in the case of construction. Brazil's data are from 2014.
Source: OECD calculations based on OECD Structural and Demography Business Statistics (SDBS).

StatLink http://dx.doi.org/10.1787/888934087914

The largest productivity gap between Brazil and the OECD is, therefore, in industry, which is also the sector where productivity gaps between SMEs and large companies are much wider than in the OECD area (see below). This has been associated with large economies of scale in Brazilian industrial groups, lack of competition, support policies mostly geared towards the large corporate sector (especially innovation policies), as well as low technology-intensity and innovation propensity of Brazilian SMEs.

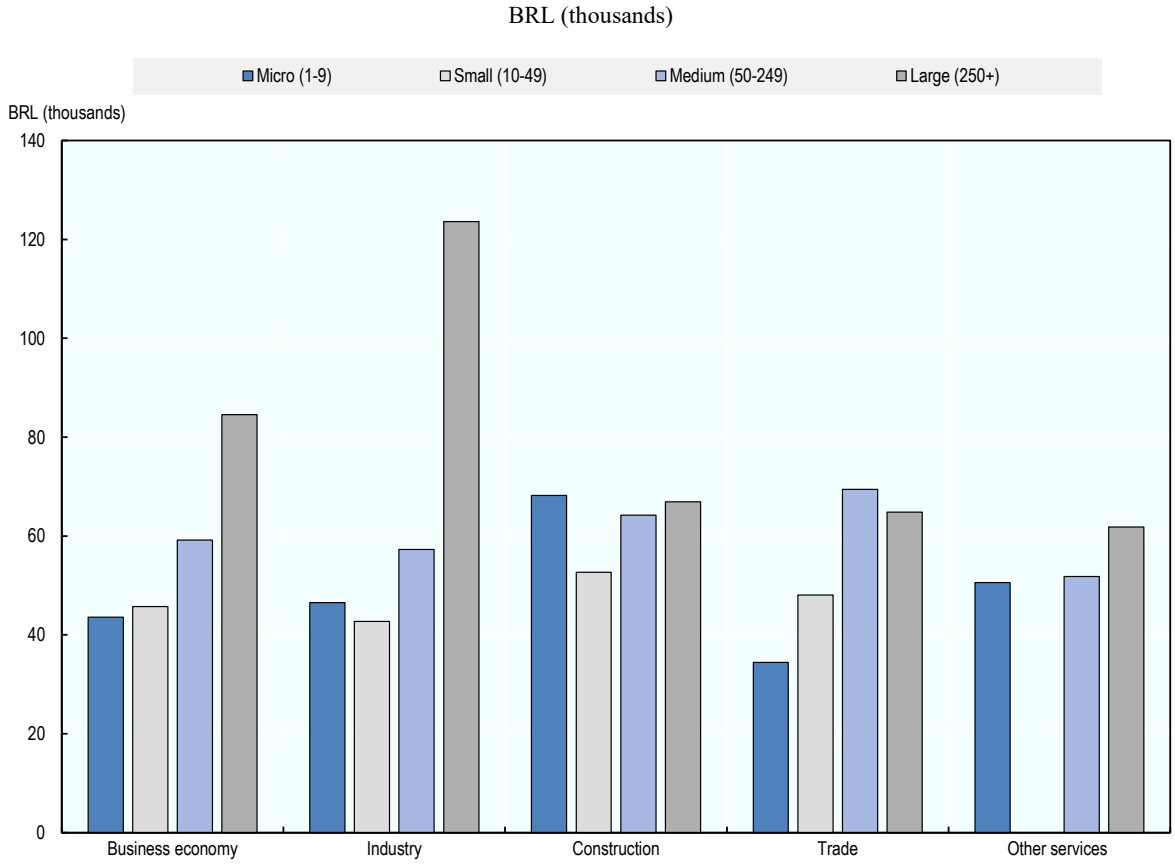
Brazil's labour productivity gaps by firm size are particularly wide in industry

Within the Brazilian business sector, the average labour productivity of micro and small enterprises is very similar; i.e. about 53% of labour productivity in large companies (BRL 84 500). Average productivity only becomes higher from mid-sized companies (BRL 59 200), standing at 70% of the large-company average (see Figure 2.6).

Productivity gaps between SMEs and large firms are very significant in industry. Here, average labour productivity in micro and small enterprises is relatively similar (BRL 46 500 vs. BRL 42 700), while it grows a bit among mid-sized firms (BRL 57 300). However, labour productivity more than doubles in large companies (BRL 123 600), suggesting the importance of reducing the large productivity gap between SMEs and large companies in industry.

Finally, labour productivity grows quite linearly along with the firm size distribution in trade. In Brazil, trade-based micro-enterprises have productivity levels about half of those of large companies (53%), while for small enterprises the rate is about three-quarters (74%). Interestingly, trade-based mid-sized companies have productivity levels above the large-company average (107%). The main problem in trade, therefore, lies with the average low productivity of the whole sector and the large proportion of employment in it, which together slow down aggregate productivity growth and impact on income inequalities.

Figure 2.6. Average labour productivity by firm size across sectors in Brazil, 2014



Note: Labour productivity measured as value added per person employed. Micro, 1-9 people employed; small, 10-49 people employed; medium, 50-249 people employed; large, 250+ people employed.
Source: OECD calculations based on OECD Structural and Demography Business Statistics (SDBS).

StatLink http://dx.doi.org/10.1787/888934087933

The main findings from this section can be summarised as follows:

- Labour productivity levels between Brazil and the OECD area have diverged in the last 15 years.
- Productivity levels between Brazil and the OECD diverge the most in industry and trade, while the gap is narrower in construction and services.
- From a firm-size perspective, labour productivity in the whole business sector grows less linearly in Brazil than in the OECD area. Micro and small companies have, indeed, similar average labour productivity, with this only starting to grow from mid-sized firms.
- Productivity gaps by firm size are particularly wide in industry. Industry-based mid-sized firms have productivity levels only a bit higher than those of micro and small companies, but average labour productivity in industrial large companies is more than twice the one in mid-sized firms.
- Productivity levels by firm size in trade grow quite linearly, although mid-sized firms are on average more productive than large companies. Thus, the main problem in trade lies in rather low labour productivity in the whole sector and the large proportion of the workforce employed in it.

The performance of SMEs: innovation and export

This section looks at the innovation and export performance of Brazilian SMEs. Two different SME definitions are used. With respect to innovation, which draws on data from national innovation surveys, SMEs are companies employing between 10 and 249 people employed, similarly to the definition used until now in this chapter.[8] With respect to export, small enterprises are defined as those complying with *Lei Complementar* 123/2006 (i.e. those with annual gross revenues up to BRL 4.8 million).

SME innovation

Business research and development is largely concentrated in large companies in Brazil[9]

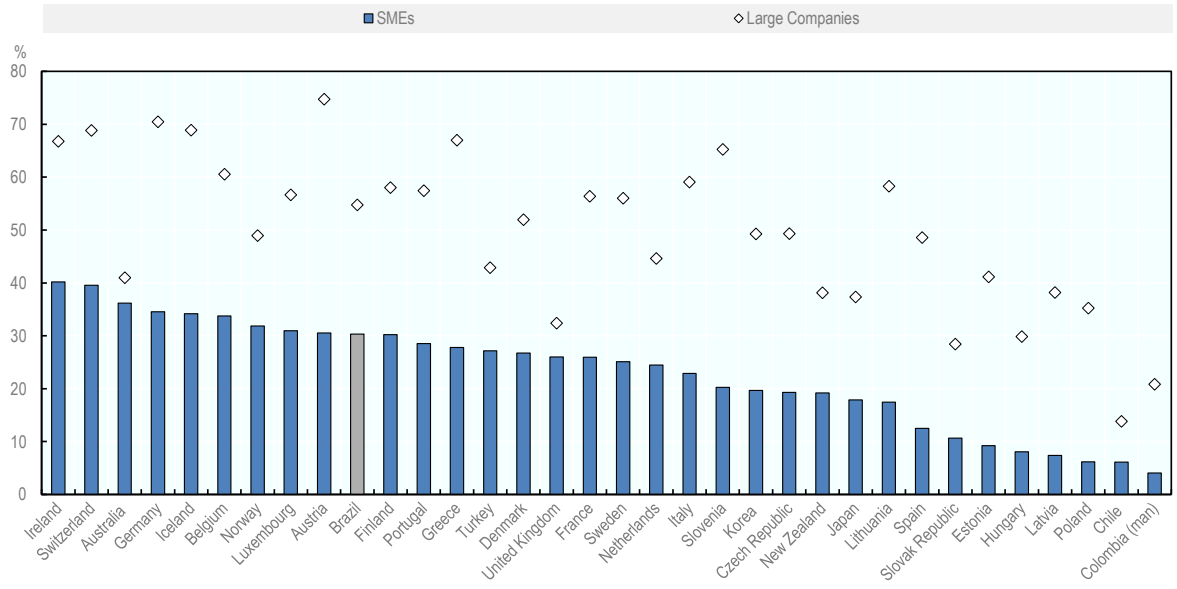
Business research and development (R&D) is a major source of technological innovation, but Brazil's business R&D in relation to GDP was only 0.6% in 2016, compared with an OECD average of 1.6%. Most R&D and innovation activity in Brazil is undertaken by large companies: only 4% of small companies (10-49 people employed) undertake R&D in Brazil with an average investment of BRL 355 000, compared with 18% of mid-sized companies (50-249 people employed) with an average investment of BRL 1.87 million, and 34% of large companies (250+ people employed) with an average investment of BRL 14 million. On the whole, SMEs account for 21% of total innovation spending by innovative companies.

Innovation survey data point to mixed results in terms of SME innovation

While few Brazilian SMEs carry out R&D, 30.3% of them report that they introduced product/process and marketing/organisational innovations in the period 2012-14 (Figure 2.7), which is high by international standards (OECD median: 25%). However, when it comes to product/process innovation only, which is more closely related to technological innovation, Brazil's performance is less good: only 4.8% of Brazilian SMEs have introduced product or process innovation, compared with the OECD median of 12%.

Figure 2.7. SMEs introducing product/process and marketing/organisational innovation, 2012-14

Percentage of all businesses in each size category



Note: Percentage of all businesses in each size category within the scope of national innovation surveys, where SMEs are companies with 10-249 people employed. Data for Colombia only refer to manufacturing.
Source: OECD (2017a), *OECD Science, Technology and Industry Scoreboard 2017: The Digital Transformation*, https://doi.org/10.1787/9789264268821-en.

StatLink http://dx.doi.org/10.1787/888934087952

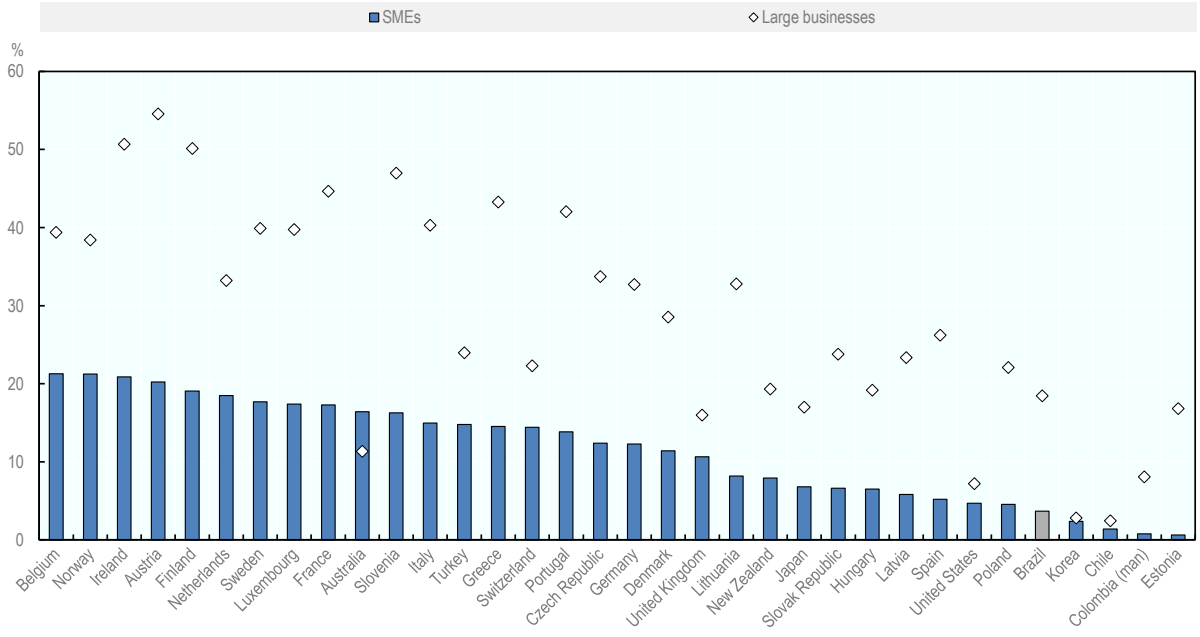
New-to-market products are typically considered the highest form of business innovation. Only 3.7% of Brazilian SMEs report having introduced products new to the market in the period 2012-14, compared with 18.5% of large firms (Figure 2.8). Both figures are low by international standards, although the gap between large firms and SMEs in Brazil is similar to the one in the OECD area (15 vs. 17 percentage points), and Brazilian SMEs do better than SMEs in other OECD Latin American countries (Colombia and Chile).

Innovation in small companies often occurs through collaborative arrangements with other companies and research organisations. The following information on collaboration in innovation is based on "innovative SMEs", i.e. those SMEs that have introduced product/process innovation (i.e. 4.8% of the total in Brazil).

Only 4.5% of innovative SMEs have collaborated in innovation with universities; given that 4.8% of SMEs engage in product/process innovation, this means that only one every five-hundred SMEs in Brazil (0.2%) collaborate with universities or other higher education institutions in innovative projects. Collaboration with either clients or suppliers is more common: about 10% of innovative SMEs report that they have engaged in this type of collaboration. In broader terms, this means that one every two-hundred SMEs (0.5%) has carried out innovative projects together with clients or suppliers in Brazil.

Figure 2.8. SMEs introducing new-to-market products, 2012-14

Percentage values



Note: Percentage of all businesses in each size category within the scope of national innovation surveys, where SMEs are companies with 10-249 people employed. Data for Colombia only refer to manufacturing.
Source: OECD (2017a), *OECD Science, Technology and Industry Scoreboard 2017: The Digital Transformation*, https://doi.org/10.1787/9789264268821-en.

StatLink http://dx.doi.org/10.1787/888934087971

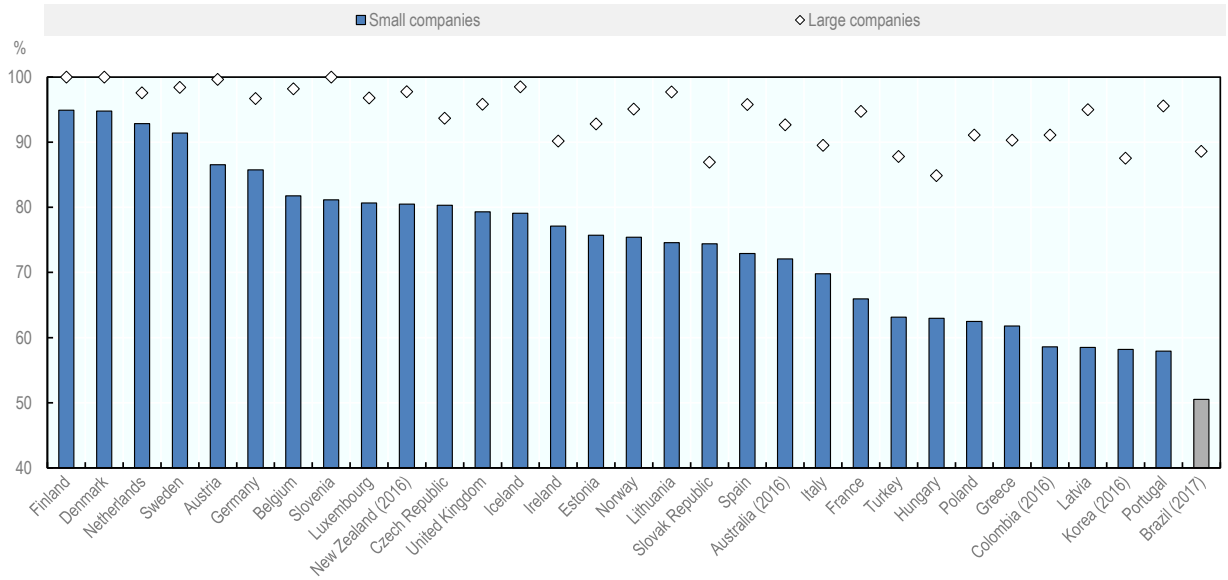
To summarise, business R&D and innovation activity in Brazil is relatively limited by international standards and mostly concentrated in large companies. Going forward, the government should seek to encourage more SME innovation, notably by enhancing targeted measures for SMEs such as R&D grants and innovation-oriented collaborative projects with larger companies and research organisations. These policy leads are further elaborated in Chapters 5 and 7 of the report.

There is a big divide between digital-savvy SMEs and the rest

Another form of business innovation beyond R&D and product development involves the use of digital technologies to increase market shares or make production more efficient. The first step in the business digitalisation journey is typically for a company to have a website to promote and sell online its products or services. Only about half (51%) of Brazilian small businesses (10-49 people employed) have a website in Brazil, which is less than any OECD country including Colombia (59%). The gap between small and large companies in the use of a company website is also large at 38 percentage points, i.e. twice as much as the OECD average (Figure 2.9).

Figure 2.9. Small enterprises with a company website, 2018

Percentage values



Note: Percentage values within the context of OECD and EUROSTAT national surveys. Small companies are companies employing 10-49 people. Large companies are companies employing 250+ people.
Source: OECD ICT Access and Use by Businesses Database.

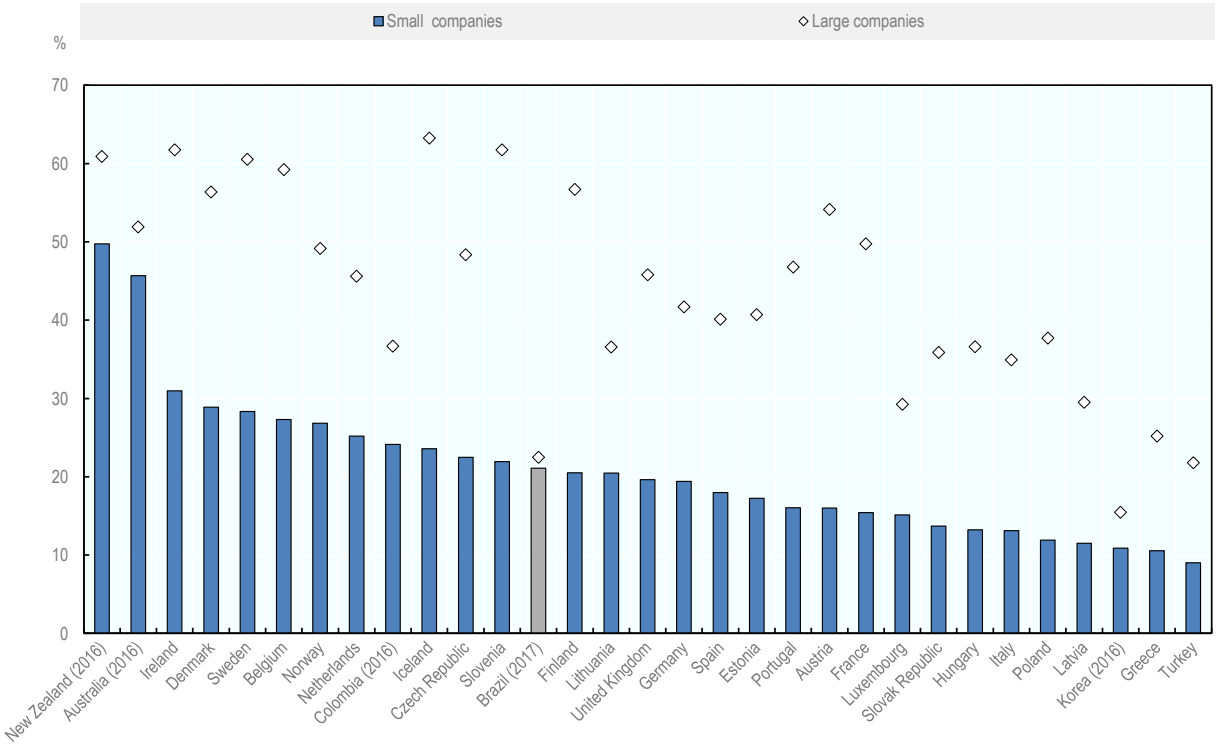
StatLink http://dx.doi.org/10.1787/888934087990

However, when it comes to the proportion of small businesses receiving orders online, Brazilian small companies (10-49 people employed) do better than many of their peers in the OECD area. Twenty-one percent of them report that they have received orders online, above the OECD median value (19.6%) and very close to the value of Brazil's large companies (250+ people employed), i.e. 22.5% (Figure 2.10). There is, therefore, potential for expanding the use of e-commerce in Brazil starting from a good base of businesses receiving orders online.

A further step in the business digitalisation journey is the use of digital technologies such as cloud computing services, Enterprise Resource Planning (ERP) and Custom Relations Management (CRM) software. Brazilian companies, including small companies, do relatively well in the use of these technologies. In particular, Brazilian companies are as likely as Japanese companies (44.6%) to use cloud computing services, while the use of ERP (27%) and CRM (20%) is below the corresponding OECD median values (33% and 30%). These trends are confirmed when looking at the subgroup of small enterprises (10-49 people employed): 22% of Brazilian small companies (10-49 people employed) use ERP and 18% use CRM, compared with OECD median values of 26% in both cases.

Figure 2.10. Small enterprises receiving orders over computer networks, 2018

Percentage values



Note: Percentage values within the context of OECD and EUROSTAT national surveys. Small companies are companies employing 10-49 people. Large companies are companies employing 250+ people.
Source: OECD ICT Access and Use by Businesses Database.

StatLink http://dx.doi.org/10.1787/888934088009

To summarise, a small proportion of Brazilian companies has a presence online through the use of a company website. However, those companies that are online, often receive orders online and are active users of cloud computing services. Moreover, a fair share of companies, including small companies, use more complex software such as EPR and CRM. Against this backdrop, business digitalisation policies should prioritise increasing the number of SMEs exposed to digital technologies, with a view to bridging the divide between digital-savvy SMEs and the rest. This will mostly involve framework policies such as reducing the cost of broadband connection through increased competition in telecommunications. At the same time, the use of more sophisticated technologies, such as ERP and CRM, could be subsidised for those companies readier to tap into global supply chains and/or export. These policy ideas are further elaborated in Chapter 6 of the report.

SME exports

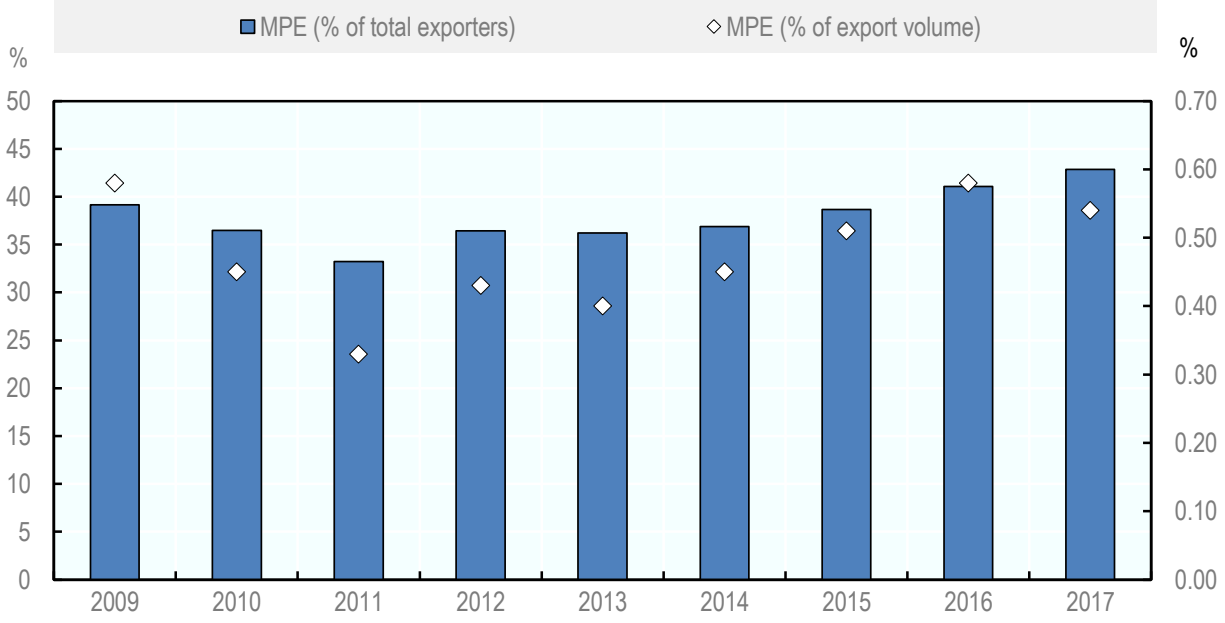
Micro and small enterprises have a marginal role in national exports

This section draws on a publication by SEBRAE (2018) in collaboration with the former Ministry of Industry, Foreign Trade and Services (MDIC) and the National Statistical Office (IBGE). The definition of micro and small enterprises (*micro e pequenas empresas*, MPE) is the one in *Lei Complementar* 123/2006, although the study dates back to 2017 when the MPE revenue threshold was BRL 3.6 million rather than BRL 4.8 million as from 2018.

In 2017, there were about 22 000 exporting companies in Brazil, up from about 19 000 in 2009. This figure, however, does not include exports made through commercial exporting companies (*comerciais exportadoras*).[10] Of the 22 000 exporting companies in 2017, about 9 000 were MPEs, i.e. 41% of the total. However, when it comes to export volumes, the contribution of MPEs is almost trivial: only BRL 1.2 billion out of the total BRL 217.6 billion of Brazilian exports originated from MPEs in 2017, i.e. 0.54% of the total (Figure 2.11). The average export value of an MPE was only USD 131 600, which is the result of many MPEs being one-off exporters (i.e. 37% of micro-enterprises and 23% of small enterprises).

Figure 2.11. Share of Brazilian micro and small enterprises (MPEs) in total exporters and total export volume, 2009-17

Percentage values



Note: Micro and small enterprises (*micro e pequena empresas*, MPE) defined as per *Lei Complementar* 123/2006, i.e. annual gross revenues up to BRL 3.6 million at the time of the study. The annual gross revenues threshold has since then been revised upward, to BRL 4.8 million.
Source: OECD based on SEBRAE (2018), *As Micro e Pequenas Empresas nas Exportações Brasileiras, 2009-2017*, SEBRAE, Brasília.

StatLink http://dx.doi.org/10.1787/888934088028

According to the study by SEBRAE, some of the reasons behind the small export propensity of MPEs are their concentration in labour-intensive sectors exposed to price competition from Asia, their poor integration into global supply chains, and their difficult access to distant foreign markets. Indeed, the Mercosul trade bloc is the main destination of MPE products (21% of total volume), followed by the United States and Canada (20%), and the EU (20%),[11] whereas the main destination of products from medium and large companies is the Asia-Pacific region (34.4%).

Exporting MPEs and medium/large companies also differ with respect to sector composition. While large-company exports are mostly concentrated in manufacturing (83% of total volumes), wholesale and retail trade accounts for 43-45% of total export volume in the case of MPEs. One-third of export products of MPEs are low-tech (33%), but a relatively large share also features medium-high technology intensity (27%).

Finally, the SEBRAE study presents information on the use by MPEs of the Simplified Export Declaration (*Declaração Simplificada de Exportação*, DSE), a simplified custom document which was in use until recently only for exports of value below USD 50 000 over six consecutive months. Unsurprisingly, given the small export threshold, three-quarters of DSE users were MPEs. However, in 2017, only 2 200 MPEs opted for the DSE, i.e. one-quarter of the total 9 000 exporting MPEs. In terms of volumes, only USD 23.3 million were exported through the DSE in 2017. The DSE has recently been replaced by the Single Export Declaration (*Declaração Única de Exportação*, DUE), a new export document which merges different forms and is available to all exporting companies regardless of their size.

On the whole, the role of MPEs in Brazilian exports is quite marginal, thus calling for a comprehensive government strategy to address this issue. The government should certainly strengthen the export culture of SMEs, something which has started to do through the National Export Culture Plan (*Plano Nacional da Cultura Exportadora*, PNCE) in selected pilot states. After a first evaluation of the pilot initiative and setting appropriate performance indicators, the PNCE should be rolled out to all states of the Federation to increase the total number of small exporting businesses. At the same time, the government should work more closely with existing SME exporters, especially those which are not one-off exporters and have exported, in a sustained manner, volumes above the MPE export average (i.e. USD 131 600). These policy issues are further discussed in Chapter 6 of the report.

Entrepreneurship performance and entrepreneurial dynamics

Entrepreneurial attitudes and business ownership

Personal and societal attitudes towards entrepreneurship influence the rate of business ownership and business growth, although both business creation and business growth also depend on macroeconomic conditions and policies, making the relationship between entrepreneurial attitudes and entrepreneurial activity not always straightforward.

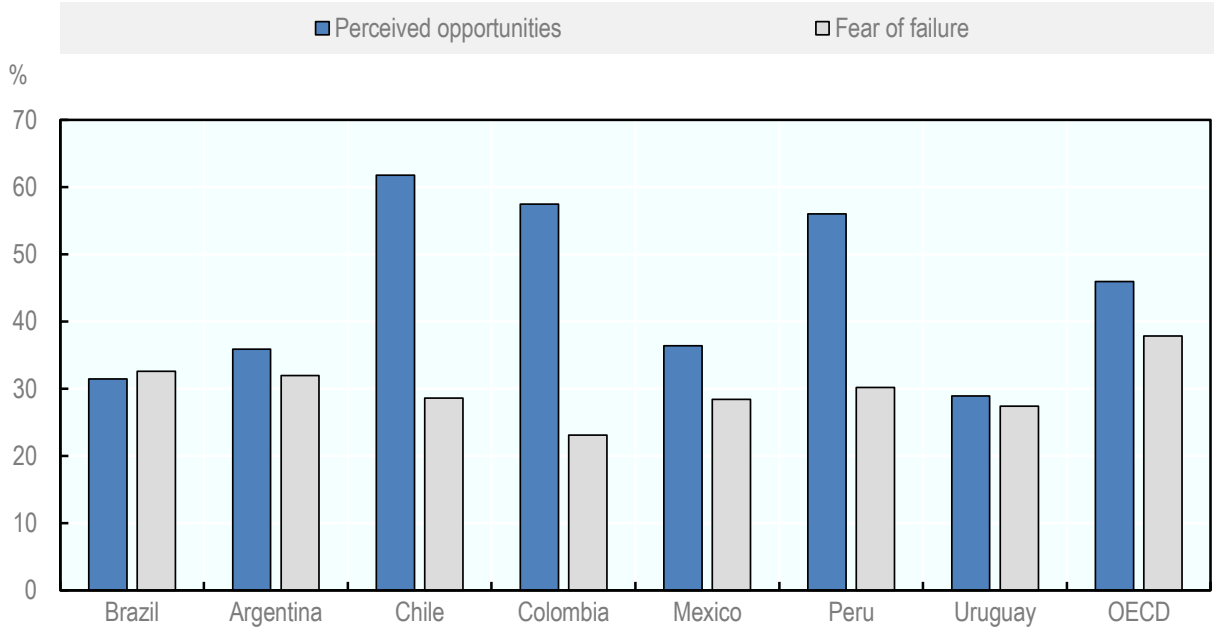
Business ownership is common in Brazil, but there is a lack of growth-oriented entrepreneurship

Data on entrepreneurial attitudes from the Global Entrepreneurship Monitor (GEM) research consortium show that only about one-third (31%) of Brazilian adults (aged 18-64) perceive good opportunities to start a business in the area where they live, less than the OECD simple average (38%) and all Latin American countries taken into consideration except Uruguay (29%). On the other hand, Brazil does better than the OECD average (33%

vs. 38%) when it comes to "fear of failure", which points out the share of those who perceive local market opportunities but who state that fear of failure will prevent seizing such opportunities. Nonetheless, fear of failure in Brazil is still higher than all other Latin American countries taken into consideration (Figure 2.12).

Figure 2.12. Perceived opportunities and fear of failure, 2018

Percentage values (adult population aged 18-64)



Note: Perceived opportunities: Percentage of total adult population (aged 18-64) who see good opportunities to start a business in the area where they live. Fear of failure: Percentage of total adult population (aged 18-64) with positive perceived opportunities who indicate that fear of failure would prevent them from setting up a business. The OECD value is the simple average of the values of the 31 OECD countries for which there is recent information (2016-18).
Source: OECD calculations based on Global Entrepreneurship Monitor (GEM) database.

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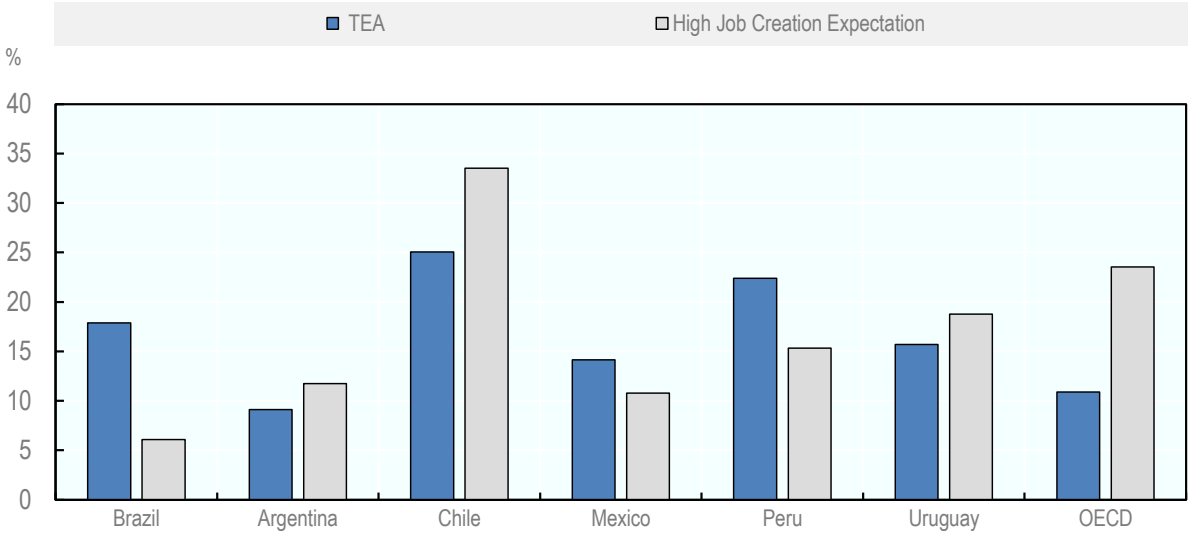
Moving from attitudes to activity, GEM's total entrepreneurial activity (TEA) rate measures the proportion of the adult population who is either a nascent entrepreneur or a new business owner.[12] Brazil's TEA rate is significantly higher than the OECD average (18% vs. 11%), but only 6% of those involved in TEA in Brazil expects to create six or more jobs in the next five years (i.e. the rate of high job creation expectation), compared with 24% in the OECD area (Figure 2.13).

Figure 2.13. Total early-stage entrepreneurial activity (TEA) and high job creation expectations, 2018

Percentage values (adult population aged 18-64)



Note: The total early-stage entrepreneurial activity (TEA) rate provides estimates of the proportion of the adult population (aged 18-64) who have either been involved in a start-up for less than three months (i.e. nascent entrepreneurs), or who have been business owners for less than three-and-a-half years (i.e. new business owners). The high job creation expectation rate gives the percentage of those involved in TEA who expect to create six or more jobs in five years. The OECD value is the simple average of the values of the 31 OECD countries for which there is recent information (2016-18).
Source: OECD calculations based on Global Entrepreneurship Monitor (GEM) database.

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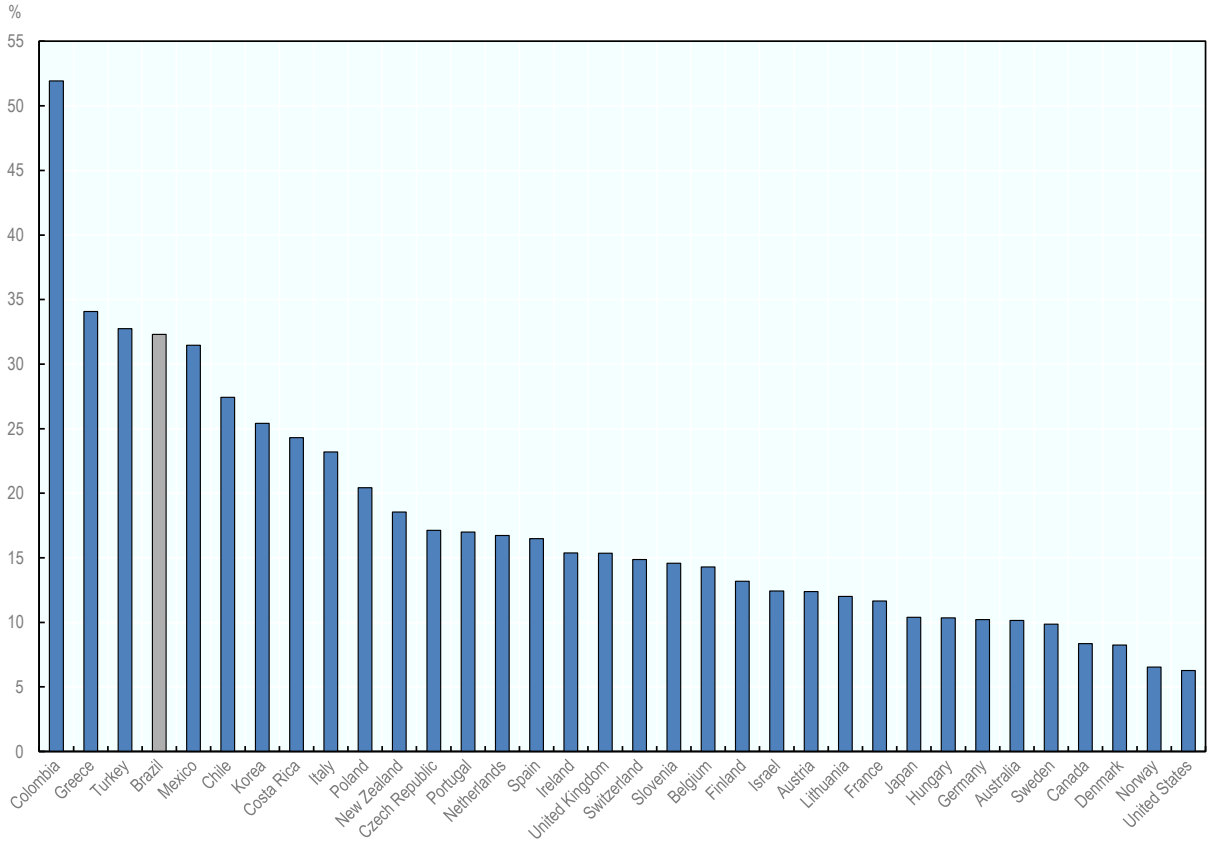
National official statistics reflect these survey data, showing that many Brazilians are already business owners or are involved in the act of business creation, but that the overwhelming majority of businesses are very small and find it difficult to grow. For example, Brazil's self-employment rate (32%) – which measures the proportion of employers and own-account workers in total employment – is twice as high as the OECD median value (15%) (Figure 2.14). Self-employment can be linked to the desire of being one's own boss, but when it is so common it is also likely to include a great deal of necessity-driven entrepreneurship.

Brazil's high self-employment rate is, therefore, also linked to lack of business scale-up and related job opportunities in Brazil. As mentioned above, between 2008 and 2014, when the Brazilian economy grew at an annual average rate of 2.6%, the average SME size did not change, whereas the average size of large companies increased by 4%. This has led some analysts to talk of "missing middle" (Coelho et al., 2017), i.e. the lack of larger SMEs more able than the others to create good quality jobs.

Figure 2.14. Self-employment rates, 2017

Percentage of total employment



Note: Self-employment is defined as the employment of employers, workers who work for themselves (own-account workers), members of producers' co-operatives and unpaid family workers. This indicator is measured as a percentage of the employed population.
Source: OECD Labour Force Statistics.

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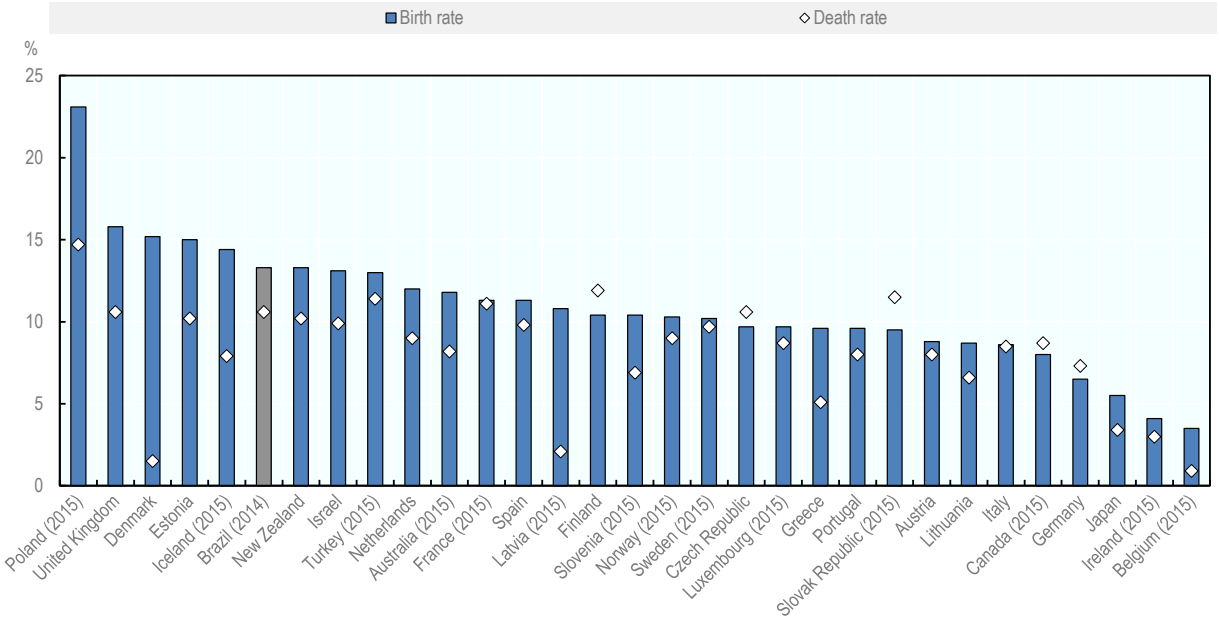
Entrepreneurial dynamics

There is substantial business churning in the Brazilian economy

Business demography indicators show that there is substantial enterprise churning in the Brazilian economy. Taking into consideration only employer enterprises – which have a stronger impact on employment than own-account workers (people working on their own without employees) – Brazil exhibited in 2014 an enterprise birth rate of 13.3% and an enterprise death rate of 10.6%, meaning that in 2014 the number of employer companies increased by 2.7%. Brazil's enterprise birth and death rates are higher than the respective OECD median values (i.e. 10.4% and 8.7%), proving that it is relatively easy to start and close a (small) business in Brazil (Figure 2.15). Nonetheless, the birth rate of employer enterprises declined between 2010 and 2014, from 17.1% to 13.3%, which also led to a drop in the net business creation rate, from 6.9% to 3.4%.

Figure 2.15. Employer enterprise birth rate and death rate, 2016

Percentage values of total employer enterprises



Source: OECD calculations based on OECD Structural and Demography Business Statistics (SDBS).

StatLink http://dx.doi.org/10.1787/888934088104

Business survival rates are high by international standards

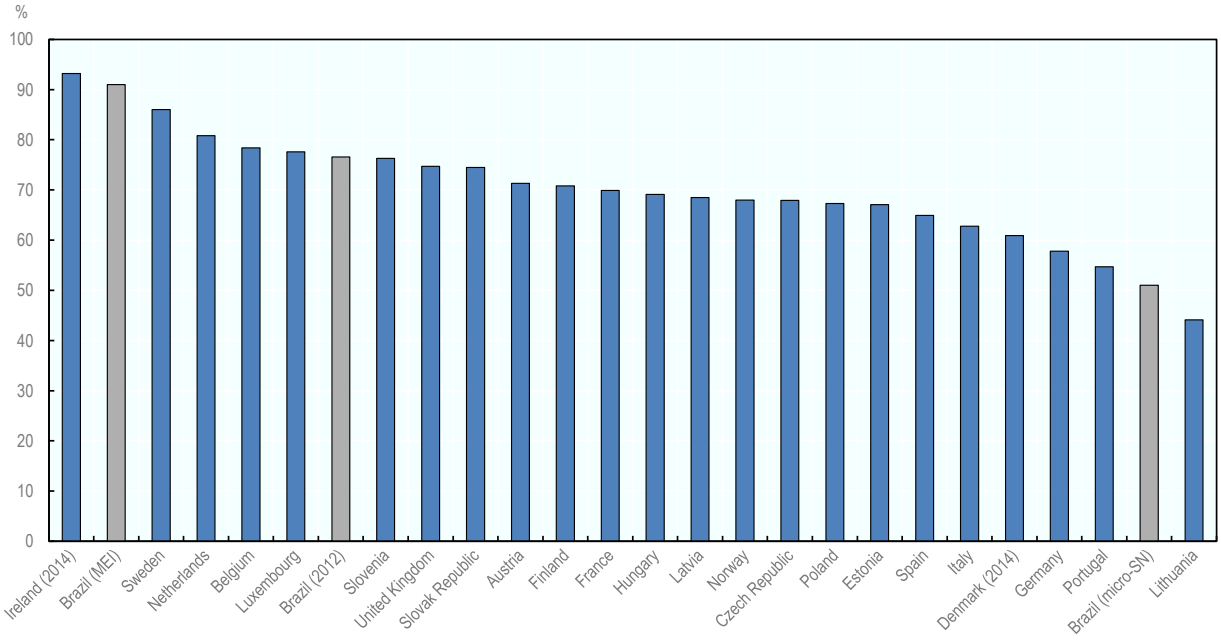
Brazil's enterprise survival rate is also relatively high by international standards, standing at 76.6% in 2012. However, it was only 55.4% in 2009, before the introduction of the *Micro Empreendedor Individual* (MEI) tax and regulatory regime which since 2009 has supported business formalisation. Indeed, disaggregated data on the company legal status show that the average survival rate over the period 2009-12 was much higher for companies under the MEI regime (91%) than for micro-enterprises opting for the Simples Nacional regime (51%), confirming that MEI is helping mostly own-account workers to operate more sustainably in the formal sector. However, the SEBRAE study on business survival also shows that, regardless of the specific firm size, companies which opt for the preferential regime Simples Nacional have two-year survival rates twice as high as of those that do not operate under this regime, e.g. 83% vs. 38% in 2014 (SEBRAE, 2016) (Figure 2.16).

New companies, however, generate few jobs and find it difficult to grow

The entrepreneurial process of "creative destruction" is a main source of job creation and growth. Figure 2.17 shows a negative relationship between "net business creation" (i.e. the difference between enterprise birth and enterprise death rates) and the share of total employment deriving from this process, which is the result of most new businesses starting smaller than the average enterprise size. Against this backdrop, the case of Brazil is interesting because a high "net business creation" rate (2.7%) only generates 0.5% of total employment, whereas other countries achieve a similar employment result through a lower rate of net business creation. This means that new companies generate relatively fewer jobs in Brazil than in most OECD countries.

Figure 2.16. Two-year enterprise survival rate, 2015

Percentage values



Note: The two-year survival rate is measured as follows: number of enterprises in the reference period (t) newly born in t-2 having survived to t divided by the number of enterprise births in t-2. Brazil MEI indicates the average two-year survival rate over the period 2009-12 for companies under the MEI regime. Brazil (micro-SN) indicates the average two-year survival rate over the period 2009-12 for micro-enterprises opting for *Simples Nacional*.
Sources: OECD calculations based on OECD Structural and Demography Business Statistics (SDBS) and SEBRAE (2016), *Sobrevivência das empresas no Brasil*, October 2016, Brasília.

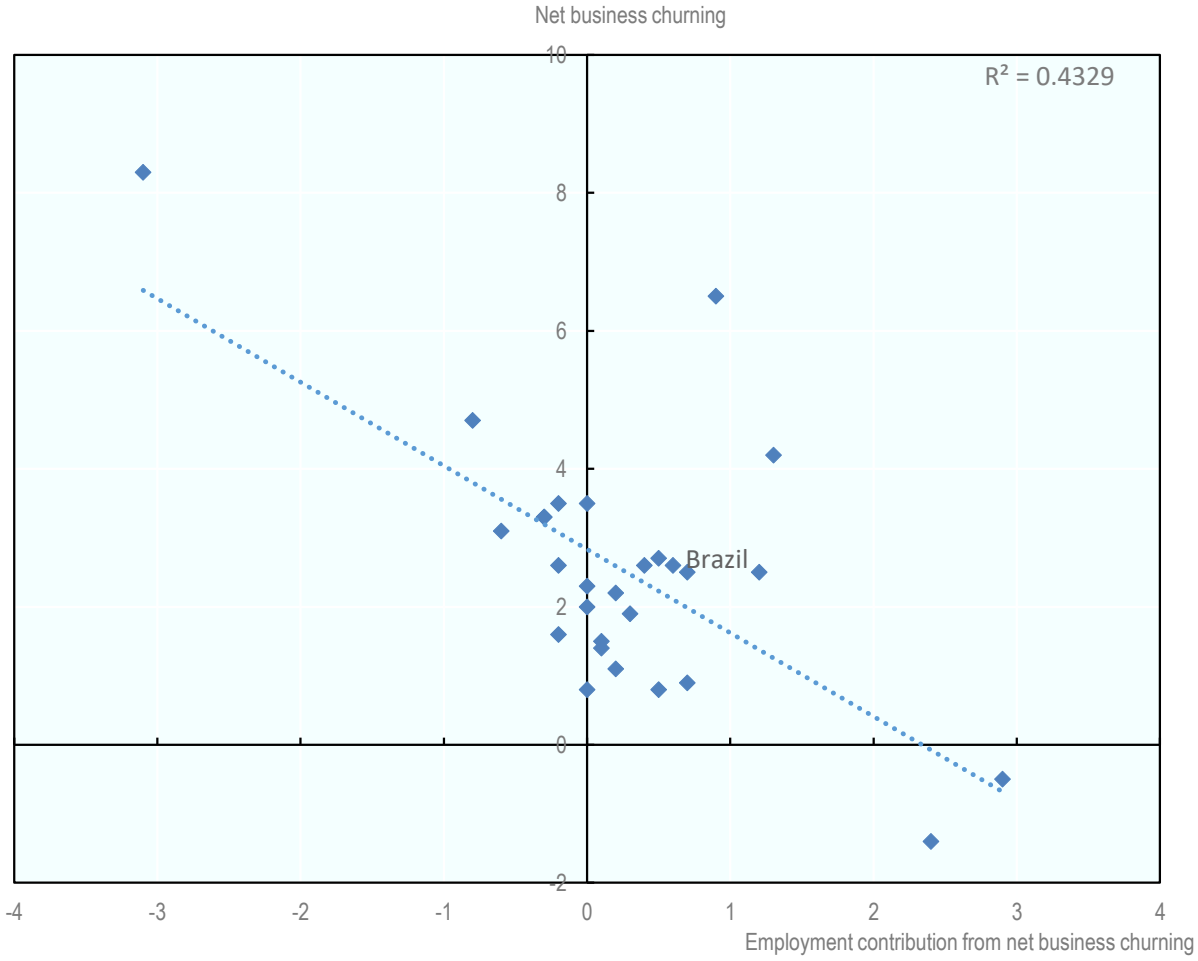
StatLink http://dx.doi.org/10.1787/888934088123

This finding is also supported by empirical research. Coelho et al. (2017), for example, find that the average size (employee-based) of companies in their first year of life is only 2.4. The average number of employees grows almost fivefold in the first 12 years of life, from 2.4 employees to 12 employees. However, if the population of enterprises is divided by firm size at birth, micro-enterprises (1-9 employees) do not mature from their own category even after 12 years in the formal sector, i.e. they do not overcome the threshold of nine employees. Similarly, Bastos and Silva (2017) find that less than 1% of new companies account for over a third of the new jobs created by the same birth year cohort 13 years later.

To wrap up, more than business creation as such, what appears to be a priority for Brazil is to encourage growth-oriented entrepreneurship and business scale-up among SMEs, two objectives that require broad tax and regulatory reforms more closely analysed in Chapter 3 of the report.

Figure 2.17. Relation between net business churning and its employment contribution, 2015

Percentage values



Note: Net business churning is calculated as the difference between the birth and death rates of employer enterprises. The employment contribution from net business churning is calculated as the difference between the employment shares of employer enterprise births and deaths in total employment.
Source: OECD calculations based on OECD Structural and Demography Business Statistics (SDBS).

StatLink http://dx.doi.org/10.1787/888934088142

Brazil has a high but declining number of high-growth firms[13]

High-growth firms (HGFs) are enterprises which grow fast over a short period of time.[14] While Brazil has a relatively high rate of HGFs by international standards, recent IBGE data show that this rate declined between 2013 and 2015 from 7% to 5.4% (IBGE, 2017). The total number of HGFs also dropped by 29%, from 33 373 in 2013 to 25 796 in 2015, and so did the share of employment in HGFs, from 14.2% to 10.4% of total employment. On the other hand, the average salary in HGFs did not decrease significantly between 2013 and 2015, only sliding from 2.8 to 2.7 times the minimum wage.

While HGFs pay salaries almost three times the minimum wage, their average labour productivity (BRL 70 200 per employee) is 10.3% lower than the average productivity of active companies (with 10 or more people employed).[15] Moreover, the average age of HGFs

in Brazil is 13.7 years, slightly lower than the average age of companies with at least 10 employees (15.3 years), but not as young as HGFs are typically believed to be. This is also confirmed by data on "gazelles" (HGFs aged less than 5); in 2015, these were only 0.75% of Brazilian enterprises with at least 10 employees, a low value from an international comparative perspective (OECD, 2017b).

Information on the size of Brazilian HGFs also offers interesting insights. Over half (55.2%) of Brazilian HGFs are small (10-49 people employed), but altogether these companies only employ 12.6% of total employment in HGFs. On the other hand, while large companies (250+ people employed) account for 8% of total HGFs, they host 60% of the total workforce in HGFs. Finally, in line with the experience of other countries, Brazilian HGFs are unlikely to repeat their growth spurt. Over 60% of them experience a decline in employment in the following observation period; about 20% continue to grow, but at a pace slower than 20% per year; and 13% continue on their high-growth trajectory.

This statistical profile corroborates the paucity of growth-oriented entrepreneurship in Brazil and should be borne in mind in the design and implementation of specific programmes aimed at high-growth firms or firms with high-growth potential.[16] These programmes should not overlook the role of mid-sized companies in business high-growth and should not be limited to start-ups and young companies only. At the same time, a deficit in competition may help explain the average old age of Brazilian HGFs and the fact that large established companies account for most HGF employment, pointing to the role of competition policy reforms to increase the number of gazelles (younger HGFs).

The informal sector

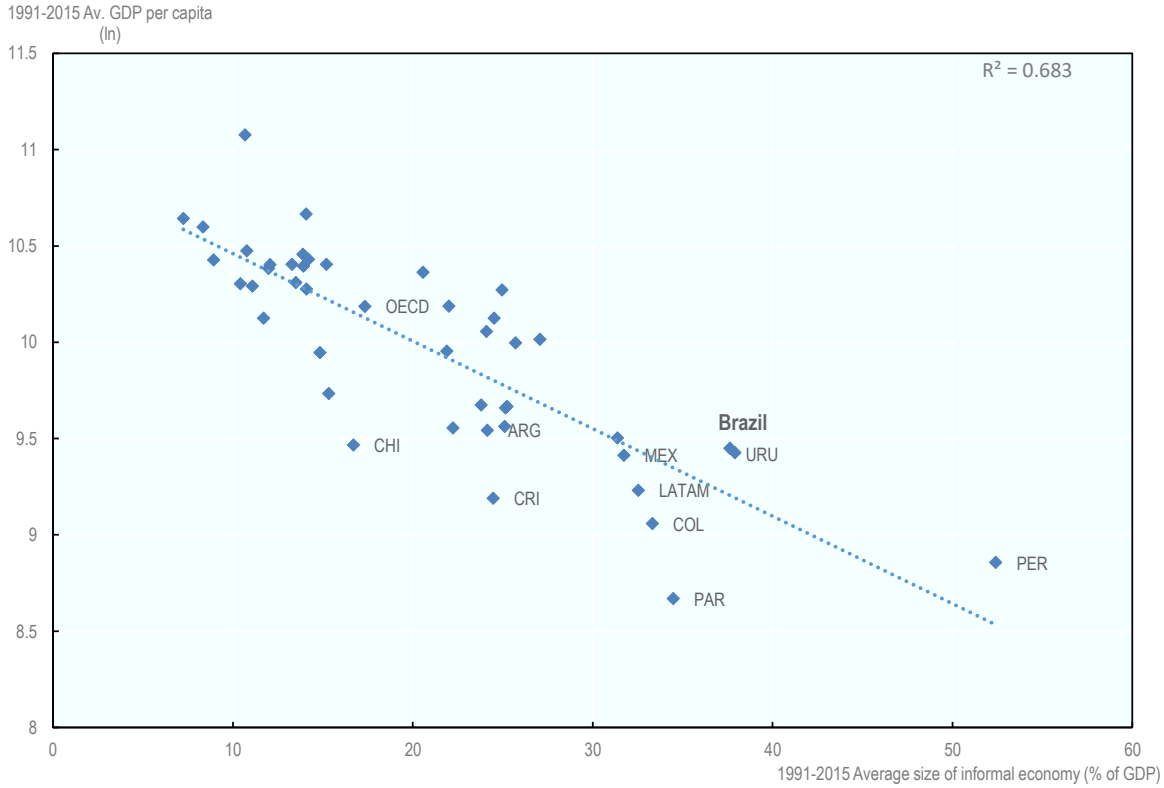
Brazil's share of informality is higher than in other countries at similar levels of income

The analysis so far has only focused on the formal sector. However, similarly to other emerging economies, Brazil's informal economy is large and cannot be completely overlooked in an analysis of the domestic business sector. Figure 2.18 shows a clear negative relationship between the size of the informal sector and the level of income across OECD and Latin American countries.[17] Brazil's position above the trend line indicates that informality in Brazil is more common than in other countries at similar levels of income. More specifically, the average size of Brazil's informal sector was estimated at 38% of GDP between 1991 and 2015, higher than in the three OECD member countries from Latin America (Colombia, 33%; Mexico, 32%; Chile, 17%), the emerging-market average (32%) and the advanced-economy average (17%) (Medina and Schneider, 2018).[18]

Turning to the informal business sector, estimates from SEBRAE based on data from IBGE (SEBRAE, 2019) set the total number of business owners in Brazil at 27.5 million, 71% of whom (19.5 million) are not registered with the National Registry of Legal Entities (*Cadastro Nacional de Pessoas Jurídicas*, CNPJ), which can be considered a proxy of informality. As could be expected, business owners without a CNPJ number are more common among own-account workers (i.e. self-employed people without employees) than among employers (Table 2.1).[19]

Figure 2.18. The long-term relation between the size of the informal economy and income per capita, 1991-2015

Percentage of GDP (informal economy) and natural logarithm of GDP per capita



Note: Informal economy as a percentage of GDP, based on estimates from Medina and Schneider (2018). GDP per capita at current prices and current PPPs, US dollars.
Source: OECD calculations based on OECD National Accounts Database and Medina L. and F. Schneider (2018), *Shadow Economies Around the World: What Did We Learn Over the Last 20 Years?*, IMF Working Paper 18/17, Washington DC.

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Table 2.1. Brazilian business owners with and without a CNPJ number, 2018

	Without CNPJ	%	With CNPJ	%	Total	%
Own-account worker	18 620 529	81	4 443 263	19	23 063 792	100
Employer	911 404	21	3 455 339	79	4 366 743	100
Total	19 531 933	71	7 898 602	29	27 430 535	100

Note: CNPJ (*Cadastro Nacional de Pessoas Jurídicas*) is Brazil's National Business Registry.
Source: SEBRAE (2019), *Estudo sobre o Empreendedorismo Informal no Brasil*, SEBRAE, Brasília.

The sectors in which informality is most common in Brazil are trade and other services such as repair shops and restaurants, which account respectively for 26% and 33% of the value added generated by the informal economy. Average labour productivity in the informal sector is estimated to be only one-quarter of average labour productivity in the formal sector (Nogueira, 2017). This wide productivity gap is partially linked to the sectors in which informality is concentrated (trade and services), which have knowledge and capital intensity below the economy average, but also to other firm-level factors such as low managerial and workforce skills, inadequate use of technology and lack of external finance.

Different sources point to a decline in the size of the informal sector since the early 2000s, which has been fuelled by uninterrupted GDP growth between 2000 and 2014 (Nogueira, 2017).[20] Government policies have also supported business formalisation, notably the *Micro Empreenderor Individual* (MEI), a special regime introduced in 2009 that applies to business owners with annual revenues below BRL 81 000 and who employ no more than one person. As of January 2019, nearly 8 million people had registered with MEI. Based on estimates by SEBRAE, about 600 000 people have formalised their business through MEI since 2009, and between 50 000 and 70 000 upgrade every year from MEI to the *Simples Nacional* regime for companies with annual turnover up to BRL 4.8 million (SEBRAE, 2019).

Overall, the MEI appears to be working well in favouring the formalisation of the self-employed, as also shown by the high survival rate of MEI users. One of its strengths consists in the creation of a parallel, permanent and extremely simplified tax and legal system aimed at own-account workers and micro-employers who would otherwise be unlikely to operate in the formal economy.[21] At the same time, international experience suggests that targeted policies are attractive especially to companies that already operate close to the formal sector (Perry et al., 2007). Hence, the importance of improving the overall business environment and quality of public institutions – e.g. in terms of tax law, labour market regulations, quality of government services – to achieve a deeper and more lasting impact on the reduction of informality.

Conclusions and policy recommendations

This chapter has looked at the industry structure, SME performance and business dynamics of Brazil from an international comparative perspective. The first part of the chapter has shown how wholesale and retail trade plays a very large role in the Brazilian economy: more than half of the total stock of (formal) companies and one-third of (formal) employment belong to this sector. However, trade-based companies are on average very small and feature low average labour productivity, making a large trade sector one of the reasons behind slow productivity growth in Brazil. On the other hand, Brazil's share of industry in national value added is in line with the OECD average, but lower than in other large emerging economies.

Labour productivity levels between Brazil and the OECD have diverged in the last 15 years. The gap in average labour productivity between Brazil and the OECD is the largest in industry and wholesale and retail trade, while it is narrower in construction and services. From a firm-size perspective, Brazil's labour productivity grows less linearly than in the OECD area. Micro and small companies have similar average productivity levels, with average labour productivity only starting to grow from mid-sized firms. In industry, labour productivity along the firm size distribution is even flatter: average labour productivity in micro, small and medium-sized companies does not change much, but it is double the one

in mid-sized firms among large industrial companies. Overall, this suggests the need to reduce productivity gaps between SMEs and large companies, especially in industry, and to foster business scale-up, especially in trade.

The second part of the chapter has looked at the performance of SMEs in terms of innovation and export. Few SMEs do R&D, introduce new products or collaborate in innovation with universities and suppliers. This calls for remedial policies supporting more actively SME innovation, including in collaboration with research organisations and within the context of open innovation systems (see Chapters 5 and 7 for more details).

Closely related to innovation is the use of digital technologies. From an international comparative perspective, a small proportion of Brazilian small companies has a website presence, but a relatively large share of them receive orders online and use more sophisticated technologies such as ERP and CRM. This points to a relatively big divide between digitalised and non-digitalised SMEs, calling for framework policies (e.g. more competition in telecommunications) that can bridge this gap and for targeted approaches that further promote the use of more sophisticated digital technologies in SMEs ready to enter international markets or tap into global supply chains.

Data on exports by micro and small enterprises (*Micro e Pequena Empresas*, MPEs), as defined by *Lei Complementar* 123/2006, show that exporting MPEs are only a small fraction of the total and account for a tiny share of Brazilian exports (0.54%). There is, therefore, scope for increasing the number of exporting MPEs and boosting the volume of MPE exports by, *inter alia*, nurturing the export culture of micro and small companies and developing an account management system to provide tailored assistance to those which export more regularly (see Chapter 6 for further details).

With respect to entrepreneurial dynamics, Brazil exhibits higher-than-average rates of business creation and business destruction, showing that it is relatively easy to start and close a small or sole-proprietor business in Brazil. However, high business churning is not associated with much job creation, and there is evidence that most companies, both new and existing ones, find it difficult to grow, pointing to a lack of business scale-up.

Interestingly, Brazil has a relatively high rate of high-growth firms (HGFs). Most HGFs are small (10-49 people employed), but most HGF employment is found in a small number of large HGFs. Moreover, the average age of HGF is not particularly young, confirming the lack of growth-oriented entrepreneurship in Brazil. This profile suggests that programmes aimed at growth-oriented SMEs should be as open as possible to firms of different size, age and sector. At the same time, competition policy reforms can help increase the number of younger high-growth firms (i.e. gazelles).

Finally, similarly to other emerging-market economies, Brazil's informal sector is large. The MEI preferential tax and regulatory regime has been the main formalisation policy of Brazil, and there is indeed evidence that this policy has helped the formalisation of micro-enterprises and boosted their survival rate in the formal economy. However, there are also some problems associated with MEI (see Chapter 3) and the road towards a smaller informal sector is likely to require broader reforms of the business environment, notably in areas such as taxation, product market regulations and employment legislation.

Policy recommendations on SME performance and entrepreneurial dynamics

- Strengthen competition in the economy by further streamlining product market regulations, including entry regulations and further promoting openness to trade.
- In the frame of SME policies, consider reducing generic support for wholesale and retail trade and strengthening support for knowledge-intensive activities in both manufacturing and services.
- Increase support for collaborative innovation between SMEs, on the one hand, and larger companies and research organisations, on the other.
- Further promote the use of digital technologies such as ERP and CRM among SMEs ready to export and/or tap into global supply chains.
- Encourage SME exports through a comprehensive approach which stimulates the export culture, offers export training opportunities and provides export finance solutions.
- Foster growth-oriented entrepreneurship through targeted programmes such as business incubators and business accelerators, making sure that the latter are open to companies of different size, age and sector.
- Increase awareness of the MEI regime with a view to further encouraging business formalisation.

Notes

[1] When talking of business sector (or business economy), neither government activities nor agriculture is taken into consideration; as a result, industry or services shares of employment and value added in the business sector are not the same as those for the whole economy. Information in this section comes from the OECD Structural and Demographic Business Statistics (SDBS) database, which in the case of Brazil uses data from the IBGE Annual Surveys of Industry, Construction Industry, Trade and Services. This results into different figures from those based on Brazil's Continuous National Household Sample Survey (*Pesquisa Nacional por Amostra de Domicilios Continua*, PNADC). Due to missing information for some sectors in some countries and in order to keep the OECD value consistent throughout the analysis, OECD averages in the sector analysis do not include the following 7 countries: Canada, Chile, Colombia, Japan, Korea, Mexico and the United States.

[2] "Other services" include all other services except wholesale and retail trade and financial and insurance activities. Industry encompasses mining, manufacturing and electricity and gas supply; within industry, manufacturing typically takes the lion's share, especially in terms of employment.

[3] For example, the share of industry employment in two other upper-middle income countries such as Mexico and Turkey is respectively 31% and 30%.

[4] Due to missing information the OECD value in this section does not include the following 9 countries: Australia, Canada, Chile, Japan, Korea, Italy, Lithuania, New Zealand and the United States. It should be noted that figures on SMEs in this section are also affected by the size and performance of the large business segment; for example, higher SME contributions to value added can partly be the outcome of low average productivity in large companies. Similarly, the exclusion of the United States and Japan from the OECD average is likely to make the OECD SME average (both in terms of employment and value added) larger than it would be otherwise.

[5] In Brazil a more common small business definition is the one that follows *Lei Complementar* 123/2006, by which micro and small companies are defined as those with annual gross revenues below BRL 4.8 million. These companies receive preferential regulatory and fiscal treatment through the *Simples Nacional* regime (see Chapter 3) and are the target of the programmes of SEBRAE (*Serviço Brasileiro de Apoio às Micro e Pequenas Empresas*), Brazil's micro and small business agency.

[6] These proportions, which are taken from Qian et al. (2018), refer to the whole economy (including agriculture and government activities), not only to the business sector.

[7] The OECD average does not include Canada, Japan, Korea, Mexico and United States for which information is partial or missing, as well as construction in the case of Chile and Colombia. The lack of data on these countries makes the gap in labour productivity by sector between Brazil and the OECD smaller than it would be otherwise.

[8] National innovation surveys do not collect information on micro-enterprises, i.e. companies employing less than 10 people.

[9] Detailed information on R&D spending in Brazil are available at the MCTIC's website: https://www.mctic.gov.br/mctic/opencms/indicadores/detalhe/recursos_aplicados/indicadores_consolidados/2_1_3.html. Data in this section are mostly OECD calculations, based on data from the IBGE national innovation survey, 2014.

[10] Commercial exporting companies (*comerciais exportadoras*) are companies whose activities include the trading of goods.

[11] *Mercosul* (Mercosur in Spanish) is a trade bloc consisting of Brazil, Argentina, Uruguay and Paraguay.

[12] "Nascent entrepreneurs" are those who have been involved in a start-up for less than three months, whereas "new business owners" have been owners of a new business for less than three-and-a-half years.

[13] Statistical data on high-growth firms in Brazil draw on the 2017 IBGE publication, *Estatísticas de Empreendedorismo*.

[14] The OECD defines high-growth firms as enterprises with average annualised growth in employment or turnover greater than 20% per year, over a three-year period, and with ten or more employees at the beginning of the observation period.

[15] Because productivity is a revenue-based indicator over total employment, lower-than-average productivity in HGFs can be explained either by fast employment growth or by aggressive price-based strategies to gain new markets or by both factors.

[16] Programmes for high-growth firms, such as business accelerators, are typically aimed at companies that have the ambition and potential to grow fast over a short period of time, rather than at a specific subset of firms complying with a strict statistical definition.

[17] Methods to measure economic informality can be grouped under monetary or non-monetary approaches. The first, such as the currency demand approach or the discrepancy between national expenditure and income statistics, gauge the shadow economy as a proportion of national GDP, whereas the latter, which makes the distinction between informal employment and employment in the informal sector, measure informality as a share of total employment.

[18] Currency-based estimates of informality tend to fluctuate from one year to another more than employment-based estimates, which is why an average over a long period of time gives a better appraisal of the size of the informal sector. At the same time, currency-based measurement approaches take a fuller picture of informality than those only based on informal employment.

[19] It should be noted that the same business can have more than one owner and the same person can be owner of more than a business. This means that the rate of business owners without CNPJ cannot be considered *tout court* as the rate of business informality.

[20] More recently, the IBGE reports that after the 2015-2016 recession, the share of workers in the informal sector has increased again (see Chapter 3).

[21] For example, based on SEBRAE data, only 19% of MEI entrepreneurs have a bank account and only 8% of this group has ever received a loan.

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Chapter 3. The business environment for SMEs and entrepreneurship in Brazil

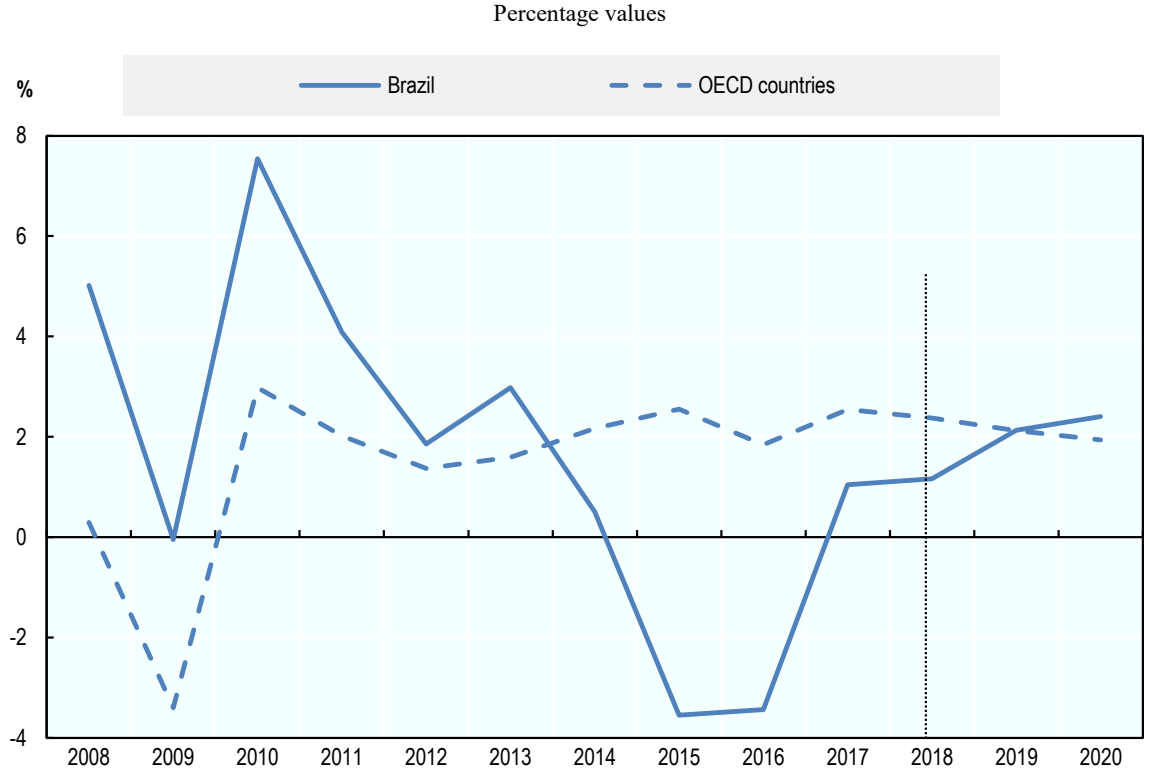
This chapter gives an overview of the main strengths and weaknesses of the business environment for small- and medium-sized enterprises (SMEs) and entrepreneurs in Brazil. Brazil's participation in global trade is only half the OECD average, which limits opportunities for SME exports and SME participation in global supply chains. Product market regulations, including tax compliance, continue to be burdensome for many companies, including larger SMEs ineligible for one of the two existing preferential tax regimes (Simples Nacional and Micro Empreendedor Individual [MEI]). Credit market conditions are also tight for SMEs, as shown by a high interest-rate spread between SME loans and large-company loans. Nonetheless, the government has introduced some important reforms to remedy these problems. In the area of trade policy, local content requirements are being progressively lifted. MEI and Simples Nacional have simplified considerably the regulatory and tax environment for micro and small companies with gross annual revenues respectively below BRL 81 000 and BRL 4.8 million. And a series of policy reforms have reduced the degree of credit subsidy and banking concentration in the domestic credit market.

Macroeconomic conditions

Brazil is recovering from one of the deepest recessions in its history

Brazil grew faster than the OECD area in the wake of the 2008 global financial crisis but experienced one of the worst recessions in its history in 2015-16. Since 2017, gross domestic product (GDP) growth has turned positive again, with growth rates expected to be in line with the OECD average in the coming years (Figure 3.1).

Figure 3.1. Annual GDP growth in Brazil and OECD countries, 2008-20



Source: OECD (2018a), *OECD Economic Outlook, Volume 2018 Issue 2*, https://dx.doi.org/10.1787/eco_outlook-v2018-2-en.

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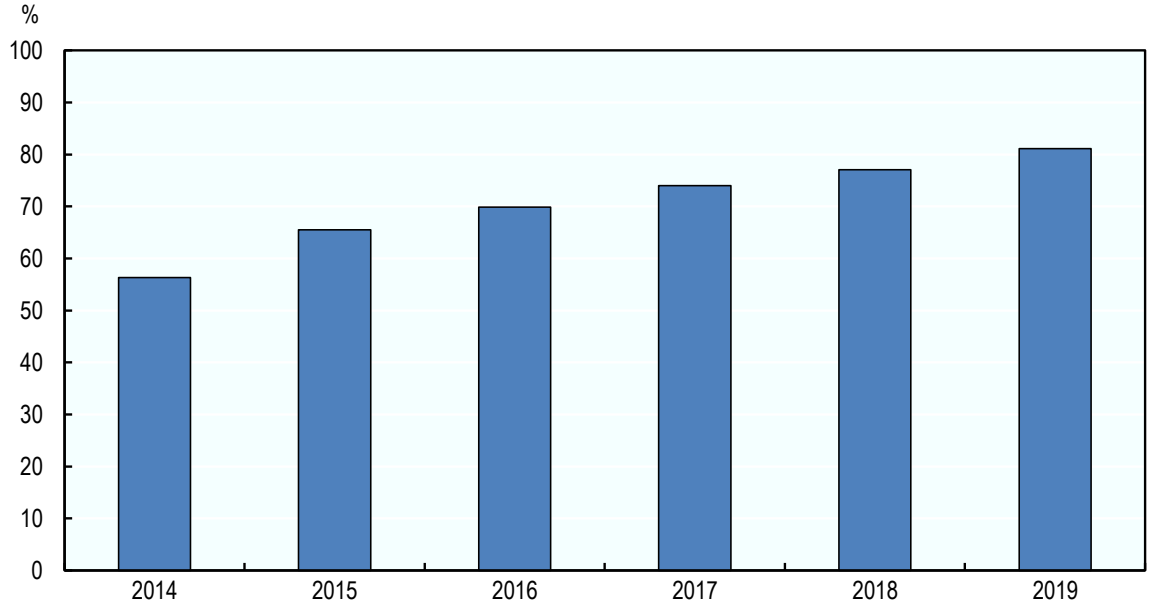
High government deficit is a reason for concern

In 2015, at the peak of the economic recession, Brazil's government deficit reached a record high of more than 10% of GDP. Despite the end of the recession in 2017 and further economic recovery expected in 2019 and 2020, the government deficit is expected to stay above 6% of GDP in 2020, which is the outcome of structural issues such as high and growing spending on pensions and social programmes (World Bank, 2017). The pension reform has, indeed, become one of the main policy priorities of the new government that took office in early 2019.

Government debt in relation to GDP rose from 56% in 2014 to 81% in 2019 (Figure 3.2). The government needs to put in place a major fiscal effort to level the budget, corresponding to 5% of GDP when only the primary balance (i.e. net of interest payments) is taken into account. Without major spending cuts, notably on pensions, public debt is expected to rise further, exceeding 100% of GDP in 2023 and 150% in 2030. The federal government also pays high interest rates on its sovereign debt; in 2018, when the debt was about 77% of GDP, interest-rate expenditures totalled 8% of GDP, well above the OECD average of 2.6% (World Bank, 2017).

Figure 3.2. Gross government debt in Brazil, 2008-19

Percentage of GDP



Source: OECD Economic Outlook Database.

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The federal government also needs to monitor public debt at the state level. This is illustrated by the case of the states of Rio de Janeiro, Rio Grande do Sul and Minas Gerais, which declared a state of financial calamity in 2016 after being unable to repay their debt amounting to 12% of GDP (World Bank, 2017).

Education, skills and the labour market

Education and skills levels

Brazil's educational attainments are lower than those of other countries with similar levels of spending on education

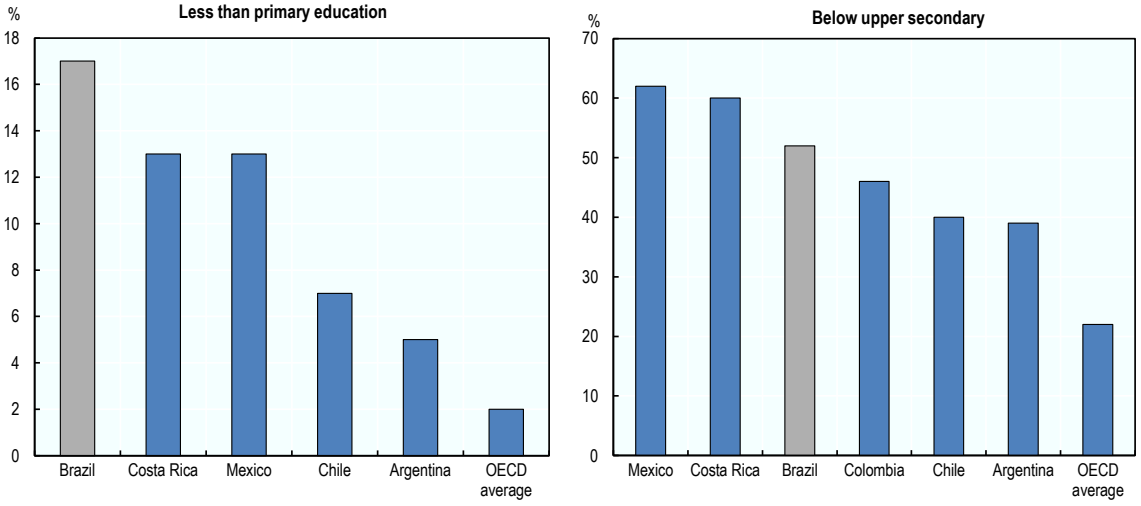
Brazil has made significant strides when it comes to education. In particular, participation in education for children between 5 and 14 has been made universal. Between 2007 and 2017, the proportion of the population aged 25-34 with an education level below upper secondary declined from 53% to 36%. As many as 17% of Brazilians in the same age group

attained tertiary education in 2017, an increase of 7 percentage points from 2007 (OECD, 2018b). Enrolments in higher education also tripled between 2000 and 2015 (World Bank, 2017).

Nonetheless, many challenges remain. Just over half of the population aged 25-64 had not attained upper secondary education in 2017, more than double the OECD average (22%). While Brazil performs better than Costa Rica and Mexico, it does worse than Argentina, Chile and Colombia among other Latin American countries. Moreover, 17% within the same age group (25-64 years old) lacks primary education in Brazil, which is higher than any other Latin American country for which data are available (Figure 3.3). Enrolment rates in Brazil also fall sharply after the age of 14. In 2016, 69% of Brazilians aged 15-19 and 29% of those aged 20-24 were enrolled in some form of education, compared with OECD averages of 85% and 42% respectively (OECD, 2018b).

Figure 3.3. Educational attainment of people aged 25-64 in Brazil and selected Latin American countries, 2017

Percentage of adults with highest level of education attained



Source: OECD (2018b), *Education at a Glance 2018: OECD Indicators*, OECD Publishing, Paris, https://dx.doi.org/10.1787/eag-2018-en.

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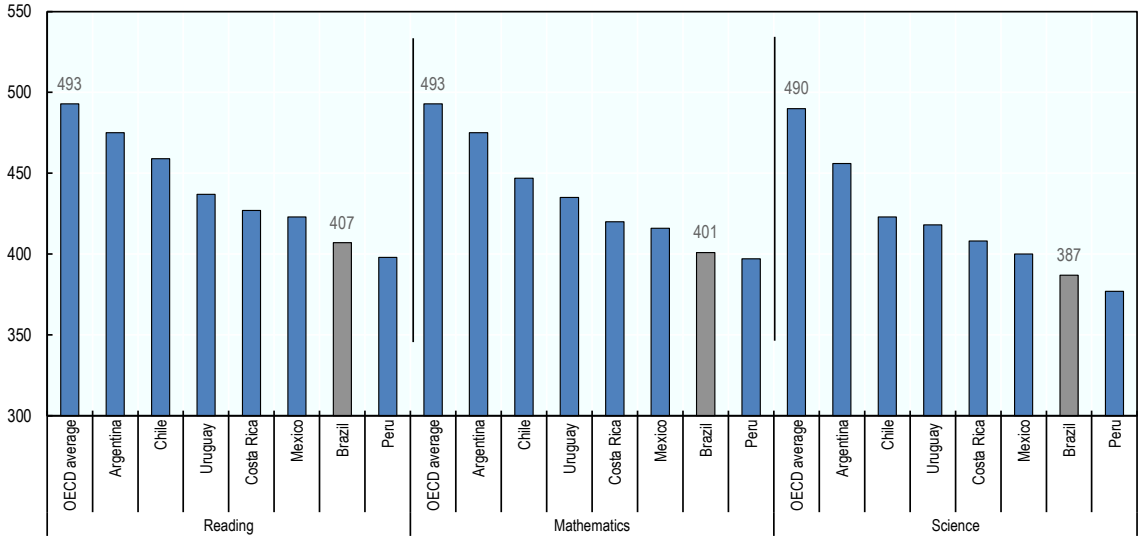
Brazil scores relatively poorly in the OECD Programme for International Student Assessment (PISA), which ranks the performance of 15-year-old students on standardised tests in literacy, mathematics and science. Brazil's scores are below the OECD average in all three indicators and, with the exception of Peru for reading and mathematics, also below those in other Latin American countries covered by PISA (Figure 3.4).

Nonetheless, Brazil's spending on education corresponds to 5% GDP, which is higher than other Latin American countries such as Argentina, Chile, Colombia and Mexico, all of which have higher average PISA scores (Figure 3.5). Thus, there is room for improving the impact of education spending on education outcomes.

Figure 3.4. Performance of 15-year-olds in science, reading and mathematics in Brazil and selected Latin American countries, 2015

Average scores



Note: The test scores for Argentina are from Buenos Aires only.
Source: OECD (2016), *PISA 2015 Results (Volume I): Excellence and Equity in Education*, https://dx.doi.org/10.1787/9789264266490-en.

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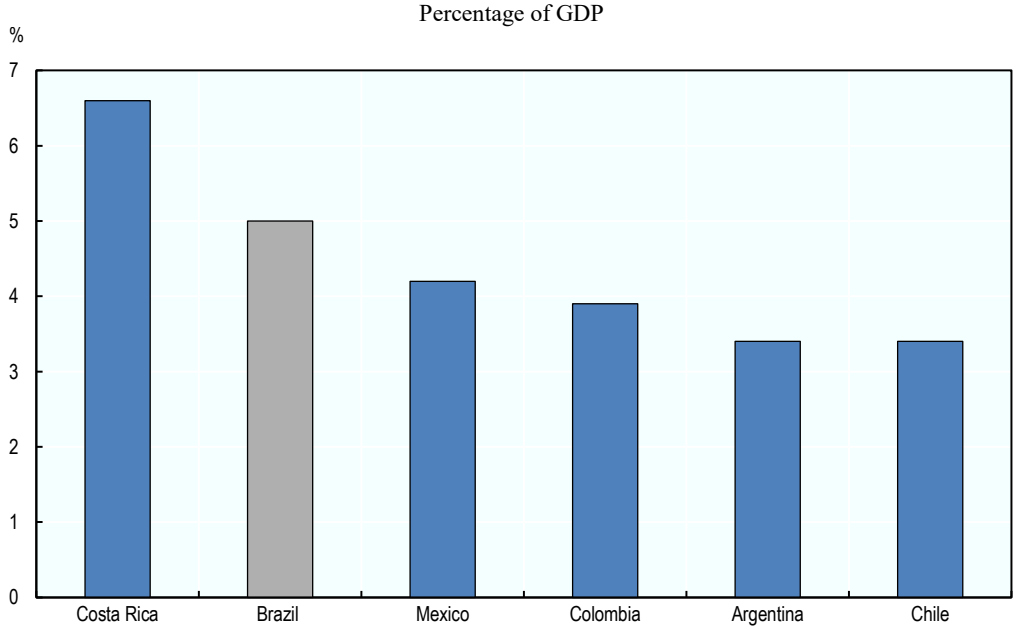
Figure 3.5. Public spending on education in Brazil and selected Latin American countries, 2016

Percentage of GDP



Source: OECD (2018b), *Education at a Glance 2018*, OECD Publishing, Paris, https://dx.doi.org/10.1787/eag-2018-en.

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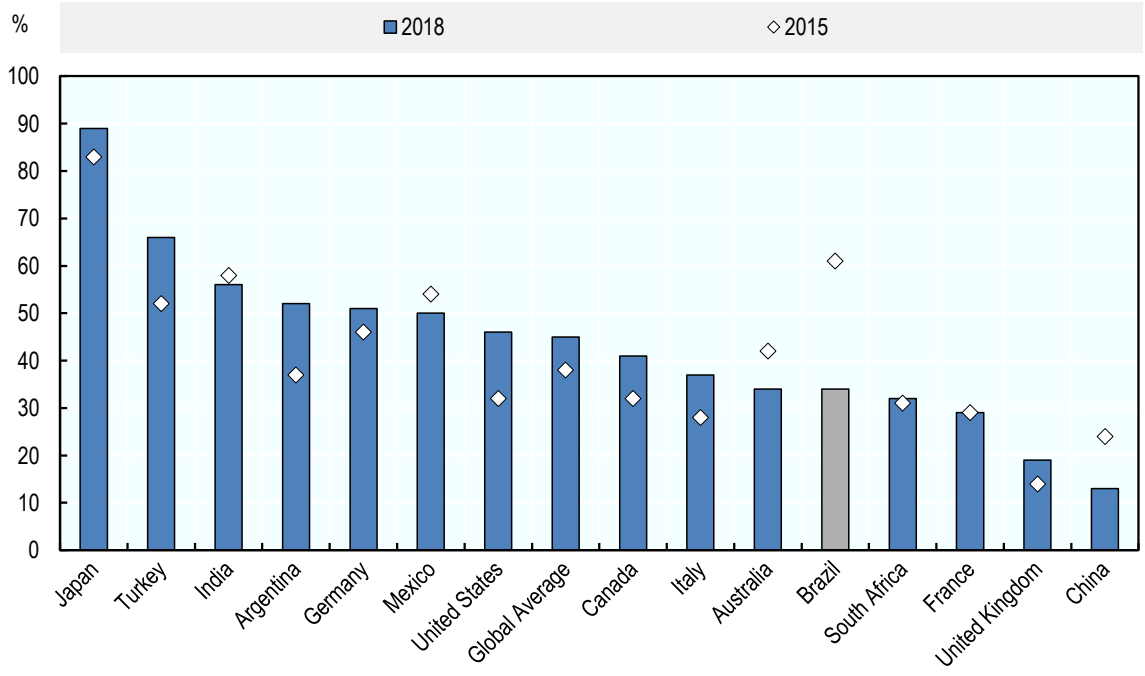
Recent labour market trends and policies

Brazil's skills shortages have eased in the aftermath of the recession

A large-scale survey by Manpower, a Human Resources multinational, show that before the 2015-16 recession, more companies in Brazil (61% of the total) than in other countries were likely to report recruitment problems; after the recession, however, this proportion fell significantly (34%) (Figure 3.6). To the extent that this drop is linked to the consequences of the recession – companies are not pressed to hire during economic doldrums – skills shortages may re-emerge as the economy recovers.

Figure 3.6. Companies facing difficulties in hiring personnel in Brazil and selected countries, 2018 and 2015

Percentage values



Source: Manpower Group 2018 Talent Shortage Survey.

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The recession has caused an increase in informal employment

Following the 2015-16 recession, the official unemployment rate reached 12% in 2017, only to decline marginally in 2018. Unemployment is forecast to decline further in 2019 and 2020, although it should remain above the pre-crisis levels. The rise in unemployment has come with an increase in informal employment: the share of workers in the informal labour market rose from 21.7% in April 2015 to 25.0% in April 2018 (

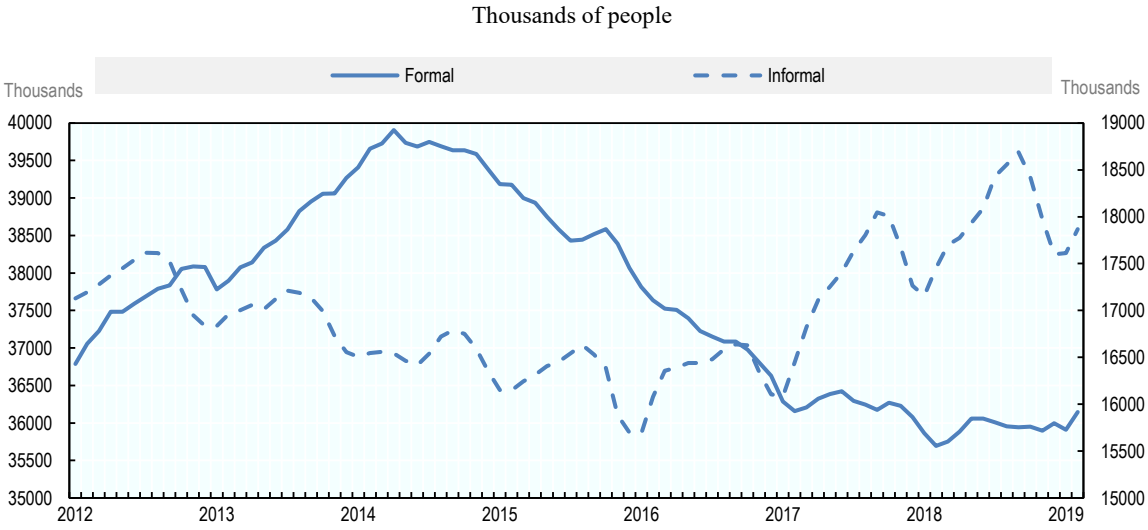
Figure 3.7).

The government has recently introduced an important labour market reform

The OECD Employment Protection Legislation indicators show that Brazil has relatively few restrictions on the dismissal of permanent workers, while regulations on temporary

contracts are stricter than the OECD average and in other Latin American countries (Figure 3.8).

Figure 3.7. Formal and informal employment in Brazil, 2012-18



Note: The left-hand scale refers to formal employment, the right-hand scale to informal employment.
Source: OECD (2018c), *Getting Skills Right: Brazil*, OECD Publishing, Paris, https://dx.doi.org/10.1787/9789264309838-en.

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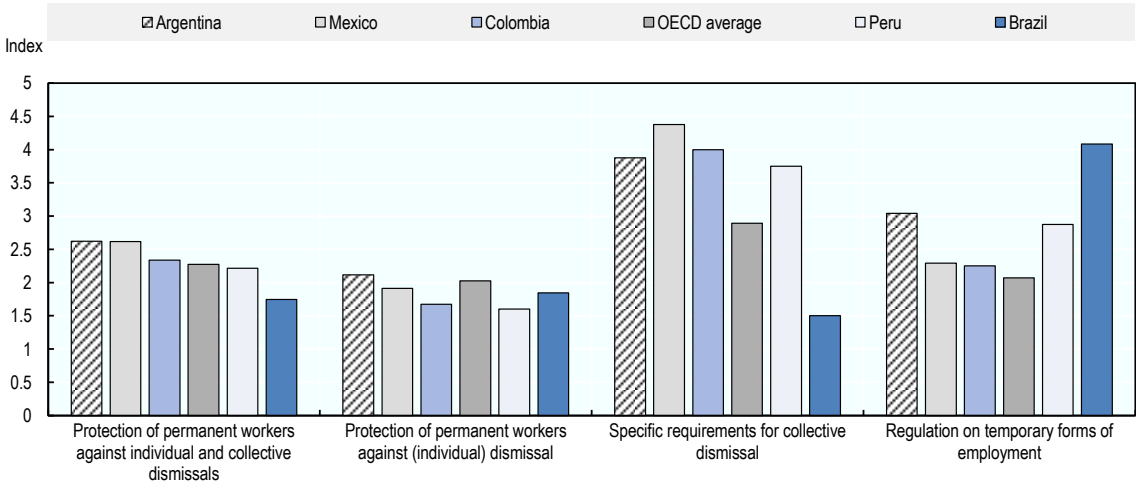
Figure 3.8. Employment protection legislation (EPL) in Brazil and other selected countries, 2014



Note: Data from Brazil are from 2012, data from Mexico are from 2013. The second indicator is a subcomponent of the first, focussing only on individual dismissals that are typically regulated less strictly.
Source: OECD/IAB Employment Protection Database.

StatLink http://dx.doi.org/10.1787/888934088313

Brazil introduced major changes to its labour law in 2017 (*Consolidação das Leis do Trabalho*). One of the main aims of the reform has been to introduce more flexibility in the labour market. For example, the new law allows probation periods of up to 90 days, which have indeed become a common practice. The reform also allows the use of fixed-term contracts for a duration of up to two years in total and has introduced a regulatory framework for intermittent work and labour outsourcing. One of the main outcomes of the reform has been a sharp reduction in the number of labour lawsuits, from more than 2 million between January and September 2017 to less than 1.3 million over the same period in 2018.[1] A survey conducted in 2017 by the National Industry Confederation (*Confederação Nacional da Indústria*, CNI) shows that business owners are sanguine about the effects of the labour reform, with increased flexibility in labour contracts considered to be one of its main benefits (CNI, 2017).

Brazil's government spending on active labour market policies is mostly focused on self-employment support and employment subsidies

Brazil's spending on active labour market policies (ALMP) amounts to 0.5% of GDP, which is in line with the OECD average. However, 56% of ALMP spending goes to self-employment support, while 42% goes to employment subsidies under the form of *Abono Salarial*[2] and *Salário Familia*.[3] By contrast, very little support is offered to train displaced workers or to actively assist them in seeking other employment opportunities. This contrasts with most common approaches in OECD and other Latin American countries (OECD, 2018d) (Figure 3.9), although it should be noted that organisations in *Sistema S* (see Chapters 4 and 5 for more details), which are not formally part of the government, play an important role in training provision in Brazil.

Figure 3.9. Share of expenditure on ALMPs by type of programme in Brazil and selected countries, 2013

Percentage of total expenditure on ALMPs

Source: OECD (2018d), *OECD Economic Surveys: Brazil 2018*, https://doi.org/10.1787/eco_surveys-bra-2018-en.

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Overall, Brazil's ALMP mix does not seem to be well-equipped to tackle unemployment and encourage the transition from informal to formal employment. *Abono salarial* could, therefore, be reformed to help employers recruit first-time job seekers and/or other disadvantaged workers (such as long-term unemployed and older workers) (World Bank, 2017). ALMP spending could also partially be moved from current dominant programme areas – i.e. self-employment promotion and employment subsidies – to training programmes and labour market intermediation.

Vocational education and training (VET) policies have recently been reformed to increase their effectiveness

Only 9% of Brazilian students in upper secondary education are enrolled in vocational education, compared with the OECD average of 44% (OECD, 2018b). Until recently the main federal policy to increase the number of VET students was PRONATEC (*Programa Nacional de Acesso ao Ensino Técnico e Emprego*), which between 2011 and 2017 reached about 8 million students through a budget of BRL 14.5 million (OECD, 2018c). Different evaluations, however, point to the modest impact of PRONATEC on the employability and wage of participants. In some cases, the impact has even been estimated to be negative, to the extent that participants in some states had fewer chances of joining the formal labour market than non-participants (Barbosa Filho et al., 2015).

One exception has been the small component of PRONATEC operated by former MDIC, which absorbed 2% of the total number of participants (about 160 000 people) and whose courses were set up at the explicit request of individual businesses through a website called Supertec. Empirical evidence shows that the impact of these demand-driven courses on the employment of participants has been more positive than in the case of other PRONATEC courses. In addition, participants in PRONATEC-MDIC often found employment in firms other than those that had requested the course, thus showing that the training offer had been able to identify local skills shortages (O'Connell et al., 2017).

It follows that one of the main problems associated with the mainstream PRONATEC courses has been precisely their lack of alignment with local skills needs. The programme did engage in some consultations with social partners and the private sector, but not in a structured and regular way. PRONATEC courses had to be selected from a predefined national catalogue, which is probably not the best way to keep up to date with local skills needs. As a result, some Brazilian states developed their own professional training courses outside of PRONATEC to better address local skills demands (OECD, 2018c).

The federal government is expected to launch in 2019 a new VET policy, *Emprega Mais* (Employ More). This new initiative will seek to address the lack of skilled workforce at the firm level, the mismatch between skills demand and skills supply at the local level and the link between vocational training and employability. *Emprega Mais* targets three main objectives: the re-insertion of the unemployed in the labour market; the upskilling of existing workers; and the inclusion of the youth in the labour market. It will be important for this new policy to learn from the experience of PRONATEC, notably about the importance of receiving inputs and feedback from the private sector for the design of a relevant training offer.

International trade conditions

Brazil is not sufficiently integrated into global trade

Brazil is not sufficiently integrated into global trade, which is a major impediment to SME internationalisation. Trade flows, defined as the sum of exports and imports, were 29% of GDP in Brazil in 2018, much lower than the OECD, the World and the Latin America and the Caribbean (LAC) averages (respectively 57%, 56% and 47%). Other indicators corroborate Brazil's limited integration into global markets. The foreign value-added content of gross exports, an indicator of backward trade linkages and integration in global value chains, was 10.2% in 2016. This is slightly above the South and Central America average (9.9%), but significantly below the OECD and G20 averages (respectively 19.3% and 18%) (OECD, 2018e).

Some of the reasons behind Brazil's limited participation in global trade are relatively high tariff and non-tariff measures, poor infrastructure quality, the large size of the domestic market which reduces the needs for exporting, as well as low export culture and managerial skills of Brazilian small business owners. By way of example, the percentage of imports subject to at least one non-tariff measure is higher in Brazil than the world average: 89% for technical regulations and conformity assessment procedures, 66% for sanitary and phytosanitary measures, and 65% for quantity controls, which are all above the world average (Dutz, 2018).[4] As to the quality of infrastructure, between 2013 and 2017, gross capital formation declined by a combined 28% in Brazil (OECD, 2018a). A study by the Inter-American Development Bank (IDB) also finds that lower transport costs, through an improvement in factory-to-port infrastructure, would have a significant impact on trade, particularly on those municipalities that export less because of lack of connections to main roads and railways (Mesquita Moreira, 2013).

The potential benefits of trade liberalisation are large

The potential benefits of trade liberalisation are large. An OECD study simulates the impact linked to: i) a reduction in import tariffs; ii) the lift of local content requirements; iii) a reduction in export taxes. The study estimates that these three policy changes together would increase total exports by around 30%, especially in manufacturing, and would create up to 1.5 million new jobs, especially among low-skilled people (Araújo and Flaig, 2016). Another simulation exercise from the World Bank gauges the economic impact of trade policy reform under three scenarios: i) a unilateral reduction of tariffs by 50% towards non-Mercosur countries and a streamlining of non-tariff measures among Mercosur countries;[5] ii) a reciprocal preferential trade agreement between Mercosur and the EU; and iii) a preferential trade agreement between Mercosur and the Pacific Alliance group.[6] The study finds large positive impacts on exports in all three scenarios – in the order of magnitude of 7%, 5% and 2% respectively – as well as an impact on GDP of around 2% if all these scenarios were to materialise (Reis et al., 2018).

The government has introduced trade liberalisation reforms

Brazil has recently introduced important reforms in the area of trade liberalisation. In mid-2019, the government published a list of national priority goals that include the reform and reduction of the Mercosur Common External Tariff, the reduction of national tariffs for capital and IT goods under the Mercosur agreement, the adoption of trade facilitation measures, and the negotiation of new free trade agreements.[7] Particularly important is the recent free trade agreement signed by Mercosur and the EU in June 2019, which also includes a specific provision to help SMEs tap into global value chains, participate in

government procurement and set international joint ventures. This agreement will play a very important role in enhancing openness to trade, but it will have to be ratified by national parliaments to come into effect. With respect to non-tariff measures, Brazil has taken steps to reduce the use of local content requirements and, as part of the Mercosur bloc, it has concluded regulatory coherence agreements with the EU, Mexico and Canada.

Chapter 6 of this report investigates more closely Brazil's targeted programmes to support SME exports, including export training, export finance, trade facilitation and supplier development programmes.

Public governance

Government effectiveness and transparency is perceived as low in Brazil

The World Bank collects information on the quality of governance through the Worldwide Governance Indicators (WGI). The six indicators – political stability, government effectiveness, regulatory quality, rule of law, control of corruption and voice and accountability – show that Brazil performs poorly compared to other Latin American and emerging economies in the areas of government effectiveness and control of corruption, whereas Brazil's performance is broadly in line with the other countries in the other indicators (Figure 3.10).

Low trust in the government is also confirmed by *Latinobarómetro*, a private non-profit organisation that runs a large survey in LAC countries on an annual basis. The 2017 edition showed that only 7% of Brazilians declare trusting their government, lower than any other participating country. In addition, 17% of Brazilians consider corruption to be the most pressing issue, only behind Colombia and Peru (Latinobarómetro, 2018).

While these figures need to be taken seriously, it should be noted that they also come at a time when large-scale corruption has been on the spotlight in Brazil for many years due to the investigation called *Lava Jato* (car wash), which has been underway since 2014 and has uncovered a vast network of bribes and money laundering involving high-profile politicians and businessmen.

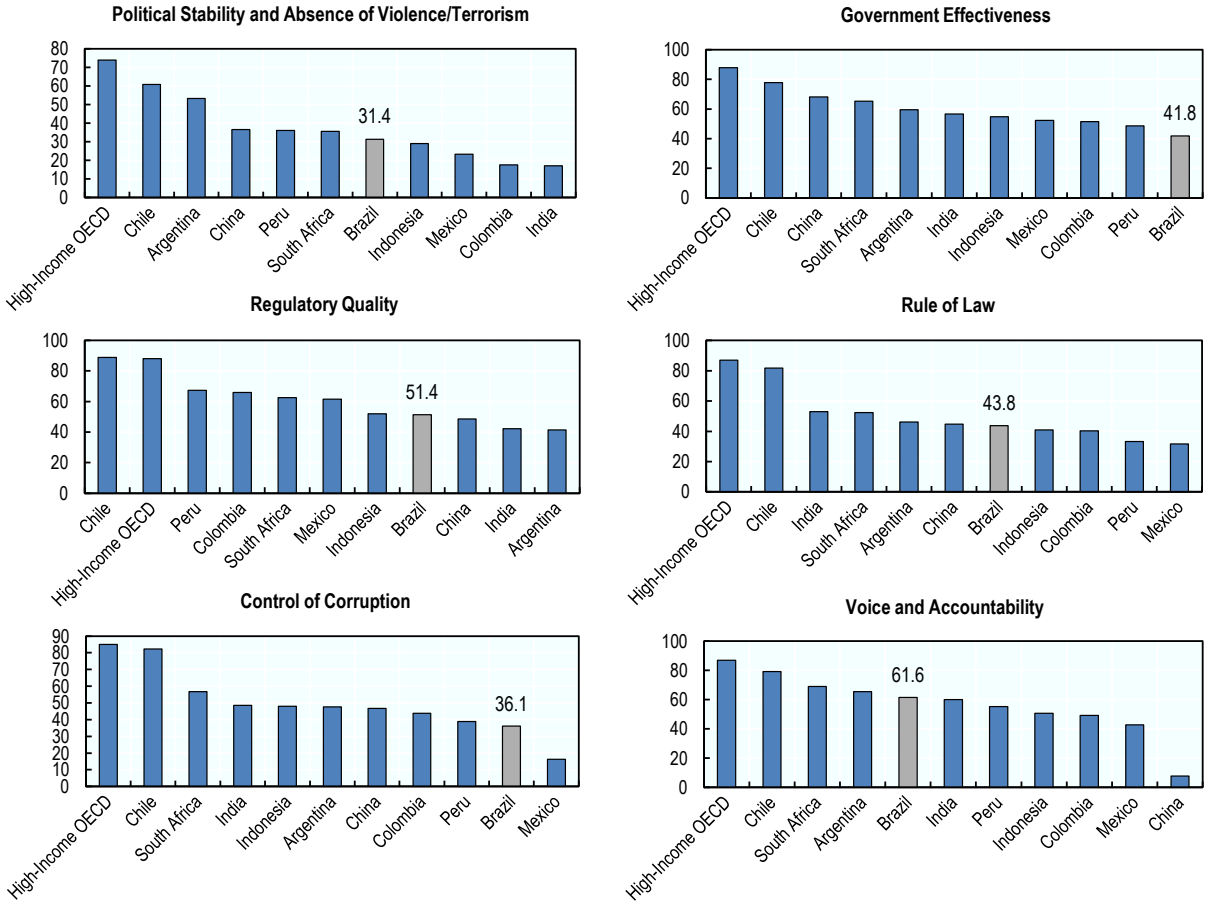
Recent actions to improve public governance should be consolidated

Brazil has taken important actions to improve public governance in recent years, especially through the issuance of Presidential Decree No. 9.203/2017 which aims to establish appropriate internal control and risk management frameworks to tackle corruption. As part of the decree, the government is developing procedures to design, implement, monitor and evaluate integrity programmes, risk management and internal controls (OECD, 2018f).

The Brazilian government has also, by and large, embraced the opportunities that digitalisation can offer to provide services in a more inclusive, transparent and collaborative way. In 2016, the government adopted the Digital Governance Strategy 2016-19, which was updated in 2018. The strategy sets priorities such as "promoting the availability of open government data, boosting the use of digital technologies for transparency purposes, improving the delivery and use of public digital services, securing the take-up of digital identity (…) and increasing citizen participation through digital platforms" (OECD, 2018g).

Figure 3.10. Governance indicators in Brazil and selected countries, 2017

Percentile rank among all countries, from 0 (lowest) to 100 (highest)



Note: "High-income OECD" includes all OECD member countries except Mexico and Turkey. Stability and Absence of Violence/Terrorism measures perceptions of the likelihood of political instability and/or politically motivated violence, including terrorism. Government effectiveness reflects perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures. Regulatory quality reflects perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development. Rule of law reflects perceptions about the quality of contract enforcement, property rights, the police and the courts, as well as the likelihood of crime and violence. Control of corruption reflects perceptions about the extent to which public power is exercised for private gain, including both petty and grand forms of corruption.
Source: The Worldwide Governance Indicators (WGI) – World Bank.

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The tax environment

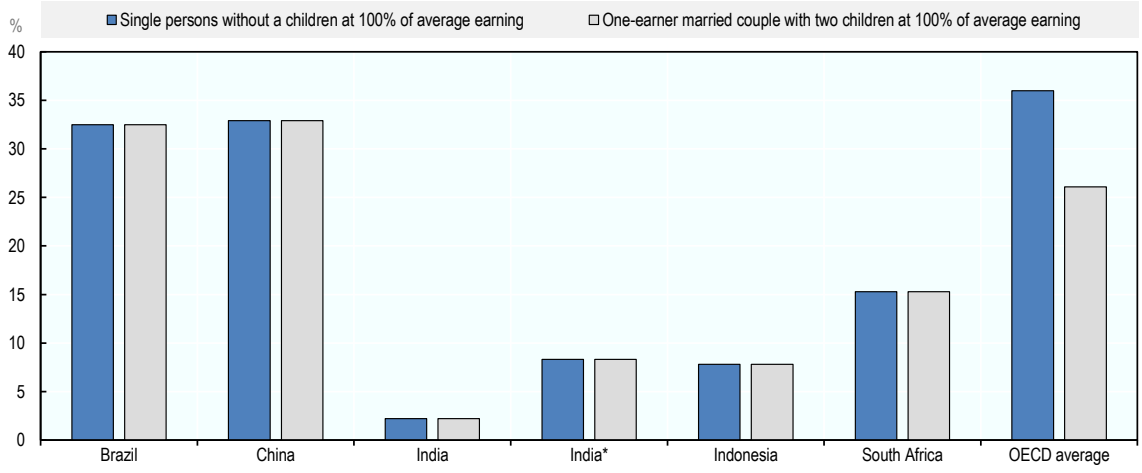
The standard tax system

Brazil's tax burden is high

Tax revenues as a percentage of GDP amounted to 32.2% in Brazil in 2016, close to the OECD average of 34.2%, but well above the LAC average of 22.7%. A distinctive feature of the Brazilian tax system is that more than 30% of tax revenues are collected at the subnational level, which is the result of the federal nature of the Brazilian state (OECD/CIAT/IDB/ECLAC, 2018). Brazil raises most of its tax revenues from value-added taxes (VAT) and from corporate taxation. Brazil's statutory corporate income tax (CIT) rate is indeed 34%, one of the highest CIT rates worldwide (World Bank, 2018a). On the other hand, few tax revenues originate from capital gains tax and from inheritance and property taxes. The former features different tax rates depending on the type and level of investment, making collection difficult. Tax collection on property is undermined by outdated valuation methods and property cadastres. A simplification of capital gains taxation and an overhaul of the cadastre system could help diversify Brazil's sources of government fiscal revenues and thereby reduce the CIT rate (World Bank, 2018a). Finally, Brazil's tax wedge on labour (defined as income tax plus employee and employer contributions minus cash benefits as a percentage of labour costs) is comparable to the OECD average and China (Figure 3.11).

Figure 3.11. Nonwage costs in relation to total labour costs, 2016

Percentage of total labour costs



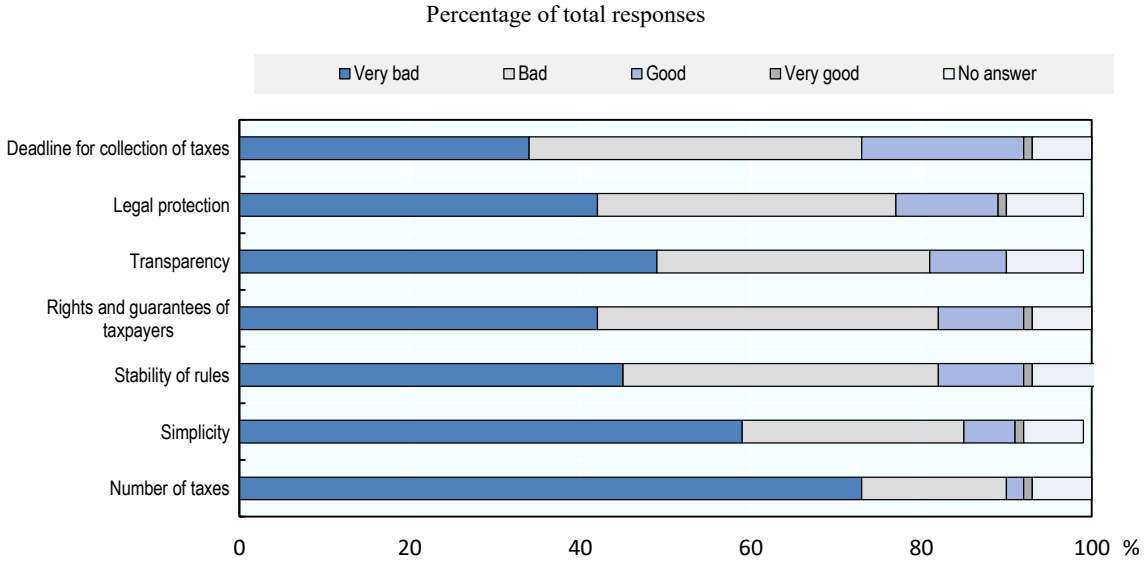
Note: This indicator measures income tax plus employee and employer contributions less cash benefits as a proportion of labour costs, 2016. India: This rate applies when the employee works in a firm with more than 20 employees.
Source: OECD (2018h), *Taxing Wages 2016-2017. Associated Paper: Selected Partner Economies (Brazil, China, India, Indonesia and South Africa)*, OECD Publishing, Paris. https://www.oecd.org/tax/tax-policy/taxing-wages-selected-partner-economies-biics-2018.pdf.

StatLink http://dx.doi.org/10.1787/888934088370

Brazil's tax compliance costs are also high

A CNI survey highlights a general dissatisfaction of industrial firms with the national tax system. Respondents to the survey considered the sheer number of taxes the main problem, followed by compliance complexity and the predictability of tax rates and tax rules. Other areas for improvement included the rights and guarantees of taxpayers, the transparency of the tax system, and deadlines related to tax collection (Figure 3.12). Firms under the Simples Nacional regime (see below) expressed a less negative opinion about the tax system than those under the mainstream regime. Nonetheless, a majority of them were also dissatisfied, especially with respect to the number of taxes and tax complexity (CNI, 2015).

Figure 3.12. Evaluation of the quality of the Brazilian tax system, 2015



Note: The sum of the percentages may differ from 100% due to the rounding of percentages.
Source: CNI (2015), "Indústria reprova sistema tributário brasileiro", *Sondagem especial 63*. http://arquivos.portaldaindustria.com.br/app/cni_estatistica_2/2015/08/28/189/SondEspecial_Tributacao_Agosto2015.pdf.

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Payroll taxes, for example, are characterised by a host of levies such as FGTS (*Fundo de Garantia do Tempo de Serviço*), a compulsory savings instrument for Brazilian employees, and contributions to *Sistema S*, among others (Table 3.1) (Appy, 2015).

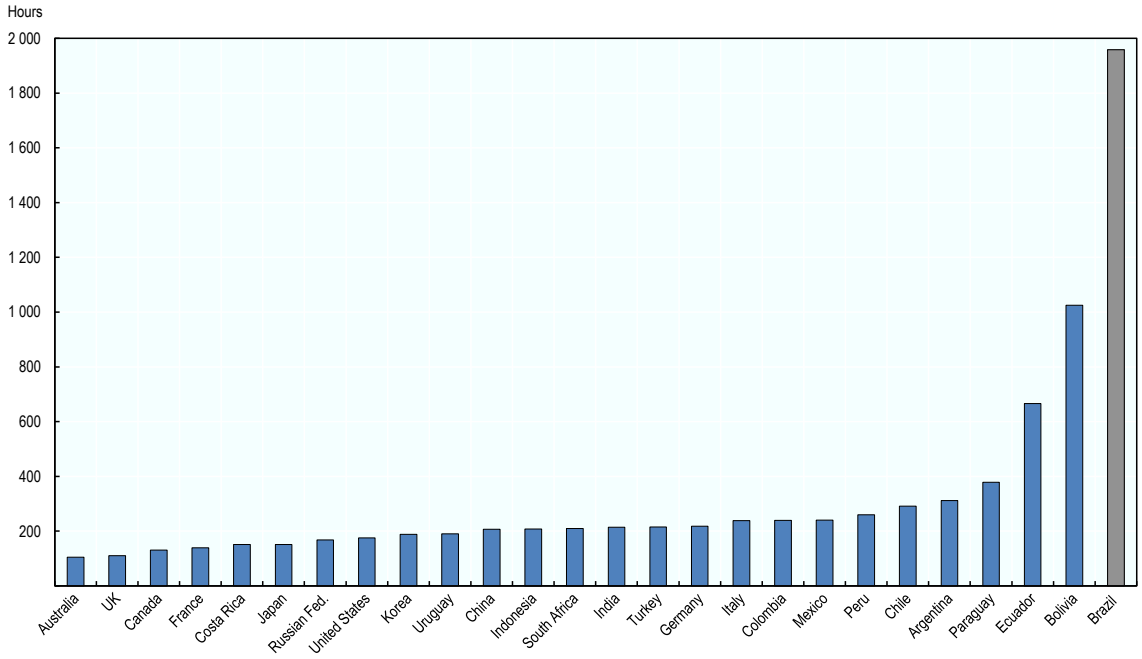
Table 3.1. Breakdown of taxes on payroll for a typical industrial or commercial company in Brazil, 2014

	Minimum (%)	Maximum (%)
Company's contribution	34.3	39.8
Social Security (INSS)[1]	20	
Work Accident Insurance (SAT)[2]	0.5	6.0
Education Tax[3]	2.5	
Sistema S[4]	2.5	
SBRAE – Brazilian Micro and Small Business Support Service	0.6	
INCRA – National Institute for Colonization and Agrarian Reform	0.2	
FGTS – Fundo de Garantia do Tempo de Serviço[5]	8.0	
Employee's contribution to Social Security (INSS)[1]	8.0	11.0
Total without FGTS	34.3	42.8
Total	42.3	50.8

1. *Instituto Nacional do Seguro Social* is the National Institute for Social Security.
2. *Seguro de Acidente de Trabalho*. Its rate depends on the harmfulness of the work.
3. *Salário-Educação* is a tax financing public basic education project.
4. *Sistema S* finances the Autonomous Social Services, providing training to employees.
5. Fund created with the objective of protecting workers who are dismissed without a just cause by opening an account linked to the employment contract. At the beginning of each month, employers deposit 8% of the salary of each employee in accounts in the Federal Savings Bank, on behalf of the employees.
Source: Appy, B. (2015), *Por que o Sistema Tributário Brasileiro Precisa ser Reformado*, http://www.ccif.com.br/wp-content/uploads/2018/07/Appy_Tributa%C3%A7%C3%A3o_1610.pdf.

International statistics also confirm that Brazil's tax system is particularly complex from a comparative perspective. Brazil ranks 184th out of 190 countries in the World Bank's Doing Business ranking when it comes to paying taxes. It takes Brazilian firms almost 2 000 hours to prepare their taxes under the mainstream tax regime, considerably more than in other G20 and Latin American countries (Figure 3.13). A major complication is that tax authority is divided between the central government, the 26 states (plus the Federal District) and more than 5 000 municipalities (World Bank, 2017). This considerably adds to compliance costs, especially for enterprises active in several states (World Bank, 2018a).

Figure 3.13. Number of hours required to prepare taxes, 2017



Note: The number of hours is calculated on a benchmark manufacturing company.
Source: World Bank's Doing Business Database.

StatLink http://dx.doi.org/10.1787/888934088408

The current indirect taxation would benefit from a comprehensive reform

The ICMS (*Imposto Sobre Operações Relativas à Circulação de Mercadorias e Serviços de Transporte Interestadual e Intermunicipal e de Comunicação*) is a tax on sales and services. It represents one of the main sources of revenues for Brazilian states (and the Federal District) and entails a major compliance cost for SMEs, which spend on average 1 116 hours a year to comply with the ICMS. This is more than for all other taxes combined and constitutes one of the main reasons why Brazil is an outlier when it comes to tax compliance costs (World Bank, 2018b).

ICMS is a complex tax that combines a tax on industrial production, a tax on sales, and a sort of customs tariff applied to interstate sales (Rezende, 2013). In addition, the tax base, the tax code and the tax rate vary, sometimes significantly, from state to state and from activity to activity.

In its current form, the ICMS has several market-distorting features:

- Different levels of taxation apply at different stages of the production process, which may result in a misallocation of resources. As products and services resulting from a long production chain are taxes several times, the ICMS falls more heavily on complex manufacturing goods, thus favouring activities that typically take place in short chains such as the extraction of raw materials, the production of (basic) agricultural products or simple services activities such as those in retail trade.
- Because of its "cascading nature", the ICMS provides an incentive for firms to integrate in a vertical way, i.e. combining several stages of production normally operated by different firms, even in the absence of efficiency reasons to do so.

- The ICMS also encourages tax competition across states. By offering reduced rates, higher tax credits or changes in tax collection and timing of refunds, states can attract more mobile economic activities, while concentrating taxation on more immobile activities.
- Finally, the ICMS reduces the incentive for firms to establish branches or set up activities in different Brazilian states with different tax regimes. E-commerce activities, for example, face very considerable compliance costs under the ICMS regime.

These distortions are not present in traditional VAT systems in which products and services are charged irrespective of the length and geographical location of the value chain, but rather on the final price of the end product (Appy, 2015).

Apart from ICMS, Brazil has four other notable indirect taxes (three federal and one local which vary across cities):

- IPI (*Imposto sobre Produtos Industrializados*), a federal VAT on industrial products.
- ISS (*Imposto sobre Serviços*), a municipal services tax.
- COFINS (*Contribuição para o Financiamento da Seguridade Social*), a federal VAT financing the social security system.
- PIS (*Programa de Integração Social*), a federal VAT intended to finance the payment of unemployment insurance and allowances for low-income workers (e.g. *Abono Salarial*).

The combination of various indirect taxes raises compliance costs, which are proportionally higher for smaller businesses. The abovementioned CNI survey highlighted the harmonisation of ICMS and other indirect taxes as a key reform priority (CNI, 2015). In this regard, the federal government could take steps to streamline the different indirect forms of business taxation, reducing whenever possible variations across states. In particular, the distortionary impact of ICMS should be avoided by levying a tax on the end value added of products and services so as to eliminate its current cumulative nature.

The experience of India in simplifying its indirect taxation regime is of relevance to Brazil and could provide a possible model to follow (Box 3.1).

Box 3.1. International learning model – Goods and services tax reform in India

Description of the approach

The government of India introduced a major reform of its indirect tax system in July 2017 through the launch of the Goods and Services Tax (GST). The GST replaced a patchwork of indirect taxes at the federal and state levels, such as the excise duty and central sales tax on interstate sales transactions. The reform aimed to: reduce the cumulative taxation at various stages of the production process (tax cascading); harmonise indirect taxation across India; facilitate the creation of a common internal market; foster tax compliance and lower tax compliance costs.

The reform was conceived to be budget-neutral, although it was also expected to affect resource allocation between the central government and state governments and among different states. As a response to this, the federal government committed to compensating potential revenue losses incurred by states for five years since the implementation of the reform.

Administrative control was shared between the central government and the states. States assessed 90% of the businesses with an annual turnover of INR 15 million or less for scrutiny and audit, while the central government assessed the remaining 10%.

Factors for success

The reform has been successful: tax compliance costs have decreased and costs for firms operating in different Indian states have dropped significantly, based on estimates by PricewaterhouseCoopers, a consultancy. One of the major success factors has been that the government has proved receptive of feedback from the business community, including during the transition period.

Obstacles and responses

The reform required investments in IT infrastructure and (re)training of tax officers across the country. In addition, the government had to organise workshops and training sessions to inform the business community about the upcoming changes.

Despite marking a clear improvement compared to the previous situation, the current GST tax is still relatively complex with around 100 goods and services fully exempt, different rates (6%, 12%, 18%, 26% and 28%), threshold limits for small businesses, and special provisions for certain poorer states.

Finally, revenues from GST have fallen short of expectations, with the central government having to compensate state governments for this shortfall. Nonetheless, revenues are expected to increase in the future, as businesses will become more acquainted with the new regime and the collection process will become increasingly digitalised.

Relevance for Brazil

The experience from India illustrates the benefits of simplifying the indirect tax regime. Importantly, the decision to compensate state governments for potential revenue shortfalls generated political buy-in at the local level, something which would also be relevant in the context of Brazil.

For further information

OECD (2017), *OECD Economic Surveys: India 2017*, OECD Publishing, Paris, https://dx.doi.org/10.1787/eco_surveys-ind-2017-en; PricewaterhouseCoopers (2018), *365 Days of GST: A Historic Journey*, .https://www.pwc.in/assets/pdfs/india-services/indirect-tax/365-days-of-the-gst-a-historic-journey/a-historic-journey.pdf (accessed on 9 February 2020).

Preferential tax and regulatory regimes for SMEs: Simples Nacional and MEI

Simples Nacional is the main federal SME policy[8]

Brazil operates two main preferential regimes for micro and small enterprises: *Simples Nacional* and the *Micro Empreendedor Individual* (MEI). The first had originally been introduced in 1996 with the name of Simples Federal, as originally it applied only at the federal.[9] Subsequently, *Lei Complementar* 123/2006 extended this regime to all states and municipalities of the Federation, so the regime was rebranded Simples Nacional. The aim of Simples Nacional is to streamline the tax system and reduce the tax rate for micro and small firms as defined by the law – i.e. companies with annual gross revenues up to BRL 4.8 million. Under Simples Nacional firms pay eight taxes (six federal, one state-level and one municipal) through a single document and at a single rate that depends on annual revenues and type of economic activity. In addition, a few other fiscal obligations are reduced (ILO, 2014).

The scheme substantially reduces tax compliance costs for companies and thereby the need for small businesses to hire attorneys and accountants (Dutz, 2017). According to some estimates, companies opting for Simples Nacional have a tax burden of between 17%-20% of net profits, compared with between 28-39.5% for companies outside of this regime (Conceição et al., 2018).

Simples Nacional is fiscally expensive but its reform would require an overall reform of the corporate tax system

About 65% of Brazilian (formal) firms operate within Simples Nacional, making it the main federal policy for SMEs. In 2015, based on estimates from the Special Secretariat for Federal Revenues, Simples Nacional accounted for 25.6% of total fiscal spending, i.e. BRL 69.2 billion, more than any other tax spending item (RFB, 2018).[10]

Given Brazil's complex tax and regulatory system, Simples Nacional plays an important role for the survival of micro and small enterprises. A survey by SEBRAE (*Serviço Brasileiro de Apoio às Micro e Pequenas Empresas*) highlights that, should Simples Nacional be abolished, 29% of companies under this regime would close, 20% would go informal and 18% would reduce their activity.[11] Furthermore, preferential treatment for micro and small enterprises is enshrined in the federal Constitution, making it a constitutional right (see Chapter 4). Nonetheless, compared to other SME preferential tax regimes, Brazil's Simples Nacional stands out because of its very high revenue threshold (Conceição et al., 2018): in other countries, the threshold is typically between USD 40 000 and USD 150 000, whereas in Brazil it stands at around USD 1.15 million (Table 3.2).[12] Similarly to other firm-size legislations, Simples Nacional has also been reported to cause threshold effects by deterring business growth beyond the annual revenue threshold.[13]

Table 3.2. Annual revenue limits to be eligible for SME preferential tax regimes

	Limit in USD	Multiple in GDP per capita
Brazil	**1 200 000**	**132.2**
Argentina	48 760 (services) or 73 140 (trade)	5.36 (services) or 8.05 (trade)
Colombia	60 136	9.7
Mexico	148 624	15.9
Canada	121 400	2.8
United Kingdom	114 072	3.2
United States	48 000	1

Source: Appy, B. (2015), *Por que o Sistema Tributário Brasileiro Precisa ser Reformado*, http://www.ccif.com.br/wp-content/uploads/2018/07/Appy_Tributa%C3%A7%C3%A3o_1610.pdf.

Going forward, the Brazilian government could consider a three-pronged reform in which *Simples Nacional* is reformed together with the mainstream corporate tax system. First, the revenue threshold of *Simples Nacional* could be lowered to approach more closely the experience of other countries, such as Colombia or Mexico. This would have the merit of reducing the budgetary impact of the policy. Second, the mainstream corporate tax system should be simplified, possibly adopting some of the provisions of *Simples Nacional* and extending them to the whole enterprise population. This would reduce tax compliance costs and would eliminate disincentives to grow. Third, Brazil could gradually decrease its statutory corporate income tax rate from 34% to a level between 20% and 25%, in line with the average of OECD member states.

The Micro Empreendedor Individual (MEI) regime has encouraged the formalisation of micro-enterprises

Brazil introduced a second preferential tax regime for micro and small businesses in 2009, the *Micro Empreendedor Individual* (MEI), more closely targeted at the formalisation of self-employed people. The main advantages offered to those who opt for this regime are very low administrative costs related to business registration and tax payment, as well as pension coverage.

In terms of eligibility conditions, MEI entrepreneurs cannot exceed BRL 81 000 in annual gross revenues, cannot employ more than one person, cannot be a partner, administrator or owner of another business, and must operate in a sector covered by the regime (over 400 activities mostly in the area of personal services).

MEI features the following preferential conditions: i) social security contributions are set at 5% of the minimum salary; ii) a fixed monthly payment is paid to cover a state and municipal tax, i.e. ICMS and ISS; iii) if the business has an employee, the micro-entrepreneur pays 3% of his/her remuneration to the social security system, while 8% is deducted from the salary to converge into the Guarantee Fund of Work Time (*Fundo de Garantia do Tempo de Serviço*, FGTS); iv) businesses are exempt from income taxation and other federal taxes; v) taxes are paid electronically once a year. The whole MEI registration process is also conducted through an easy-to-use online portal.

An evaluation of MEI in the North-western state of Rondônia shows that 86% of its users were satisfied with the scheme and that this policy helped many micro-entrepreneurs to regularise their position. The scheme was also considered successful in tackling poverty: 39% of MEI entrepreneurs in Rondônia had not completed high school, suggesting that the scheme is reaching low-skilled people who often start a business out of necessity.[14]

SEBRAE has also considered MEI successful in alleviating poverty and encouraging formalisation, with nearly 9 million companies that have opted for this regime between 2009 and 2019. One of the main benefits is that formal registration has enabled micro-enterprises to access external finance, notably through the credit products of public development banks. Moreover, between 50 000 and 70 000 companies graduate every year from MEI into *Simples Nacional* (SEBRAE, 2016). MEI is also a relatively inexpensive policy, accounting for 0.52% of total federal tax spending in 2015 (BRL 1.4 billion) (RFB, 2018).

However, there are also some abuses associated with MEI through the so-called practice of *pejotização*, which occurs when employers contract workers who should legally be hired as employees as self-employed workers. In doing so, employers avoid paying social contributions (pension, health insurance, etc.) and other social obligations (e.g. the thirteenth annual salary). To provide some evidence to this thesis, IBGE data show that only 38.9% of the Brazilian workforce consists of employees, which sets Brazil as an outlier in the international context.[15] Furthermore, a recent analysis by IPEA (Applied Economics Research Institute) shows that most people registered as individual micro-entrepreneurs are between the top 30% and 50% richest of the population, which is not fully consistent with the original objective of MEI to focus on low-income people on the edge of the formal sector (Costanzi, 2018).

Going forward, the practice of *pejotização* should be monitored and tackled to ensure that MEI does not lead to a simultaneous erosion of labour rights and tax revenues. However, in this process, the merits of MEI should not be overlooked, notably the fact that it has helped business formalisation and boosted the survival of micro-enterprises (see Chapter 2).

Product market regulations

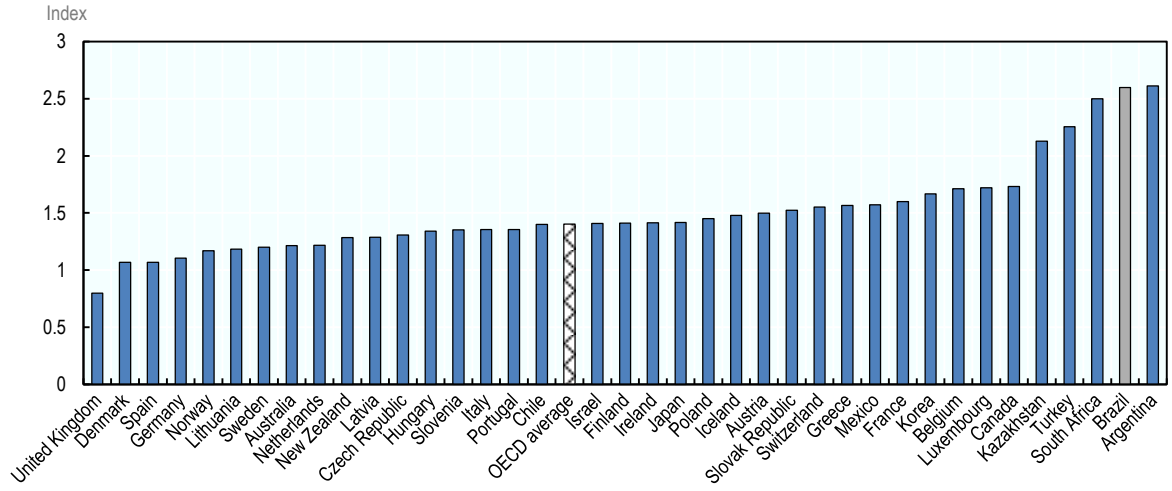
Product market regulations are restrictive, but there have been improvements

The 2018 edition of the OECD Product Market Regulation (PMR) database covers six main dimensions of the business environment: public ownership, government involvement in business operations, simplification and evaluation of regulations, administrative burden on start-ups, barriers in service and network sectors, and barriers to trade and investment. In the overall index, which summarises these six dimensions for a group of 38 countries (mostly OECD member states), Brazil ranks better than Argentina but worse than all other countries (Figure 3.14).

The six dimensions of the OECD PMR index are further subdivided into 18 lower-level indicators. Brazil scores quite negatively in the areas of public procurement (with a score of 3.75 compared with the OECD average of 1.34), impact assessment of regulation on competition (with a score of 4.50 compared with the OECD average of 1.09) and tariff barriers (with a score of 4.00 compared with the OECD average of 0.16).[16] Brazil's score is better or on par with the OECD average when it comes to price controls, command and control regulation, and government involvement in network structures (such as electricity generation, e-communication and transport).[17]

Figure 3.14. OECD Product Market Regulations (PMR) indicators, 2018

Index from 0 (least restrictive) to 6 (most restrictive)



Note: The OECD PMR indicators were completely revamped in the last edition of 2018. As a result, the last edition is not comparable to previous vintages (2013, 2008 and 2003).
Source: OECD 2018 PMR database.

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The World Bank Doing Business survey also measures the ease of doing business worldwide, covering some of the areas that are also in the OECD PMR database. In 2019, Brazil ranked 109th out of the 190 countries participating in this annual exercise (Table 3.3), an improvement by 16 positions from the previous year.

Table 3.3. Brazil's World Bank Doing Business ranking, 2019

Topics	DB 2019 ranking	Change in score (% points)
Getting electricity	40	+ 1.91
Enforcing contracts	48	0
Protecting minority investors	48	0
Resolving insolvency	77	+ 1.02
Getting credit	99	+ 5.00
Trading across borders	106	+ 6.85
Overall	109	+ 2.96
Registering property	137	- 0.66
Starting a business	140	+ 15.47
Dealing with construction permits	175	+ 0.03
Paying taxes	184	.0

Source: World Bank Doing Business Database.

This improvement is the result of a number of important reforms in different policy areas. With respect to laws and regulations, for example, the government has introduced a regulatory guillotine to revoke obsolete laws that have no longer legal effect. More recently, through Provisional Measure 188/2019, the new government has also introduced a mandatory regulatory impact analysis (RIA) for federal regulations and acts that are expected to have an impact on businesses. A similar rule was set out in Law N. 13 848/2019 concerning the decision-making process of regulatory agencies. Such obligation is subject to future specific regulations, which shall provide for the content and methodology of the RIA, the minimum requirements to be examined, and the cases when the assessment is mandatory or can be waived.

Going forward, Brazil could focus on the following issues to further improve the regulatory environment. First, it could establish an independent body responsible for RIA to spread its use among government ministries and agencies. Mexico, for instance, established the National Commission for Regulatory Improvement (CONAMER) in 2000 to undertake a regular cost-benefit analysis of new laws and regulations. Similarly, there is no systematic use in Brazil of *ex post* evaluation to assess whether regulations have achieved their objectives or have had unintended consequences. In this respect, Colombia carries out reviews of the existing regulatory framework every three years through the *Comisiones Reguladoras* and could be taken as an example to follow (Querbach and Arndt, 2017).

Second, the federal government should continue its efforts to streamline regulations across states and municipalities. In this area, the national regulation harmonisation policy REDESIM (see Chapter 4 for more details) already helps harmonise state and municipal-level regulations affecting opening a business and safety and environmental standards at work. In the framework of REDESIM, the federal government could encourage the diffusion of regulatory good practices from leading to lagging states. By way of example, if Minas Gerais were a country, it would rank 30th in the World Bank Doing Business, compared with 149th in the case of São Paulo (World Bank, 2018b).

Access to finance

Credit market conditions

Average credit market conditions are tight in Brazil

The 2015-16 Brazilian recession has had a deep impact on the credit market for SMEs: according to a 2016 survey by CNI, 53% of the interviewed companies faced worsened credit conditions after the recession, 35% were refused new credit lines, while 40% received only a fraction of the loan they had initially requested (CNI, 2016). High interest rates were considered the most pressing problem, followed by collateral requirements and short deadlines (Figure 3.15).

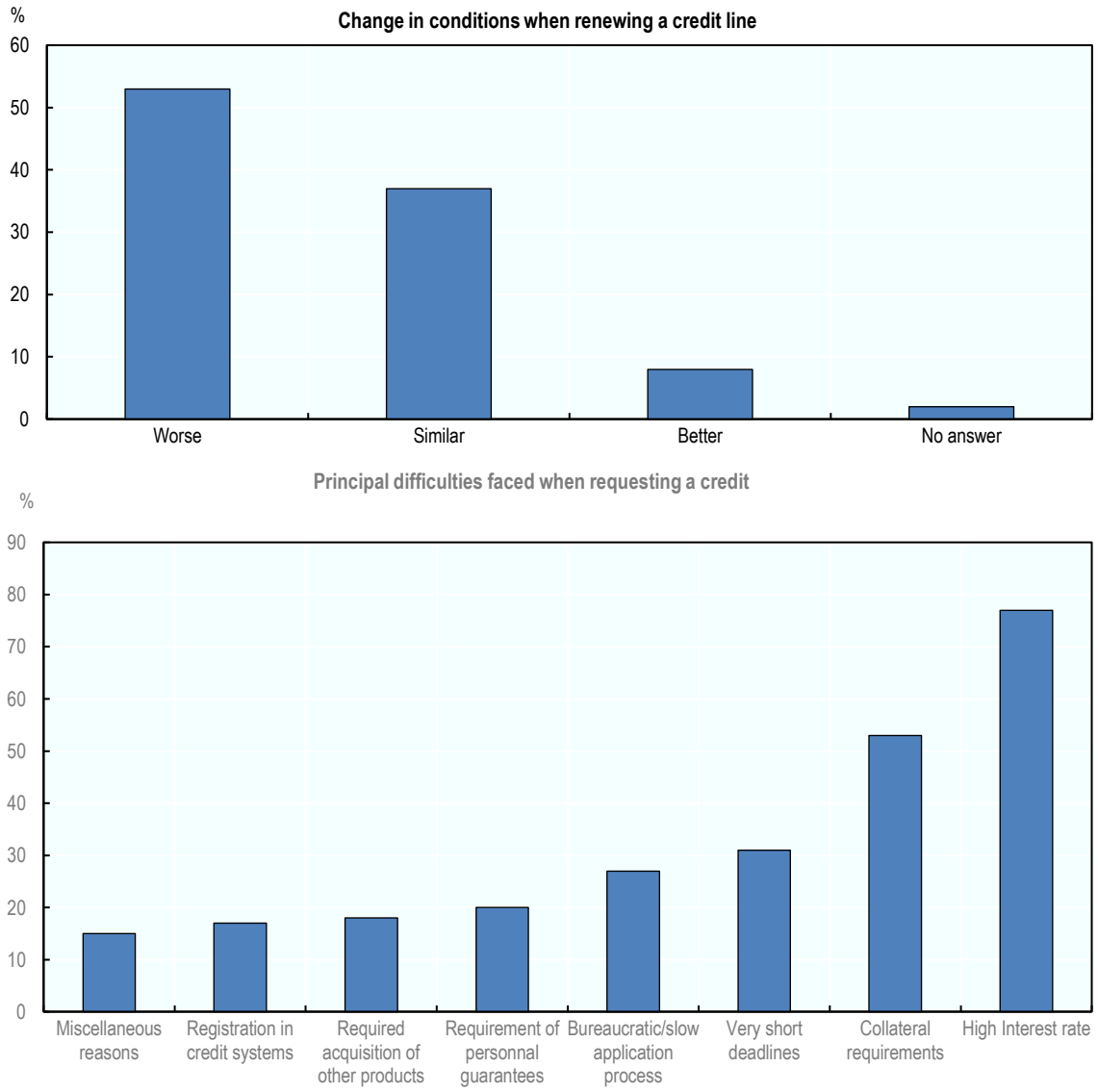
Between 2015 and 2017, the outstanding stock of SME loans declined by around one-third in Brazil (Figure 3.16). Thereafter, credit conditions have partly eased for large enterprises but not for SMEs (Banco Central do Brasil, 2018a), as shown by the fact that the spread between the loan interest rate applied to large companies and SMEs has not come back to the pre-recession levels (12% in 2014 vs. 16% in 2017).

While credit conditions have worsened after the recession, a tight credit market is rather a structural problem for Brazilian SMEs. Between 2007 and 2017, the share of SME loans in total business loans declined from 55% to 36% (Figure 3.17). In 2017, the average interest rate charged to SMEs was 25%, while the interest-rate spread between SMEs and large

companies was 16%, both of which are high by international standards. These figures are influenced by a number of factors, such as the Central Bank's policy interest rate (on average 10% in 2017), high credit default rates, a high share of earmarked credit, information asymmetries in the credit market, and high taxation of financial institutions.

Figure 3.15. Credit conditions in Brazil, 2016

Percentage of respondents



Source: CNI (2016), "Piora das condições de financiamento na indústria", *Sondagem especial 67*. https://bucket-gw-cni-static-cms-si.s3.amazonaws.com/media/filer_public/38/93/3893a1f9-6369-4185-8505-f6e17daeb3bf/sondespecial_financiamentoparacapitaldegiro_junho2016.pdf.

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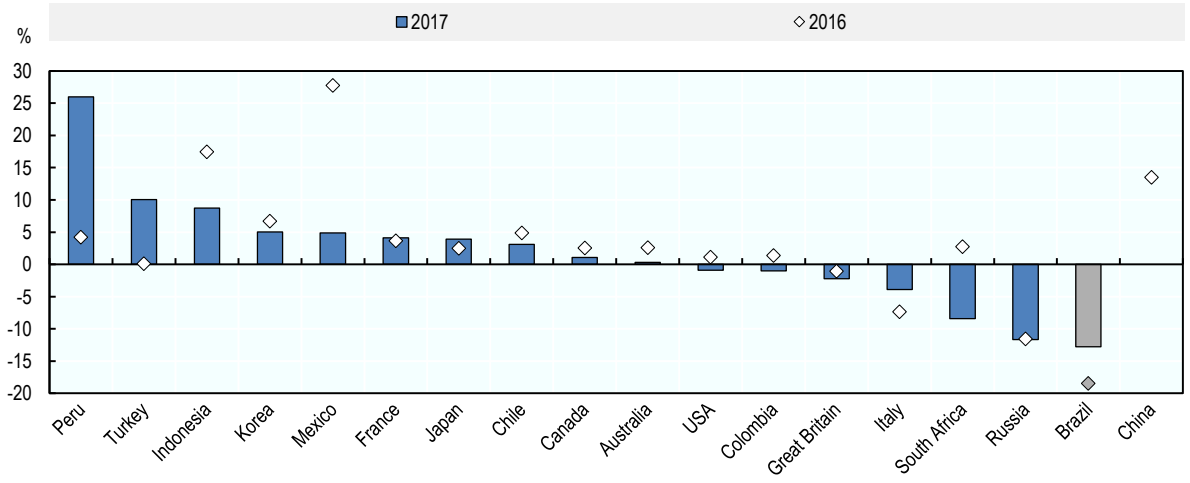
Figure 3.16. Outstanding stock of credit to SMEs in Brazil and selected countries, 2017 and 2016

Year-on-year change

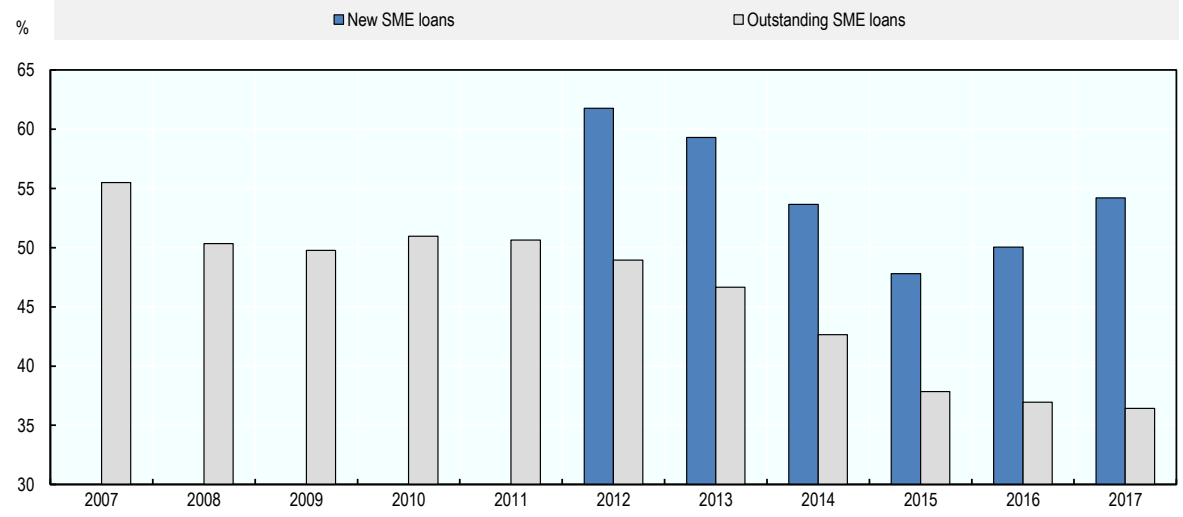


Note: All data are corrected for inflation. The definition of an SME varies from one country to another.
Source: OECD (2019), *Financing SMEs and Entrepreneurs 2019: An OECD Scoreboard*, OECD Publishing, Paris, https://doi.org/10.1787/fin_sme_ent-2019-en.

StatLink http://dx.doi.org/10.1787/888934088465

Figure 3.17. The share of SME loans in total business loans in Brazil, 2007-17

Percentage values



Source: *Source*: OECD (2019), *Financing SMEs and Entrepreneurs 2019: An OECD Scoreboard*, OECD Publishing, Paris, , https://doi.org/10.1787/fin_sme_ent-2019-en.

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Survey data from SEBRAE confirm the low uptake of credit among Brazilian SMEs, notably among micro and small enterprises (MPEs) complying with *Lei Complementar* 123/2006. This survey points to a strong decline in the proportion of MPEs using bank finance over the period 2013-17, whereas informal sources of finance, such as loans from relatives and friends or from loan sharks remained constant or even increased during the same period. Overdrafts and business credit cards are the two most common sources of bank finance in Brazil, although they are generally expensive instruments (Table 3.4).

Table 3.4. Types of funding used by Brazilian companies, 2013-17

Percentage of respondents

	Type	2013	2014	2015	2016	2017	Trend 2013-17
Commercial finance	Trade payables	63	61	67	52	53	↘
	Pre-dated check	43	35	46	27	28	↘
Banking finance	Overdraft	54	24	29	20	19	↘
	Company's credit card	NA	25	28	21	18	↘
	Private bank loan	21	19	15	13	11	↘
	Receivables discounting	14	11	17	11	11	↘
	Public bank loan	25	23	28	15	11	↘
	Factoring	11	6	11	5	6	↘
	Co-operative banking	5	4	9	5	5	→
	Leasing	11	8	6	5	4	↘
	Microcredit	5	6	8	6	3	↘
Informal finance	Relatives and friends	13	13	13	14	17	↑
	Shark loan	4	3	4	3	4	→
Other sources of finance		7	8	5	9	10	↑
None of the above		15	16	12	22	23	↑

Source: SEBRAE (2017), *O financiamento das MPE no Brasil 2017*, http://datasebrae.com.br/wp-content/uploads/2017/09/RELAT%C3%93RIO-ESPECIAL-Financiamento-das-MPE-2017-Final.pdf.

Increased transparency would ease credit market conditions

Lack of information on credit worthiness drives up interest rates. In this respect, a new federal law approved in April 2019 allows credit bureaus and the credit registry to collect positive credit information on individuals and legal entities without getting their explicit prior approval. As a consequence, the number of people and legal entities with available credit information is expected to increase from 6 million, when only negative information could be gathered, to 110 million (Banco Central do Brasil, 2019). This reform should make the credit market more transparent, for example by allowing people and firms with good credit histories to obtain loans at better conditions.

On the other hand, Brazil could improve its collateral registry for secured transactions. In particular, its registry framework for movable collaterals is fragmented, paper-based and expensive. Improving this registry would enable SMEs to collateralise assets such as equipment or inventory more easily, thus favouring access to finance (World Bank, 2018c). In this respect, a recent law (i.e. Law 13 775/2018) has regulated the electronic registry of commercial invoices (*duplicata eletrônica*), which is a step in the right direction.

Brazil has a high proportion of earmarked lending, but its relevance in the business credit market has declined

Brazil is also characterised by a high share of earmarked lending, i.e. lending which is allocated by law to specific sectors or purposes. The three main forms of earmarked lending in Brazil are rural credit, housing credit (mortgages) and BNDES credit. Historically, the share of earmarked credit in total credit increased between 2008 (32.5%) and 2016 (49.9%), only to slightly decrease to 45.9% in 2018. Much of the growth in earmarked lending, however, is the result of a rise in mortgage lending – from 17.2% of the total in 2008 to 42.7% in 2018 – whereas the share of earmarked lending allocated to firms dropped from 50.9% in 2009, at the peak of the global financial crisis, to 29.7% in 2018. Accordingly, the share of BNDES in total earmarked lending also progressively declined from above 50% of the total in the period 2008-11 to 33% in 2018 (BNDES, 2019).

A common criticism levelled at earmarked lending is that, by favouring lower interest rates in targeted sectors, it leads to higher interest rates in other sectors. A simulation of the Central Bank shows that re-addressing 10% of earmarked lending to other operations would reduce interest rates by 1.3% and increase credit volumes by 5.6% in the non-earmarked market (Banco Central do Brasil, 2018a).

BNDES is the main source of earmarked credit for SMEs. Since 2018, BNDES credit has been pegged to the Central Bank's new long-term interest rate (i.e. Taxa de Longo Prazo, TLP), whose implicit subsidy component is being phased out (see Chapter 5). Because of its intermediary role, BNDES has also helped reduce banking concentration by enabling small financial institutions to apply for and use its SME credit lines. This is shown, for example, by the fact that the five largest national banks hold 70% of total credit, but only 40% of credit originating from BNDES.

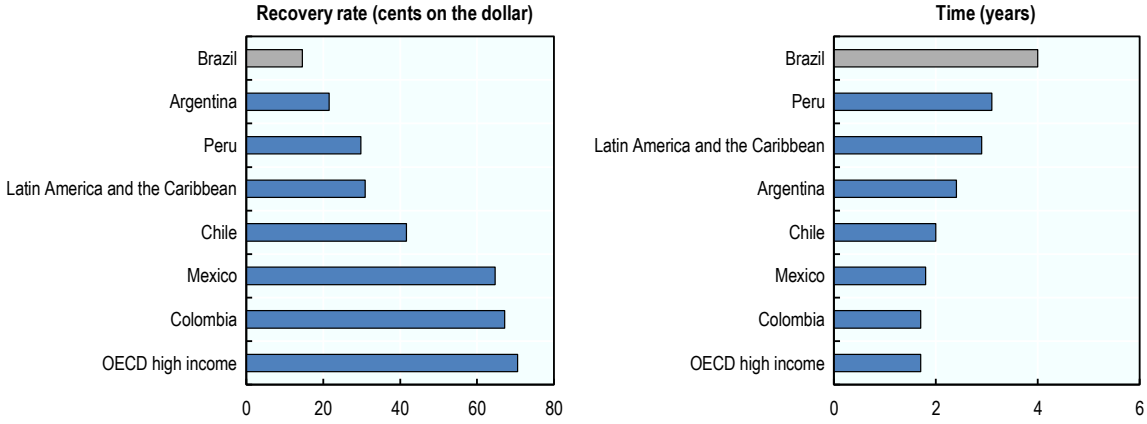
Strengthening creditor's rights in insolvency procedures would spur secured lending

High interest rates are also linked to legal insecurity in the collection and recovery of pledged collaterals. Comparative data illustrates that the average recovery rate upon insolvency (i.e. the cents on the dollar that can be recovered by creditors upon insolvency) amounted to 14.6 in 2017 in Brazil, compared with the LAC (Latin America and the Caribbean) average of 30.9 and the average of high-income countries of 70.5. Moreover, the average insolvency procedure takes 4 years in Brazil, compared with 2.9 years in the LAC region and 1.7 years in high-income countries (Figure 3.18).

One of the key problems in insolvency procedures is that deadlines are poorly enforced. In addition, creditors have no right to put forward a re-organisation plan, and there is limited scope for intervention if the creditor's concerns are not addressed (Cooper et al., 2017). This situation discourages banks from small business lending even in the presence of collateral assets.

Plans to reform bankruptcy procedures are under discussion. Priority should go to addressing the creditor-debtor imbalance of power, ensuring stricter enforcement of deadlines, and facilitating the development of consensual re-organisation plans. Procedures for extrajudicial recovery and out-of-court settlements, currently not very common, could also be encouraged.

Figure 3.18. Recovery rate and time of insolvency procedures in Brazil and selected countries, 2017



Note: OECD high-income countries include all OECD countries, except Colombia, Mexico and Turkey.
Source: World Bank's Doing Business Database.

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Important reforms have been taken to strengthen competition in the credit market

Banking concentration – i.e. the share of total assets in the banking system held by the top five banks – has been on the rise in Brazil, from 57% in 2000 to 82% in 2016. While this is similar to countries with smaller populations such as France, Canada or Australia (all with a rate between 80% and 82%), it is higher than in countries with larger populations such as Mexico (70%), Japan (51%) or the United States (43%) (BIS, 2018).

The Central Bank has recently put in place a number of measures to increase competition in the Brazilian credit market. Since 2018, it has adapted financial sector regulations to the size of the financial institution and, accordingly, to its risk posed to the national financial system. This has reduced licensing requirements and entry costs for smaller financial institutions, notably peer-to-peer lending companies and direct lending platforms. A 2019 Presidential Decree has also made it easier for these fintech companies to receive foreign capital.

Competition in the credit market has also been strengthened by new regulations that allow credit co-operatives to expand their activity, which has already been on the rise in the last years (Banco Central do Brasil, 2018b). Resolution 4716/2019 allows credit co-operatives to receive savings deposits, while Resolution 4749/2019 allows credit co-operatives to issue banking notes. Both are expected to help credit co-operatives to diversify funding sources and operations and, thereby, place them in a better position to compete with traditional financial institutions. BNDES has also played an important role in the diffusion of credit co-operatives, notably by supporting their participation in its credit lines (Risson and Bulcão Flach, 2013).

Going forward, it will be important to continue supporting credit co-operatives, including by strengthening their professional risk management. There is evidence, for example, that the size of a credit co-operative and the quality of its management have a significant impact on its life expectancy (Carvalho et al., 2015). BNDES could play a role in this agenda, for example by offering training and capacity-building to credit co-operatives in line with the

principle of public development banks offering not only finance but also technical assistance (see Chapter 5).

Box 3.2 summarises some of the main new measures that Brazil has adopted to reduce the cost of capital and to stimulate efficiency in financial intermediation and private investment, including reforms to foster competition in the credit market. As part of these reforms, the establishment of foreign bank branches and the provision of cross-border banking services could also be encouraged in the future, as it is currently subject to prior approval by Brazilian authorities, based on international agreements, reciprocity or national interest.[18] In its efforts to reform the financial sector, Brazil could also draw inspiration from Mexico, which has recently introduced a wide-ranging financial sector reform (Box 3.3).

Box 3.2. Brazil's recent measures to reduce the cost of capital and increase competition in the credit market, 2017-19

- Electronic issuance and electronic registration of trade notes (Law 13476/2017).
- Electronic registration and collateralisation of payment scheme receivables (Resolution 4734/2019 and Circular 3952/2019).
- Centralisation of all registration and deposit of financial assets and securities, as well as custody services (Resolution 4593/2017).
- Expansion of credit reporting and scoring to improve credit risk assessment (Supplementary Law 166/2019 – still to be regulated).
- Extension of credit information system data availability, from 1 to 2 years (Communiqué 32053/2018).
- E-money issuers authorised to pass the interest earned from sterilised funds at the Central Bank on to clients (Circular 3944/2019).
- Capped interchange fee on debit payment scheme transactions (Circular 3887/2018).
- Permission for credit co-operatives to receive savings deposits (Resolution 4716/2019) and to issue banking notes (Resolution 4749/2019).
- Publicly available information on the rates charged by financial institutions on the website of the Central Bank.
- Companies allowed to open and close demand deposit accounts online (Resolution 4697/2018).
- Improved positive credit reporting, which allows the sharing of reliable and updated data (Complementary Law 166/2019).
- Introduced treatment in bank prudential regulation proportional to the size and risk profile of the institution (Resolution 4553/2017).

Box 3.3. Mexico's financial sector reform

In January 2014, the government of Mexico introduced a broad financial sector reform, hinged on three main pillars: more effective property rights protection for creditors; stronger legal authority to manage the resolution of banks; and promotion of competition among financial intermediaries. Under the third pillar, the Federal Competition Commission monitors the level of competition in the banking sector, including by sanctioning anti-competitive practices in the determination of commercial interest rates. For example, the sales of financial products conditional on the acquisition of others (i.e. bundled sales) are forbidden under the new regulation. Similarly, the transfer of bank accounts and bank loans from one institution to another has become less costly and time-consuming after the reform. Finally, the reform has reduced commission fees for financial institutions when they use each other's infrastructures.

Sources: OECD (2015), *OECD Economic Surveys: Mexico 2015*, OECD Publishing, Paris, https://doi.org/10.1787/eco_surveys-mex-2015-en; BIS (2014), "BIS central bankers' speeches Manuel Sánchez: Mexico's banking system-opportunities from reform", https://www.bis.org/review/r140305b.pdf; Itaú BBA (2015), *Mexico's Financial Reform: A Step in the Right Direction*, https://www.itau.com.br/itaubba-en/economic-analysis/publications/macro-vision/mexicos-financial-reform-a-step-in-the-right-direction.

Financial inclusion is also being strengthened

The newly elected government has also undertaken new policies to strengthen financial inclusion. In April 2019, for example, it introduced the so-called Simple Credit Enterprise (*Empresa Simples de Crédito*, ESC). Through this new legal entity, individuals will be able to lend money legally to small businesses. ESCs will not have minimum capital requirements, but they will not be able to charge loan fees. Annual gross revenues in ESC should not exceed the BRL 4.8 million threshold. The government expects that the ESC reform will result into an injection of more than BRL 20 billion per year into additional small business lending.

In July 2019, the Central Bank also launched the BC# initiative to make strides on the democratisation of the national financial system. The BC# Agenda will guide the work of the Central Bank over the next few years and is based on four dimensions: i) inclusion; ii) competitiveness; iii) transparency; and iv) financial education. The first two pillars are the most relevant from the point of view of SMEs. The first refers to the national financial system reaching out more people, notably through microcredit, which is considered pivotal to strengthening access to credit and generating employment. Within the second pillar, the Central Bank is undertaking research on the potential of instant payment, open banking and block-chain technologies to increase competitiveness in the credit market.

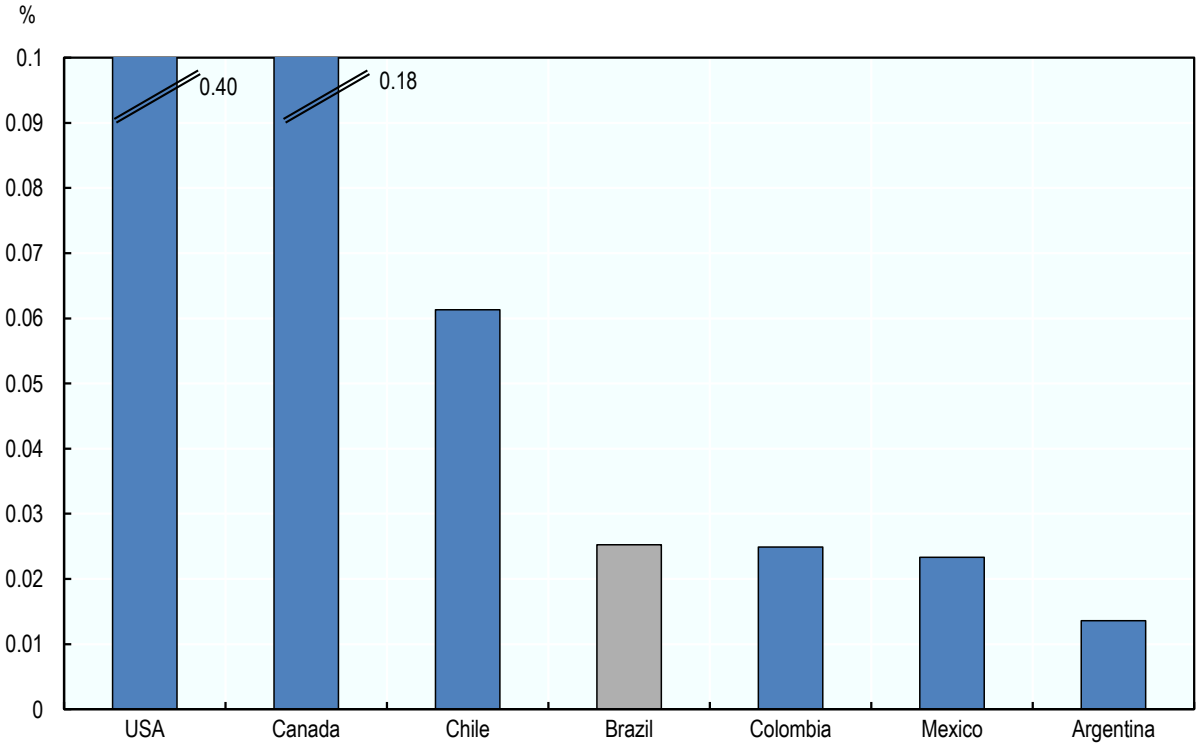
Alternative sources of finance

Brazil has a well-developed venture capital (VC) industry

Brazil has the largest VC market in Latin America, with around 75% of all investments in the region in 2017. VC investments amounted to 0.06% of national GDP, a higher share than in other Latin American countries (Figure 3.19). Fintech and agri-tech were the sectors that attracted the most investments in 2017.

Figure 3.19. Venture capital investments in selected countries, 2017

Percentage of GDP



Note: Underlying data is expressed in current USD, current exchange rates.
Sources: OECD for Canada and the United States, the Latin American Private Equity & Venture Capital Association (LAVCA) for other countries.

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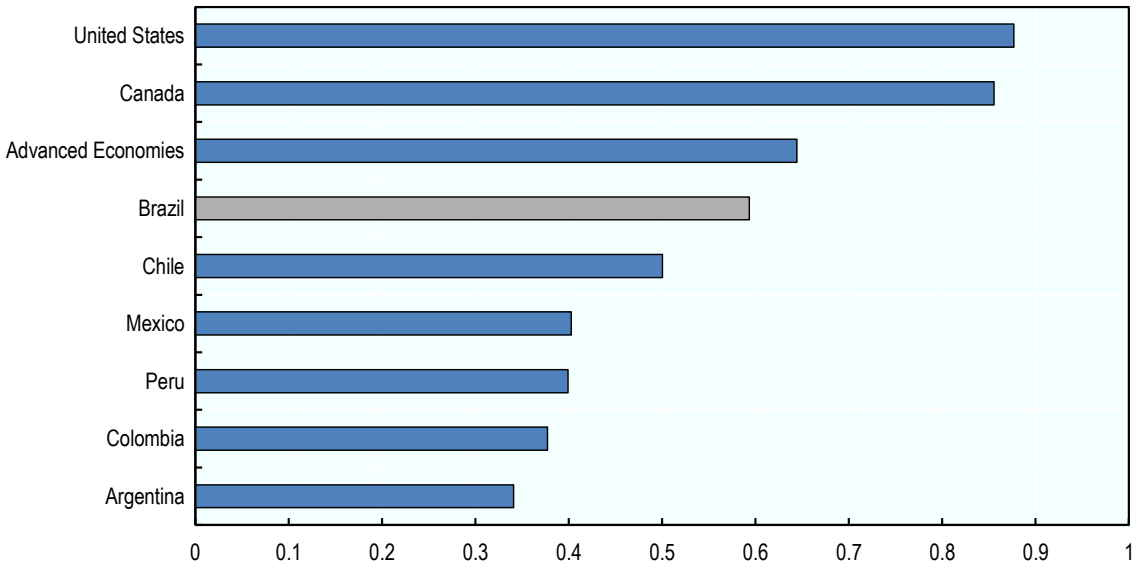
The International Monetary Fund (IMF) Financial Development Index corroborates Brazil's front-runner status in equity finance in Latin America. It shows that Brazil has more developed financial markets and financial institutions than other Latin American countries, with a performance that is just below the average of high-income economies (Figure 3.20). The Latin America Venture Capital Association (LAVCA) ranks countries based on 13 indicators assessing the business environment for VC investments. In 2017-18, Brazil ranked second, behind Chile, with its main strength being the laws on PE/VC fund formation and operation and the state of development of capital markets.

Although Brazil's VC market is large and growing by regional standards, there is still unmet demand. Brazilian executives answering to a World Economic Forum (WEF) survey reported a decline in VC availability over the period 2007-17, suggesting that the supply of venture capital has not kept up with growing demand (Figure 3.21) (WEF, 2018).

Figure 3.20. Financial Development Index, 2017-18



Note: The Financial Development Index is a composite indicator of a Financial Institutions Index and a Financial Market Index. Financial institutions include banks, insurance companies, mutual funds and pension funds. Financial markets include stock and bond markets. Financial development is defined as a combination of depth (size and liquidity of markets), access (ability of individuals and companies to access financial services), and efficiency (ability of institutions to provide financial services at low cost and with sustainable revenues). This broad multi-dimensional approach to defining financial development follows the matrix of financial system characteristics developed by Čihák et al. (2012).
Source: Financial Development Index Database, International Monetary Fund.

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Brazilian legislation is broadly supportive of equity finance and fintech

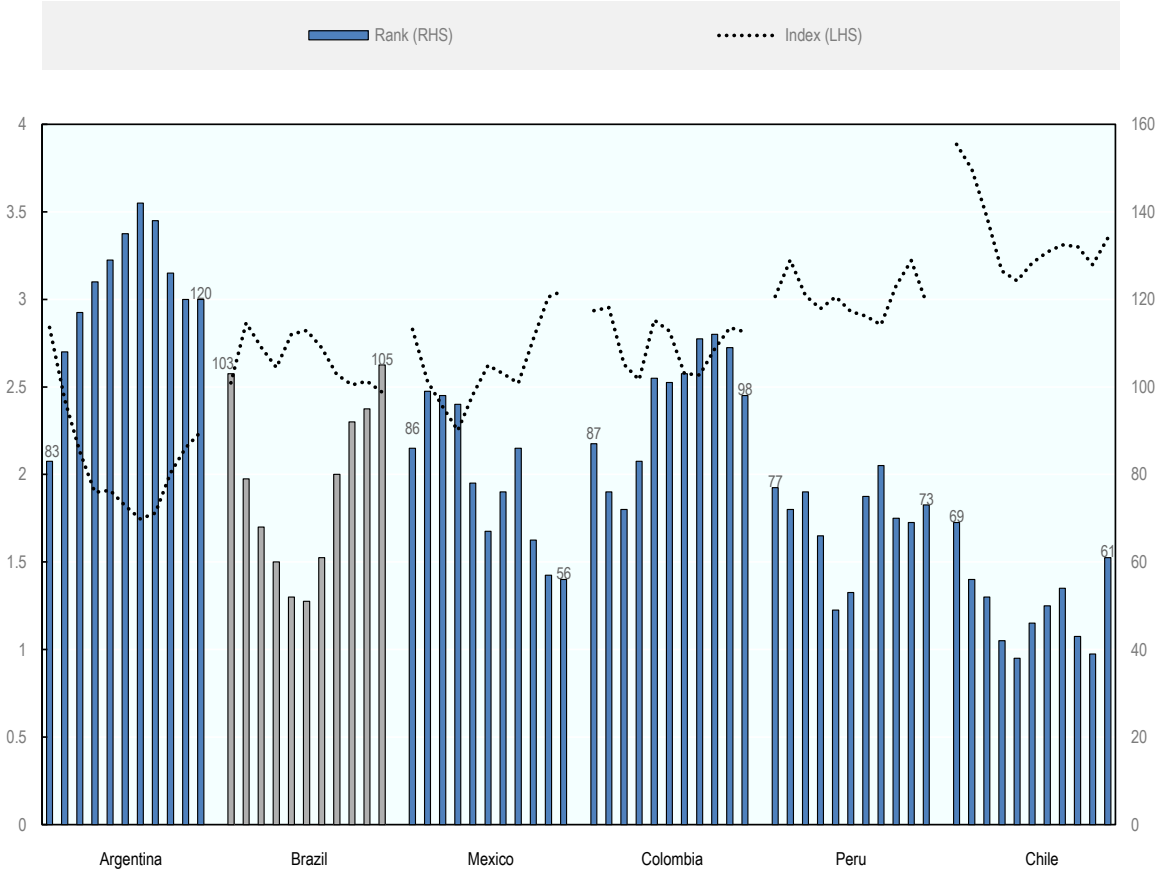
Brazil's legislation is broadly supportive of equity finance. A 2016 reform initiated by the Brazilian Securities Commission (*Comissão de Valores Mobiliários*, CVM) has been a major policy development in this field. The new regulation has increased the number of assets available for equity investment (e.g. corporate debt bonds), divided funds in different categories (i.e. seed capital, emerging companies and multi-strategy) and reduced restrictions to invest abroad (e.g. totally lifted for multi-strategy funds). In addition, the reform has increased transparency in accounting practices through the adoption of the International Accounting Standards Board's guidelines and has introduced the concept of "angel investor" in national legislation.

In the area of fintech, the Central Bank launched in 2018 a Laboratory of Financial and Technological Innovations. It gathers academics, entrepreneurs and banks with the goal of boosting financial inclusion through fintech platforms. Selected start-ups are asked to present projects in line with the Central Bank's strategy to reduce the cost of credit and are supported by large technology companies such as Amazon Web Services or Microsoft.

In addition to a supportive legal framework, the Brazilian government invests in a number of VC funds dedicated to established SMEs and start-up, especially through BNDES and FINEP (the national innovation agency). These initiatives are more closely analysed in Chapters 5 and 7 of the report.

Figure 3.21. Venture capital availability in Latin American countries, 2007-17

Index (LHS): from 0 (worst) to 7 (best); Ranking (RHS): ranking in parenthesis



Note: Survey of executives answering the question: "in your country, how easy is it for start-up entrepreneurs with innovative but risky projects to obtain equity funding?" [1 = extremely difficult; 7 = extremely easy], each value is a 2-year weighted average. For instance, the last index value for 2017 is a 2016-17 weighted average value.
Source: WEF (2018), *The Global Competitiveness Report 2018*, http://www3.weforum.org/docs/GCR2018/05FullReport/TheGlobalCompetitivenessReport2018.pdf.

StatLink http://dx.doi.org/10.1787/888934088560

Online alternative finance is on the rise, but from a comparatively low base

Online alternative finance, including peer-to-peer lending and equity crowdfunding, represents another potential source of finance for Brazilian start-ups with a higher risk profile. Although volumes have been on the rise in recent years, activities remain subdued compared to neighbouring countries. Crowdfunding activities in Brazil reached 0.003% of GDP in 2017, behind Chile, Colombia and Mexico, the other Latin American countries for which comparable data are available (OECD, 2019).

The CVM has started regulating crowdfunding only very recently. CVM Instruction 588, enforced in July 2017, formally authorised equity crowdfunding for SMEs. Based on this instruction, companies with gross annual revenues below BRL 10 million can raise up to BRL 5 million each year. On the investor's side, individuals can invest up to BRL 10 000 per year, in order to limit the risk of losses.[19]

Conclusions and policy recommendations

This chapter has looked into the quality of the business environment for SMEs and entrepreneurship in Brazil. It has started by showing that, despite recent progress, the share of the population without primary education is higher in Brazil than in other Latin American countries. In addition, only 9% of Brazilian students in upper secondary education are enrolled in vocational education. PRONATEC, Brazil's main vocational training policy until 2018, has failed to have a positive impact on the employment of participants, mostly because of the limited involvement of the private sector in deciding the content and scope of the training. Future VET policies, notably *Emprega Mais*, should build on the experience of PRONATEC, trying to design training courses more closely aligned with the skills needs of the private sector.

Trade flows, defined as the sum of exports and imports, amounted to 29% of GDP in 2018, much lower than the world average (56%). Empirical estimates suggest that the benefits of trade liberalisation would be large, including for SMEs that would have more opportunities to export and participate into global supply chains. Brazil's trade policies are undertaken in the framework of the Mercosur trade bloc. Recent important reforms include a drop in the number of local content requirements, a reduction of national tariffs for capital and IT goods under the Mercosur agreement, and the free trade agreement signed between Mercosur and the EU in June 2019.

Brazil's overall business regulatory burden has been eased over the last decade, which is also the result of the introduction of two main tax and regulatory regimes for micro and small businesses. MEI has been quite successful in helping the formalisation of own-account workers mostly working in the personal services sector. *Simples Nacional* is the main federal SME policy, covering more than 65% of the total enterprise population. There is scope for adjusting some aspects of *Simples Nacional*, for example lowering the revenue threshold which is high by international standards, but this should be done contextually with an overall simplification of Brazil's standard corporate tax system.

The interaction between federal, state and municipal legislation is an additional element of complexity in the Brazilian regulatory environment. The current efforts to streamline and harmonise the regulatory framework across different levels of government, notably through the REDESIM initiative, should be strengthened. *Ex ante* regulatory impact analysis (RIA) and *ex post* policy evaluation should become more regular practices, building on a recent government measure that has made RIA compulsory for regulations and acts with an expected impact on businesses.

Credit market conditions are generally tight in Brazil, especially for SMEs. The Central Bank has introduced important reforms to reduce the cost of capital and increase competition in the credit market. Credit bureaus, for example, have been allowed to collect positive information on individuals and legal entities without the need for their prior approval. Competition has been encouraged in multiple ways, including by new regulations that govern the activities of fintech companies and that diversify funding sources for credit co-operatives.

Finally, VC investment in Brazil is high by international standards, although the supply of VC has not kept up with growing demand. Regulation is broadly supportive of equity investments and fintech. Online alternative finance, including peer-to-peer lending and equity crowdfunding, has been on the rise in recent years, but remain small compared to neighbouring countries.

Policy recommendations on the business environment for SMEs and entrepreneurship

- Change the balance of spending in active labour market policies by reducing support for self-employment and increasing support for training and job search assistance programmes.
- Improve support for vocational training through the new *Emprega Mais* programme, making sure that training courses benefit from inputs and feedbacks from the private sector.
- Consider introducing a single national value-added tax following the example of India, while lobbying states to simplify and harmonise the state-level ICMS tax.
- Consider an overall reform of corporate income taxation in which the standard system is significantly simplified (for example, adopting some of the *Simples Nacional*'s provisions), the statutory corporate income tax rate is reduced, and the income threshold of *Simples Nacional* is lowered.
- Increase oversight of MEI to ensure that this policy is not used by employers to contract people who should be legally hired as employees as self-employed workers (i.e. the so-called practice of *pejotização*).
- Expand the use of regulatory impact analysis (RIA) by establishing an independent body comparable to CONAMER in Mexico.
- Encourage more competition in the credit market by simplifying entry procedures for foreign banks and by continuing to encourage the development of alternative domestic lenders (e.g. credit co-operatives and fintech organisations).
- In line with the recent regulation of electronic trade notes and centralised registration of payment receivables, continue to improve, digitalise and centralise the registry for movable collateral assets with a view to strengthening secured business lending.
- Reform insolvency procedures by streamlining the overall process (e.g. enforcing deadlines within the foreclosure procedure), encouraging out-of-court settlements and strengthening creditor rights (e.g. the right to have a say on re-organisation plans).
- Continue to develop an appropriate regulatory framework for credit co-operatives.

Notes

[1] Information from the Higher Labour Court at: http://tst.jus.br/noticia-destaque/-/asset_publisher/NGo1/content/primeiro-ano-da-reforma-trabalhista-efeitos?inheritRedirect=false.

[2] *Abono salarial* has been in place in Brazil since the early 1990s. It establishes the payment of one minimum wage per year to workers that earn up to 2 minimum wage salaries per month (calculated by the yearly average). To be eligible, workers must be registered in the *Programa de Integração Social* (PIS) (Social Integration Programme) or in the *Programa de Formação do Patrimônio do Servidor Público* (PASEP) (Training Programme for Civil Servants) for a minimum of 5 years. The PIS-PASEP programmes set that a percentage of the wage of private and public sector workers be kept at a savings account. Employers send information about their employees to the Ministry of Economy, which identifies beneficiaries and triggers payments automatically. The PIS-PASEP contributions feed into the Worker Support Fund (*Fundo do Amparo ao Trabalhador,* FAT), which is the source of funding of *Abono Salarial*.

[3] *Salário Família* is a social security benefit in place since 1998. It aims to support low income workers in Brazil through a cash transfer scheme. It pays a monthly stipend per child under the responsibility of the worker. The range of eligible income is established by a ministerial decision that is updated on a yearly basis. Employees, independent and domestic workers as well as retirees are eligible and must request their access through the employer, unions or social security offices. The policy is funded by the social security budget, and beneficiaries must be contributors to the social security system.

[4] The establishment of non-tariff measures is a prerogative of countries under WTO rules, provided that they meet legitimate objectives. As presented in the Preamble of the Technical Barriers to Trade (TBT) Agreement, no country should be prevented from taking measures necessary to ensure the quality of its exports, or for the protection of human, animal or plant life and health, of the environment, or for the prevention of deceptive practices and the protection of their essential national security interests. This prerogative is subject to the requirement that such measures are not applied in a manner that would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail or of a disguised restriction on international trade.

[5] Mercosur (*Mercosul* in Spanish) is a trading bloc consisting of Argentina, Brazil, Paraguay and Uruguay.

[6] The Pacific Alliance group includes Chile, Colombia, Mexico and Peru, all countries that have undertaken a process of trade liberalisation in the last years.

[7] Further information on the trade liberalisation agenda of the new government is available at the following website: http://www.casacivil.gov.br/central-de-conteudos/downloads/100-dias-tabela-reformatada-com-17.pdf.

[8] Further legal aspects of *Simples Nacional* and MEI are explained in Chapter 4 of the report.

[9] The full name of *Simples Nacional* is Integrated System for the Payment of Tax and Social Contributions by Micro and Small Businesses (*Sistema Integrado de Pagamento de Impostos e Contribuições das Microempresas e Empresas de Pequeno Porte*),

[10] The second largest tax cost, after *Simples Nacional*, was the employers' exoneration from the pay slip (*Desoneração da Folha de Salários*), corresponding to 9.33% of the total (BRL 25.2 billion) and exemptions on personal income tax, corresponding to 8.83% of the total (BRL 23.8 billion).

[11] A power-point presentation summarising the main findings of the SEBRAE's survey on *Simples Nacional* is available at the following website: https://www.google.com/search?q=Os+impactos+do+Simples+Nacional&rlz=1C1GCEA_enFR81

5FR815&oq=Os+impactos+do+Simples+Nacional&aqs=chrome..69i57j33.2063j0j7&sourceid=chrome&ie=UTF-8

[12] Since 2018 the annual gross revenue threshold of *Simples Nacional* is BRL 4.8 million, i.e. USD 1.15 million at the exchange rate of September 2019.

[13] For example, to avoid exceeding the *Simples Nacional*'s annual revenues threshold, it has been reported that companies sometimes establish second fictitious legal entities to split annual revenues or outsource activities that they could run within the firm's boundaries.

[14] Information from a presentation of a study co-ordinated by the federal university of Rondônia and available at: https://docplayer.com.br/9138573-Avaliacao-de-programa-governamental-o-micro-empreendedor-individual-mei-no-estado-de-rondonia.html.

[15] Data on the employment status of the Brazilian workforce are from the IBGE national household survey (PNAD, *Pesquisa Nacional por Amostra de Domicílios*).

[16] Some reforms in these areas have recently been introduced. The federal government has introduced mandatory regulatory impact assessment for federal regulations with an impact on businesses (see this same section), as well as trade policy reforms (see section on international trade conditions).

[17] By "command and control regulation" it is intended the direct regulation of an industry or activity by legislation.

[18] Information based on the OECD Services Trade Restrictiveness Index (STRI) database.

[19] As seen in the previous section, the Central Bank has also issued new regulations allowing credit fintech companies to operate in the national financial system.

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Chapter 4. The governance of SME and entrepreneurship policy in Brazil

This chapter describes and assesses the legal framework underlying small- and medium-sized enterprise (SME) and entrepreneurship policy in Brazil, the main institutional stakeholders involved in SME and entrepreneurship policy, and existing policy co-ordination arrangements. Preferential treatment for micro and small businesses is enshrined in the 1988 Federal Constitution of Brazil, which provides the legal ground for the main law overseeing the activity of SMEs, i.e. Lei Complementar *123/2006. With the formation of a new government in January 2019, the new Ministry of Economy has become the main institutional player in SME and entrepreneurship policy. However, programme implementation mostly happens in collaboration with organisations in the so-called* Sistema S*, which are not formally part of the government but work in close consultation with it in sectors and activities of public interest. Policy co-ordination is strong both at the institutional and operational levels, as shown by many SME programmes being the result of collaborations between different government ministries, agencies and private sector organisations.*

The SME policy legal framework

Preferential regimes for micro and small companies

The Brazilian Constitution grants preferential treatment to micro and small enterprises

Small business policy in Brazil is enshrined in the 1988 Federal Constitution, which granted a "favoured, differentiated and simplified treatment" (henceforth, preferential treatment) to micro and small companies, to be defined based on annual gross revenues, in different policy areas such as taxation, regulations, pension contributions, labour law, access to credit and business development (Article 170 and Article 179).

The first Brazilian laws that dealt more specifically with the rights and obligations of micro and small enterprises (*micro e pequenas empresas*, MPEs) were:

- Law 7256/1984, which integrated different past laws into the new Micro and Small Enterprise Statute and set out the type of preferential treatment to be granted to MPEs.
- Law 9317/1996, which created the special tax regime for MPEs, i.e. the Integrated System of Tax and Contribution Payment for Micro and Small Enterprises, more commonly known as *Simples Nacional* (initially called *Simples Federal*).

Initially, the states of the Federation (and the Federal District) were not obliged to enforce these two laws. However, this changed with *Lei Complementar* 123/2006, also known as the *Simples* Law, which consolidated the legal framework and applied the principle of preferential treatment for MPEs to all three tiers of government (federal, state and municipal). Article 1 of this law requires, in fact, that every new obligation of the public administration that has an impact on micro and small enterprises should point out how these companies will be treated in "a favoured, differentiated and simplified" way compared to other (larger) companies.

Simples Nacional has introduced a simplified tax and regulatory regime for micro and small businesses nationwide

The main provision of *Lei Complementar* 123/2006 refers to the implementation of a preferential tax and regulatory regime for MPEs, i.e. *Simples Nacional* (see also Chapter 3). This regime had already been established by Law 9317/1996 with the name of *Simples Federal*, but it was only through *Lei Complementar* 123/2006 that it was applied nationwide, including at the state and municipal levels.

Today, *Simples Nacional* is Brazil's main policy for micro and small enterprises, covering 65% of the total stock of companies and accounting for 25.63% of total tax exemptions, more than any other fiscal policy (RFB, 2018). SEBRAE (Support Service for Micro and Small Enterprises) finds that the number of companies in Brazil increased from 2.5 million at the time of the introduction of the law to 11.6 million in 2017, suggesting that *Simples Nacional* has encouraged business creation and, above all, business formalisation (SEBRAE, 2017).

The two main eligibility criteria for a company to opt for *Simples Nacional* are to be a corporation, limited partnership or individual limited partnership (legal nature) and not to exceed annual gross revenues of BRL 4.8 million. The main advantage of *Simples Nacional* is the unification of eight taxes into one,[1] with the payment of a single tax rate that varies depending on industry and annual revenues of the company.

The Individual Micro-Entrepreneur policy has complemented Simples Nacional with the aim to strengthen business formalisation

Still in compliance with the principle of preferential treatment for micro and small businesses, the federal government integrated *Simples Nacional* with the *Micro Empreendedor Individual* (MEI) policy in 2008 (Law 128/2008). The main objective of this policy is to encourage the formalisation of mostly own-account workers through a further simplification (compared to *Simples Nacional*) of the tax and regulatory regime and through giving preferential access to credit, training and technical assistance opportunities (see also Chapter 3).

MEI's eligibility criteria include that the micro-entrepreneur cannot exceed BRL 81 000 in annual revenues, cannot employ more than one person, cannot be a partner, administrator or owner of another business, and must operate in a sector covered by the regime (mostly personal services). More than 400 activities are allowed under MEI, as specified in Annex III of *Lei Complementar* 123/2006.

MEI features the following preferential conditions: i) social security contributions are set at 5% of the minimum salary; ii) a fixed amount is paid monthly online to cover a state tax and a municipal tax, i.e. ICMS and ISS;[2] iii) if the business has an employee, the micro-entrepreneur pays 3% of his/her remuneration to the social security system, while 8% is deducted from the salary to converge into the Guarantee Fund of Work Time (*Fundo de Garantia do Tempo de Serviço*, FGTS); iv) micro-entrepreneurs are exempt from income taxation and other federal taxes.

The whole MEI registration process is conducted online at a web portal, *Portal do Empreendedor*, where micro-entrepreneurs can update registration data, submit income declarations, pay taxes and generate certificates. Since 2018, MEI is also integrated with REDESIM (a national regulation harmonisation policy), making the process of business registration and business formalisation easier.

Overall, MEI has been a popular policy: in 2018, of the 12.8 million enterprises registered with *Simples Nacional*, 7.7 million were MEIs and 5 million were MPEs. MEI has also been considered successful in propelling business formalisation, although there have also been concerns about possible abuses, notably through the so-called practice of *pejotização* (see Chapter 3 for more details).

REDESIM has gone a long way in the simplification of business registration and business licenses

The National Network for the Simplification of Business Registration and Business Formalisation (*Rede Nacional para a Simplificação do Registro e da Legalização de Empresas e Negócios*, REDESIM) was introduced by Law 123/2006 and Law 11.598/2007 with the aim, as the name suggests, to simplify the business registration process nationwide. Until the creation of REDESIM, each state Trade Board (*Junta Comercial*) followed different business registration rules, although these had to comply with federal guidelines. REDESIM's main role has been to harmonise business registration and business licensing rules across the states and municipalities of Brazil.

The Department of Business Registration and Integration (*Departamento Nacional de Registro Empresarial e Integração*, DREI) is the federal government unit in charge of regulating the business registration process, although the actual business registration act takes place at local Trade Boards. Until 2018, DREI was under the Special Secretariat for Micro and Small Businesses of former MDIC, but since 2019 it has been moved to the Special Secretariat for De-bureaucratisation, Management and Digital Government

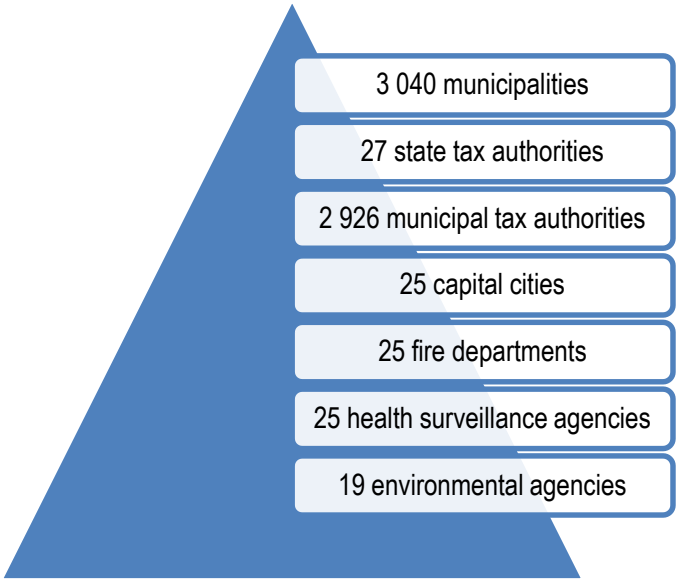
(*Secretaria Especial de Desburocratização, Gestão e Governo Digital*). As such, REDESIM has been included in the overall e-government agenda promoting public services online.

In 2010 the government launched a single web portal of REDESIM to merge business registration procedures and act as a single-entry point for business-related information. Since 2018, the web portal has been revamped to broaden the offer of services through the integration of most agencies (84% of the total) dealing with business registration. This process has been the result of a partnership between DREI, the Special Secretariat for Federal Revenues and SEBRAE, which has also involved other entities and agencies at the national and subnational levels. The new portal has simplified the language, improved and standardised the experience of opening a business or changing its legal status and, more generally, brought more transparency into the whole business registration process.

Despite these improvements there are still some challenges with respect to: i) supporting those municipalities that have not yet joined REDESIM (45.4% of the total, usually the most remote in the country); ii) developing technical capabilities and investment in information and communication technology (ICT) infrastructure at all levels of government; iii) harmonising rules among different types of agencies, including tax, environmental and health-related agencies.[3]

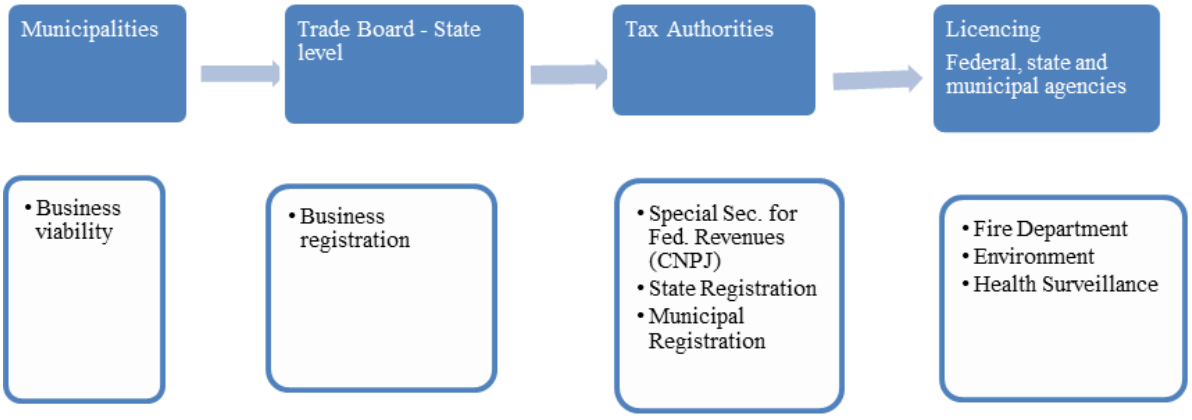
Figure 4.1 shows the number of entities and agencies that are part of REDESIM, whereas Figure 4.2 shows the steps needed to open a business in Brazil. Box 4.1 provides further detailed information about the business registration process in Brazil.

Figure 4.1. Federal and local entities integrated into REDESIM



Source: Special Secretariat for Federal Revenues.

Figure 4.2. Business registration steps in REDESIM



Source: Department of Business Registration and Integration – DREI.

Box 4.1. REDESIM's business registration steps (in detail)

The first step in business registration in Brazil is the so-called *Consulta Previa*. Through an online questionnaire, the government checks whether the business can be opened at the chosen address and whether there are other enterprises registered with the same name.

The second step concerns data collection, in which the new business owner is asked to submit the data and information necessary for business registration. The fact that data collection has been unified through REDESIM prevents the submission of the same document twice. However, once all data have been collected, applicants still need to submit forms in a paper format at one of the accredited registration agencies. Once documents are analysed, the business can be registered and receive a business registration number (*Número de Identificação do Registro de Empresas*, NIRE) from the state-level Trade Board, the CNPJ number (*Cadastro Nacional da Pessoa Jurídica* – National Registry of Legal Entities) from the Special Secretariat for Federal Revenues, and state and municipal tax enrolments.

The third and last step concerns business licenses. The REDESIM web portal integrates all processes from agencies and entities in charge of licenses, utilising a single entry point for all data and documents. The main stakeholders involved in the licensing process are the National Health Surveillance Agency, the Ministry of Environment and the Fire Department, with their respective counterparts at the state and municipal levels. Every licensing agency defines the risk classification of each economic activity, which represents the level of potential danger to human health, the environment or society. An activity that is classified as low-risk does not need an inspection before it can start operations, although entrepreneurs are not exempted from inspections in the future. Thus, in this case, the licensing process is fully completed online. On the other hand, activities that are considered high-risk are treated as exceptions and require a compulsory inspection before they can start operations.

Main stakeholders in SME and entrepreneurship policy

This section describes the main ministries and organisations involved in SME and entrepreneurship policy in Brazil at the federal and state levels. The focus is on the organisations that have an overarching role, whereas further information on specific organisations involved in export promotion and the innovative start-up ecosystems are respectively presented in Chapters 6 and 7 of the report.

Federal government

The Ministry of Economy is the main ministry responsible for SME and entrepreneurship policy in Brazil

The Ministry of Economy is the main ministry responsible for SME and entrepreneurship policy in Brazil. The Ministry of Economy was established in January 2019 and merged four ministries from the previous government: the Ministry of Finance, the Ministry of Industry, Foreign Trade and Services (MDIC), most of the Ministry of Labour, and the Ministry of Planning, Development and Management (MPOG). Seven special secretariats operate in the new Ministry of Economy, each with specific competencies as outlined in Box 4.2.

Box 4.2. Main competencies of Special Secretariats at the Ministry of Economy

Special Secretariat for Productivity, Employment and Competitiveness

- Development policy for industry, trade and services.
- Intellectual property and technology transfer.
- Industry standards.
- Policy to support micro and small businesses and handicrafts (i.e. under *Lei Complementar* 123/2006).
- Employment creation policies.
- Vocational education and training.

Special Secretariat for Federal Revenues

- Tax and customs policy (administration, enforcement and collection).
- General prices and public and managed tariffs.

Special Secretariat for Simplification, Management and Digital Government

- Co-ordination and management of federal plans and federal budgets.
- Management of civil servants.
- Modernisation of public administration.
- Co-ordination of business registry.
- Supervision of the bodies and entities involved in REDESIM.

Special Secretariat for Foreign Trade and International Affairs

- Foreign trade policy.

- Inspection and control of foreign trade.
- Regulation and implementation of foreign trade programmes and activities.

Special Secretariat for Public Finances

- Credit policy and ruling of financial institutions.
- Public financial management and accounting.
- Economic and financial negotiations with other governments and multilateral organisations.
- Management of complementary pension schemes.
- National strategic planning and design of long-term development subsidies.
- Impact assessment of policies and programmes as well as of the multiannual investment plan and annual budgets.

Special Secretariat for Social Security and Employment

- Social security.
- Labour relations.
- Labour taxation.
- Wage policy.
- Safety and health at work.
- Regulation of professions.

Special Secretariat for Privatisation

- Formulation of guidelines, co-ordination and definition of corporate governance criteria of state-owned companies.
- Management of state-owned assets.

Most competencies related to SME and entrepreneurship policy fall within the responsibility of the Special Secretariat for Productivity, Employment and Competitiveness (*Secretaria Especial de Produtividade, Emprego e Competitividade*, SEPEC), notably the Secretariat for Industry Development, Trade, Services and Innovation (*Secretaria de Desenvolvimento da Indústria, Comércio, Serviços e Inovação*), which follows the design and implementation of many programmes aimed at MPEs,[4] and the Secretariat for Public Employment Policies, which is responsible for workforce skills policies. Outside SEPEC, the Special Secretariat for Simplification, Management and Digital Government manages REDESIM; the Special Secretariat for Federal Revenues monitors the implementation of *Simples Nacional*; and the Special Secretariat for Foreign Trade and International Affairs follows policies related to business internationalisation, including by SMEs.

The Ministry of Foreign Affairs and the Ministry of Science, Technology, Innovation and Communication are also relevant players

The Ministry of Foreign Affairs (*Ministério das Relações Exteriores*, MRE) and the Ministry of Science, Technology, Innovation and Communication (*Ministério da Ciência, Tecnologia, Inovações e Comunicações*, MCTIC) are also relevant federal players, notably within the specific areas of SME internationalisation and start-up support.

The MRE supports SMEs that wish to export through the Secretariat of Foreign Trade and Economic Policy *(Secretaria de Política Externa Comercial e Econômica, SPCOM)* and through the network of commercial secretariats hosted at Brazilian embassies (*Secretarias Comerciais*, SECOM). Both offer training and capacity-building opportunities, matchmaking events and market analysis to help SMEs export. Some of the activities specifically aimed at MPEs are organised in collaboration with SEBRAE. MCTIC is the main ministry in charge with the support of technology-based SMEs and start-ups, notably through the national innovation agency FINEP (*Financiadora de Estudos e Projetos*), which implements many of the MCTIC's programmes (see Chapter 7).

Subnational governments

State and local governments are actively involved in SME and entrepreneurship policy[5]

In a federal country of the size of Brazil, states and municipalities also naturally play an active role in SME and entrepreneurship support. The 26 states of Brazil, plus the Federal District, have economic development departments (*Secretarias de Desenvolvimento Econômico*, SEDE) or economic development agencies which, among other things, operate business support programmes. States are also actively involved in the design and implementation of business cluster policies (*arranjos produtivos locais*), which the federal government has supported since 2004. Brazilian states also manage the local Trade Boards (*Juntas Comerciais*), where entrepreneurs submit the necessary documents to register their business.

The main role of municipalities in SME and entrepreneurship policy is through the issuance of business licenses and permits, including in the framework of the REDESIM initiative. In addition, a project called *Município Amigo do Empreendedor* encourages the creation of a business-friendly environment at the municipal level.

The special role of Sistema S

Sistema S *plays a key role in policy implementation*

Sistema S includes a group of organisations that is formally outside of the government but that works in close consultation with it in the implementation of socioeconomic policies. The creation of *Sistema S* dates back to the 1940s when the federal government and the business sector came together to upgrade the skills of the labour force at a time of rapid industrialisation and social transformation. Training continues to be even today the main area of work of organisations in *Sistema S*.

Organisations in *Sistema S* are considered parastatal organisations: i.e. they are not formally part of the government but work together with it in sectors, activities and services that are considered of public interest. The relationship between *Sistema S* and the government typically takes place through technical co-operation contracts. From an administrative point of view, *Sistema S* is funded by wage levies ranging from 0.2% to 2.5% of wage costs (on average 1%), depending on the sector.

The first entities established under *Sistema S* were, respectively, the National Service for Vocational Training in Industry (*Serviço Nacional de Aprendizagem Industrial*, SENAI) and the National Service for Vocational Training in Trade (*Serviço de Aprendizagem Comercial*, SENAC). They both have a strong focus on workforce training and have worked closely with the federal government in vocation education and training (VET) policies such as PRONATEC (see Chapter 3 for more details). After the Federal Constitution of 1988, which granted the federal government exclusive responsibility on

social contributions and to intervene in the interest of professional categories, other entities were created to cater to other economic sectors (e.g. rural, transport and co-operatives).

In addition to SENAI and SENAC, the organisations that interact the most with SMEs are the Brazilian Support Service to Micro and Small Businesses (*Serviço Brasileiro de Apoio às Micro e Pequenas Empresas*, SEBRAE), which acts as the de-facto national small business agency; the Brazilian Agency for Export and Investment Promotion (*Agência Brasileira de Promoção de Exportações e Investimentos*, Apex-Brasil); and the Brazilian Industrial Development Agency (*Agência Brasileira de Desenvolvimento Industrial*, ABDI). The work of some of these organisations is further detailed in Chapters 6 and 7 of the report, each of which starts by providing an overview of the main stakeholders involved respectively in export and start-up support.

Given the volume of financial resources managed by *Sistema S*, estimated at BRL 32 billion in 2017 and the extension of its network of local offices (229 units),[6] the Federal Government has recently strengthened its dialogue with these organisations to improve synergies and to strengthen the monitoring and evaluation of their activities.

SEBRAE specifically caters to micro and small companies

As noted earlier, the activity of SEBRAE specifically focuses on SMEs, notably on micro and small businesses as defined by *Lei Complementar* 123/2006 (*micro e pequenas empresas*, MPEs), i.e. companies with annual gross revenues below BRL 4.8 million. The work of SEBRAE is set out by a Deliberative Council that consists of 15 members from national confederations (agriculture, trade and industry), federal government departments and agencies (e.g. the Under-Secretariat for Micro and Small Businesses, FINEP), business representative organisations, and public development banks (e.g. Banco do Brasil and BNDES).

SEBRAE was originally established in 1972 under what used to be the Ministry of Planning, Development and Management and was later transferred to *Sistema S* in 1990. Contrary to other organisations in *Sistema S*, SEBRAE does not work on the basis of a technical co-operation contract, but its act of incorporation establishes that its work should be consistent with the policy priorities of the Ministry of Industry, Foreign Trade and Services (MDIC), which was merged into the Ministry of Economy in 2019. As a result, SEBRAE participates in all committees established by *Lei Complementar* 123/2006 and specifically caters to the development of MPEs.

SEBRAE acts in a decentralised way through a network of local offices in each Brazilian state (plus the Federal District). Each office receives resources proportional to the number of companies it serves and to the resources collected at the local level through wage levies. In addition, SEBRAE's national office can set up special programmes and transfer resources to the states for implementation at the local level. State-level offices have flexibility in developing projects that meet local demands, although they always have to comply with guidelines set by the national office.

SEBRAE's activities include, among others, awareness-raising, training, counselling, education and business matchmaking. For example, SEBRAE operates entrepreneurship education courses, which are available both on-site and online and is actively involved in the implementation of main tax and regulatory policies such as Simples Nacional, MEI and REDESIM.

Policy co-ordination mechanisms

The Permanent Forum on Micro and Small Businesses is the main policy co-ordinating body at the institutional level

SME and entrepreneurship policy cuts across different policy areas, calling for strong co-ordination among different actors and institutions to make policy effective. Co-ordination in SME and entrepreneurship policy is generally strong in Brazil both at the institutional and operational levels. At the institutional level, there are fora and committees whose role is to co-ordinate national SME policies. At the operational level, co-ordination can be observed in many programmes being designed and implemented jointly by different ministries and organisations.

The Permanent Forum on Micro and Small Businesses (*Fórum Permanente das Micro Empresas e Empresas de Pequeno Porte,* FPMPE) is the official co-ordinating body responsible to advise, monitor and evaluate policies for micro and small businesses, as defined by *Lei Complementar* 123/2006 (MPEs). The FPMPE was established by the same law and has always been chaired by the Under-Secretariat for Micro and Small Businesses.

The FPMPE met regularly between 2007 and 2013, but thereafter it was not convened for three years. In May 2017, the forum was resumed, under the leadership of the then Special Secretariat for Micro and Small Businesses at former MDIC, with the appointment of 80 members from the government (all three layers), organisations from *Sistema S*, financial institutions, small business associations and civil society organisations. The FPMPE works through six thematic committees, each of which focuses on a key policy area and is jointly co-ordinated by a public and private stakeholder (Table 4.1).

Table 4.1. Thematic committees at the Permanent Forum on Micro and Small Businesses

Thematic committees	Objectives	Co-ordinators
National Micro and Small Business Policy	Identify, analyse and propose measures for the improvement of the business environment and the development of micro and small businesses.	Public co-ordinator: Ministry of Economy Private co-ordinator: Brazilian Cooperative Organisation (OCB)
Legal and Bureaucratic Rationalisation	Identify, analyse and propose measures to reduce and/or simplify obligations imposed on micro and small businesses.	Public co-ordinator: Ministry of Economy Private co-ordinator: National Confederation of Micro and Small Businesses and Individual Entrepreneurs (CONAMPE)
Access to Market	Identify, analyse and propose measures to facilitate the access of micro and small businesses to public procurement, external and domestic markets, and the supply chain of large companies.	Public co-ordinator: Ministry of Economy Private co-ordinator: National Industry Confederation (CNI)
Technology and Innovation	Identify, analyse and propose measures to help micro and small businesses to access new technologies and undertake product/process innovation.	Public co-ordinator: Ministry of Economy Private co-ordinator: National Young Entrepreneurs Confederation (CONAJE)
Investment, Finance and Credit	Identify, analyse and propose measures to facilitate the access of micro and small businesses to bank credit and other sources of finance.	Public co-ordinator: Ministry of Economy

Thematic committees	Objectives	Co-ordinators
		Private co-ordinator: National Confederation of Trade (CNC)
Entrepreneurship Capacity-building and Training	Identify, analyse and propose measures to expand training opportunities for micro and small businesses.	Public co-ordinator: Ministry of Economy Private co-ordinator: Federal Administration Council (CFA)

Source: Forum Permanente (n.d.), *Homepage*, www.forumpermanente.gov.br, accessed on 10 February 2020.

In June 2019, the FPMPE launched the National Policy in support of Micro and Small Enterprises (*Política Nacional de Apoio e Desenvolvimento das Microempresas e Empresas de Pequeno Porte*, PNADEMPE). This Strategic document gathers information on ongoing initiatives for MPEs, sets out future policy directions, and outlines main policy evaluation criteria (FPMPE, 2019). In mid-2019, the FPMPE was also discussing the creation of a national credit guarantee system (*Sistema Nacional de Garantia de Crédito*, SNGC) in collaboration with the Brazilian Management Agency of Guarantee Funds (*Agência Brasileira Gestora de Fundo Garantidores e Garantias*, ABGF), which would be an important development given the limited presence of loan guarantees in Brazil (see Chapter 5 for more details).

In addition to the national FPMPE, each of the 26 states of Brazil (plus the Federal District) is also expected to run a regional forum to discuss micro and small business development issues at the local level. As of 2019, 13 states had a functioning regional forum.

Steering committees supervise the implementation of major initiatives

The federal government also operates a series of technical steering committees that supervise the implementation of major policies such as *Simples Nacional* and REDESIM. The Steering Committee of Simples Nacional (*Comitê Gestor do Simples Nacional*, CGSN) consists of eight members, four from the Special Secretariat for Federal Revenues representing the federal level, two members representing the state (and Federal District) level, and two members representing municipalities. The CGSN legislates through resolutions, which are normative in nature and bind all three levels of government. Since 2013 (Decree 8019/2013), there is also an Inter-ministerial Evaluation Commission of *Simples Nacional,* which monitors and evaluates this policy.

The Steering Committee of REDESIM (*Comitê para Gestão da REDESIM*, CGSIM) follows the implementation of the federal initiative that aims to harmonise state and municipal business regulations nationwide. CGSIM is chaired by the Special Secretariat for Simplification, Management and Digital Government at the Ministry of Economy and includes 11 representatives from different secretariats at the Ministry of Economy, the National Social Security Institute, a representative of state-level Trade Boards, finance departments at the state and municipal levels, municipalities and the FPMPE. The main purpose of REDESIM is to govern, in compliance with the existing law, everything that has to do with opening, closing or changing the legal nature of business enterprises in Brazil.

Conclusions and policy recommendations

This chapter has looked at the governance of SME and entrepreneurship policy in Brazil. It has started by highlighting that the Federal Constitution of 1988 grants micro and small businesses a right to preferential treatment. The major SME policy of Brazil, *Simples*

Nacional, hinges on this principle by establishing a preferential tax and regulatory regime for micro and small enterprises. So does the MEI policy, which has encouraged the formalisation of micro-entrepreneurs. However, the strong focus of Brazilian SME policies on micro and small businesses also means that mid-sized firms are largely missing in the national policy debate.

Following federal elections in October 2018 and the swearing-in of a new government in January 2019, the Ministry of Economy, which has merged four previous ministries, has become the main ministry involved in SME and entrepreneurship policy, notably through the Special Secretariat for Productivity, Employment and Competitiveness, the Special Secretariat for Simplification, Management and Digital Government, and the Special Secretariat for Fiscal Revenues. However, within their respective areas of work, the MRE (internationalisation) and MCTIC (innovation) are also relevant ministries. *Sistema S* – a group of parastatal organisations – plays a key role in policy implementation, mostly through the stipulation of management contracts with the federal government. In line with the federal nature of Brazil, state governments also play an active role in SME support, while municipalities are mostly involved through the delivery of business licenses and business permits.

Finally, there is a good level of co-ordination in SME and entrepreneurship policy in Brazil, both at the institutional and operational levels. At the institutional level, the Permanent Forum on Micro and Small Businesses (FPMPE) is the official place monitoring the implementation of policies and programmes for this business segment. Inactive between 2014 and 2017, it was revamped in 2017 under the leadership of the then Special Secretariat for Micro and Small Businesses at former MDIC and has since then steered the institutional debate on policies for MPEs.

Policy recommendations on the governance of SME and entrepreneurship policy

- Prepare an SME Strategy and Action Plan that outlines the main policy objectives, targets and support measures and that defines roles and responsibilities of implementing ministries and agencies.
- Undertake a more regular evaluation of main SME and entrepreneurship programmes to better understand impacts and build the evidence base for future policies.
- Convene regularly the Permanent Forum on Micro and Small Enterprises to encourage institutional dialogue on SME policy and further promote state-level fora to foster policy dialogue also at the local level.

Notes

[1] The federal taxes are the IRPJ (corporate income tax), PIS/PASEP (federal social contributions for low-income workers), CSLL (contribution on net profit), COFINS (federal tax financing the social security system), IPI (value-added tax on industrial products), and employer social security contributions. The two local taxes are ICMS (state-level tax applied to the movement of goods and services across states) and ISS (municipal services tax).

[2] ICMS is the state-level tax applied to the movement of goods and services across states and ISS is the municipal services tax.

[3] Further information on remaining challenges in REDESIM are available in the following presentation by former MDIC: http://legis.senado.leg.br/sdleg-getter/documento/download/814ca7dd-5489-44e3-a898-cecb23c2d545.

[4] The Under-Secretariat for Micro and Small Businesses and Handicraft is, in fact, part of the Secretariat for Industry Development, Trade, Services and Innovation.

[5] Chapter 8 analyses in further details the local dimension of SME and entrepreneurship policy in Brazil.

[6] Estimates from the Brazilian Court of Auditors (*Tribunal de Contas da União*).

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Chapter 5. Federal programmes for SMEs and entrepreneurship in Brazil

This chapter describes and assesses federal programmes in support of small- and medium-sized enterprises (SMEs) and entrepreneurship, notably in the areas of access to finance, innovation, public procurement, entrepreneurship education, managerial and workforce training, and women's entrepreneurship. Access to finance is mostly promoted in Brazil through loan subsidies, whereas loan guarantees are less widespread. Brazil has a wide range of targeted programmes to support innovation in SMEs, some of which are well-designed and successful. However, spending on targeted SME innovation programmes is dwarfed by spending on research and development (R&D) tax credits, which are overwhelmingly used by large companies. Entrepreneurship education in Brazil has a solid reach and content, on which the government could build to reach more effectively disadvantaged groups and groups underrepresented in the entrepreneurial population. Finally, there is a need to strengthen public policies for women's entrepreneurship, including through the implementation of more women-specific support programmes.

SME debt finance programmes

Chapter 3 has looked at overall credit market conditions and recent reforms in credit market regulations, arguing that Brazil's credit market is tight but that important regulatory reforms have recently been undertaken to ease access to finance. This section looks at specific programmes enhancing access to finance for SMEs. It highlights the important role played by Brazil's National Bank for Economic and Social Development (*Banco Nacional de Desenvolvimento Econômico e Social*, BNDES) and Brazil's preference for credit subsidies over loan guarantees.

BNDES credit programmes

BNDES is the single most important source of finance for SMEs in Brazil

BNDES is one of the largest development banks worldwide, with total assets of BRL 860 billion. BNDES operates 10 credit products and 36 credit lines: a credit product involves a specific financing objective, while a credit line sets out specific conditions for targeted clients or sub-objectives. Each product has a pre-defined cost and the BNDES remuneration, which together constitute the interest rate passed on to the client. Since BNDES works through a network of accredited financial institutions (both private and public), these also charge their own remuneration in the final interest rate, based on their own credit risk assessment of the client.

BNDES is the single most important source of finance for Brazilian SMEs. In the first semester of 2018, SMEs, including micro-enterprises, accounted for 48.6% of BNDES credit, up from 30.6% in 2016 (OECD, 2019). Some of BNDES's most relevant products for SMEs are the BNDES Card, BNDES Automático, BNDES FINAME and BNDES *Crédito Pequenas Empresas*. The first is a credit card issued by BNDES-accredited financial institutions with a pre-approved overdraft of up to BRL 2 million; the second supports investment of up to BRL 150 million; the third finances the acquisition of capital assets; and the fourth offers up to a maximum of BRL 500 000 of credit per year to micro and small enterprises as defined by *Lei Complementar* 123/2006 (i.e. MPEs).[1]

The BNDES Card (*Cartão BNDES*) is particularly popular among MPEs struggling to receive bank loans. It is a credit card that comes with a pre-approved credit line (up to BRL 2 million) and an interest rate subsidy (1.3% per month in early 2019). Small business owners can use the card to buy products from registered national suppliers. In 2017, more than 650 000 companies were using a BNDES Card for a total amount of BRL 2.7 billion of credit. Overall, the BNDES Card accounted for 30% of BNDES disbursements to SMEs in 2015. An initiative similar to BNDES Card exists in Hungary, where the maximum credit allowed under the programme has recently been considerably increased.

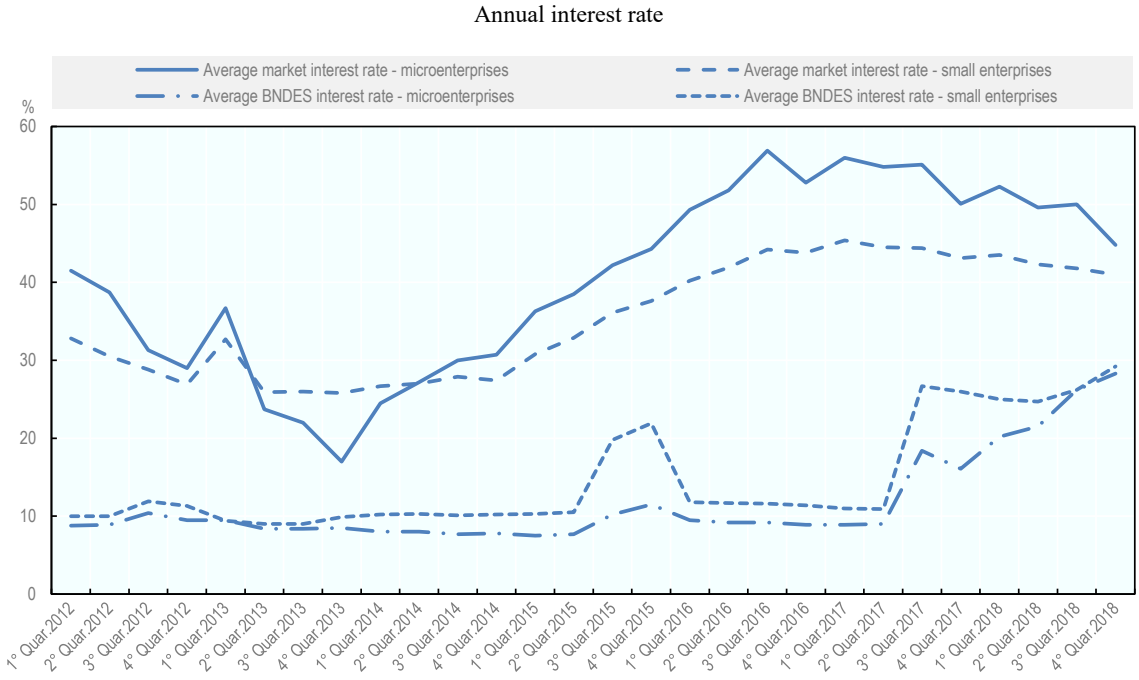
Box 5.1. Hungary's *Szechenyi* Card

Hungary's *Szechenyi* Card is an overdraft loan facility requiring no tangible collateral that can go from HUF 500 000 (about EUR 1 600) to HUF 25 million (about EUR 80 000). The government supports the card through a guarantee, coverage of 50% of the guarantee fee, and an interest rate subsidy of 1% on loans up to HUF 10 million (EUR 32 000). The government has very recently extended the *Szechenyi Card* to investment loans and increased the maximum amount of the overdraft facility to HUF 100 million (EUR 320 000). Because the programme works through the intermediation of commercial banks, it is considered to have improved the relationship between banks and small businesses.

The interest rate subsidy in BNDES credit is being phased out

BNDES lending has typically come in the past with a sizeable interest rate subsidy. However, since January 2018, BNDES applies to its credit products a newly defined long-term rate (*Taxa de Longo Prazo*, TLP) instead of the previous "long-term interest rate" (*Taxa de Juros de Longo Prazo*, TJLP). The TLP has two components: the first is anchored to the inflation index and is adjusted monthly, whereas the second is pegged to the remuneration of one of the National Treasury Bonds (NTN-B) and is fixed for the whole duration of the contract. The TLP has added a market anchor to the remuneration of BNDES long-term credit, whereas the TJLP allowed for larger credit subsidies by being linked to the inflation target and to a risk premium set by the National Monetary Council. The transition from the TJLP to the TLP will be gradual, with BNDES loans expected to be fully remunerated based on market rates by 2023, but there are already clear signs of convergence between the average market interest rate and the average interest rate applied by BNDES (Figure 5.1).

Figure 5.1. Average market interest rates and BNDES interest rates for micro and small enterprises, 2012-18



Source: Banco Central do Brasil, Time Series Management System.

StatLink http://dx.doi.org/10.1787/888934088579

BNDES credit has generally had a positive impact

There is a large evaluation literature on the impact of BNDES credit programmes. The 2017 BNDES Effectiveness Report gathers information on 35 impact evaluations published by either internal staff or external researchers (BNDES, 2018). The 2019 edition will add information on 15 more case studies. Many impact evaluations find that BNDES credit has had a positive impact on investment and job creation among recipient firms, whereas evidence about the impact on productivity is more mixed.

For example, an evaluation of the BNDES Investment Support Programme (*Programa de Sustentação do Investimento*, PSI), which was launched in 2009 to tackle a rapid decline in capital investment, shows a positive impact of the programme on firm-level investment (Machado et al., 2014). At a more aggregate level, Barboza and Vasconcelos (2019) find that BNDES loans have had a positive and statistically significant impact on Brazilian aggregate investment during the period 2002-16. In particular, one real of BNDES credit has led to an increase in average investment of BRL 0.46; among the different programmes, FINAME showed the strongest impact (i.e. BRL 0.73 of average increase in investment for each real lent).

However, other studies also suggest that highly subsidised credit in the past has kept unviable companies artificially alive (see Dutz et al., 2017, for a review of the literature), hindering the process of "creative destruction" at the core of productivity growth. In this respect, the expected reduction in the interest rate subsidy inherent to BNDES loans should reduce such risk in the future.

Fintech solutions are slowly being introduced in the credit market

Canal MPME is a web platform that provides detailed information on BNDES credit products and through which SMEs can apply for loans. Applications are shared with financial institutions registered with the platform, which may respond and engage in credit negotiations with the applicant firm. Canal MPME also enables BNDES to collect information on the demand and take-up of SME loans, thus favouring better targeting of its products.

In 2018, BNDES initiated a plan to integrate fintech solutions into its Canal MPME. First, a public consultation of fintech companies was launched to offer solutions connecting potential borrowers with financial institutions, such as through credit score analysis, financial education and reverse auctions. Second, BNDES launched a Fintech Challenge, which resulted in ten finalist fintech companies and three winners. Third, BNDES announced the accreditation process of fintech companies that could offer financial and management education. Through this transformation, Canal MPME is expected to act in the future as a hub of financial and non-financial solutions for micro, small and medium companies. In turn, this should help ease access to finance for SMEs and reduce banking concentration by redirecting loan applications to smaller financial institutions.

BNDES will continue to have an important role in SME financing

Going forward, BNDES will continue to play an important role in supporting access to finance for SMEs. As shown earlier, BNDES business loans have increasingly focused on SMEs. BNDES has also strengthened its support for market segments that are credit-constrained and/or activities that have important economic externalities (e.g. innovation, environment and renewable energies) (BNDES, 2018). These trends should be preserved in the future, as they enhance the additionality of BNDES credit.

Second, BNDES has so far privileged loan subsidies over loan guarantees, whereas more attention to credit guarantees would be warranted. Wider use of loan guarantees would enable BNDES to reach a larger number of firms through a more limited budget and would enable financial institutions, both large and small, to engage more into SME lending.[2] BNDES already manages a small-scale guarantee fund (*Fundo Garantidor para Investimentos*, FGI), which could be scaled up to support more operations (see section on loan guarantees).

Third, there is also scope for BNDES to offer non-financial forms of support, similarly to development banks in other countries. International evidence points out that the impact of financial support is magnified when complemented with technical assistance, counselling and mentoring. The Business Development Bank of Canada (BDC), for instance, conducted in 2013 a large-scale external assessment of the impact of its activities, finding that the impact on sales, employment and productivity of supported firms was stronger when financing and consulting services were jointly offered (see Box 5.2). The positive effects of combining financial and non-financial support are even more pronounced in middle-income countries, where small businesses are more likely to lack adequate managerial and financial skills (Boschmans and Pissareva, 2017). BNDES could consider offering complementary technical assistance in (some of) its programmes in collaboration with private sector organisations and organisations in *Sistema S*.

Box 5.2. Business Development Bank of Canada's advisory services

Business Development Bank of Canada (BDC) is the main federal development bank of Canada and a key player in business management support and advice. Being fully owned by the government, BDC provides advisory services to small businesses at an affordable price, though in most cases not for free. The BDC uses its network of more than 100 business centres across Canada, as well as external organisations, to reach out to its clients. In 2014, it worked on 2 500 SME consulting mandates for an average transaction value of CAD 8 700.

The combination of financing and business advisory services is a good practice of BDC. A recent analysis shows, for example, that BDC clients who receive both financial and advisory services experience stronger growth in sales, employment and productivity than BDC clients that take up only one of the two. BDC clients who received both consulting and finance reported sales growth between 8-25% greater than a control group of non-BDC clients over the five years following the intervention, while sales growth was 1%-14% higher than in the control group among BDC clients who only received financial support.

Sources: OECD (2017), *SME and Entrepreneurship Policy in Canada*, https://doi.org/10.1787/9789264273467-en; BDC (2013), *Measuring BDC's Impact on Its Clients*, https://www.bdc.ca/en/documents/other/BDC_ECONOMIC_IMPACT.pdf.

The National Programme for Productive Microcredit (PNMPO)

Brazil's microcredit experience is largely positive, but mostly limited to the Northeast of the country

Microcredit regulation in Brazil dates back to Law 10735/2003 requiring banks to allocate 2% of deposits to finance loans for low-income individuals. Banks can issue microloans directly or transfer resources to other financial institutions specialised in microcredit. Unused funds have to be deposited at the Central Bank with a zero interest rate. In 2005, the former Ministry of Labour, now part of the Ministry of Economy, launched the National Programme for Productive Microcredit (*Programa Nacional de Microcrédito Produtivo Orientado*, PNMPO). In addition to the compulsory 2% requirement, the programme is also funded through the Worker Support Fund (*Fundo de Amparo ao Trabalhador*, FAT).

The PNMPO allows a large number of financial institutions to provide microcredit, including microfinance institutions, public development banks, commercial banks, credit co-operatives and, more recently, fintech companies. However, Banco do Nordeste, a

public development bank, holds more than 80% of microcredit loans, taking the lion's share in this market segment. The PNMPO has also recently broadened the eligible population, from micro-entrepreneurs with annual income up to BRL 120 000 to up to BRL 200 000. Based on PNMPO regulations, the monthly interest rate cannot exceed 4% and lenders must visit the borrowers before disbursing loan. More recently, this obligation has been limited only to a first meeting with the aim to reduce the operational costs of the programme. In the first 10 years of operations, between 2005 and 2015, PNMPO disbursed over BRL 50 billion. However, there are still untapped opportunities, since BRL 570 million from the 2% bank deposit requirement remain on average unused every year. According to the last PNMPO executive report, 95% of microcredit users are own-account workers and 65% are women (Ministério da Economia, 2019).

Impact evaluation of PNMPO is rare. Fundação Getulio Vargas (FGV), a university, conducted a study on Banco do Nordeste's microcredit programme, Credi-Amigo, which is the largest in Brazil. Based on microdata from 2005 and 2006, FGV found an increase in sales of 35% and operating profits of 37% among microcredit beneficiaries (Varella et al., 2017). Another independent evaluation of microcredit in Brazil prior to the PNMPO showed that an increase in the supply of microcredit raised formal credit utilisation, but did not reduce the use of informal sources of credit. Nonetheless, the combination of formal and informal sources of finance boosted the performance of microcredit users, especially women-owned businesses (Skoufias et al., 2013).

The prominence of Banco do Nordeste means that the offer of microcredit has a strong regional bias in Brazil, with over half of the volume of microcredit disbursed to the Northeast, the poorest of the five macro-regions of Brazil. Going forward, while keeping a strong presence in the Northeast is important, the government should seek to stimulate the take-up of microfinance in other regions. There could also be scope for increased collaboration between PNMPO and other government programmes, especially those of SEBRAE. Many beneficiaries from PNMPO would indeed benefit from training and mentoring, with access to microcredit that could act as a gateway to other forms of technical support.

The PROGER-FAT programme

PROGER-FAT supports small business competitiveness through skills upgrading

The Programme for the Generation of Employment and Income of the Worker Support Fund (*Programa de Geração de Emprego e Renda do Fundo de Amparo ao Trabalhador*, PROGER-FAT) is another main direct line of credit for micro and small businesses, under the direct responsibility of the Ministry of Economy (formerly, before 2019, under the responsibility of the Ministry of Labour). The overarching objective of this programme is to encourage job creation and small business competitiveness. In 2018, PROGER-FAT provided BRL 4.95 billion of credit to improve the performance of small businesses, which are in this case defined as companies with revenues up to BRL 10 million. The main credit line (96% of total credit) was one broadly defined as "investments for small enterprises in urban and rural settings", which aims at financing both investment and working capital requirements. Smaller credit lines were also intended to support innovation and technology diffusion through FINEP Inovacred (see section on SME innovation programmes), SME export or still microcredit through the PNMPO. PROGER-FAT funding is disbursed through public development banks such as BNDES, Caixa Econômica Federal, Banco do Nordeste and Banco do Brasil (Ministério do Trabalho, 2018).

Over the 24 years of the programme, PROGER-FAT has been evaluated five times, twice by external institutions and three times by internal evaluators. These evaluations have tended to show positive impacts of PROGER on job creation, which is essentially the main objective of this policy. In the future, evaluation exercises could also look at the impact of the programme on other outcomes such as labour productivity.

Loan guarantee programmes

Loan guarantees are not common in Brazil and are mostly used by larger SMEs

Brazil operates three main credit guarantee funds for SMEs: FAMPE (*Fundo de Aval às Micro e Pequenas Empresas*), the oldest and largest guarantee fund, FGO (*Fundo de Garantia de Operações*) and FGI (*Fundo Garantidor de Investimentos*).

SEBRAE has run FAMPE since 1995 to support access to finance for micro and small companies (MPEs) through guarantees of up to 80% of the loan amount. Credit is channelled through SEBRAE-accredited institutions, which are responsible for the credit risk analysis and the selection of the borrower. The maximum guarantee is BRL 150 000 for working capital loans, BRL 60 000 for export-oriented loans (pre-shipment phase), and BRL 300 000 for investment loans supporting technological development and innovation. Between 1995 and 2015, FAMPE issued BRL 7.8 billion in loan guarantees to about 260 000 MPEs.

Banco do Brasil, a state-owned bank, has run the FGO since 2010. The main shareholders, besides Banco do Brasil, are Caixa Econômica Federal, another state-owned bank, and the federal government through the National Guarantee Association (*Agência Brasileira Gestora de Fundos Garantidores e Garantias*, ABGF). In 2017, the total amount of guarantees was BRL 2.3 billion for a total loan volume of BRL 3 billion funding a total of 31 730 operations.

Finally, BNDES has operated the FGI since 2010. It provides guarantees for SMEs seeking loans from accredited financial institutions that cover between 10% and 80% of the loan value and up to a maximum of BRL 10 million per enterprise. Based on the 2017 internal management report, 62% of the beneficiaries (total of 28 143) were enterprises that had not previously received any bank loan. In 2017, the FGI guaranteed a total of BRL 750.4 million in 4 420 operations worth BRL 984.3 million. Most operations concerned working capital requirements (89.7%).

Overall, these figures suggest that loan guarantees are not sufficiently used in Brazil. In 2017, about 86 000 Brazilian enterprises used loan guarantees for a total of BRL 3.8 billion in guarantees leveraging BRL 5 billion in new small business loans, that is, only about 1% of total new small business loans in the same year. In 2017, the average size of a guarantee-backed loan was BRL 58 000, suggesting that loan guarantees were mostly used by small companies. Going forward, there is potential to expand the use of loan guarantees while streamlining the activities and ownership structure of the existing guarantee funds to facilitate the access by SMEs.

Equity and quasi-equity finance initiatives for SMEs

BNDES is investing significant resources in supporting the venture capital (VC) industry

The main institutional player in the Brazilian equity market is BNDESPAR, a subsidiary of BNDES, which has a total of BRL 1.1 billion of equity participations mostly at the seed and early stages of investment. Another main player is FINEP, Brazil's national innovation

agency that depends on the Ministry of Science, Technology, Innovation and Communication (*Ministério da Ciência, Tecnologia, Inovações e Comunicações*, MCTIC) and that primarily invests in start-ups. The work of FINEP, including as a provider of equity finance, is presented in Chapter 7 of the report on the innovative start-up ecosystem, while this section focuses on the activity of BNDESPAR.

BNDESPAR'S main seed capital funds are *Criatec* I, II and III. As of 2019, *Criatec* I was in the divestment stage, *Criatec* II was entering the divestment stage, while *Criatec* III was still investing. All three funds have a duration of 10 years and are meant to support SMEs with annual revenues of up to BRL 10 million (BRL 12 million in the case of *Criatec* III). The three funds together have involved a commitment of BRL 489 million (BRL 100 million, BRL 186 million and BRL 204 million in *Criatec* I, II and III respectively), mostly investing in sectors such as ICT, agro-businesses, nanotechnology, biotechnology, advanced materials and digital technologies. The first two editions of *Criatec* invested in 72 companies, which generated 60 patents. While in the early years the participation of BNDESPAR could go up to 80% of the total fund (*Criatec I*), it has decreased since then to the average of 40%, which is in line with the experience of other OECD countries such as Canada (OECD, 2019).

BNDESPAR has also recently supported business angel investment. *Fundo de Coinvestimento Anjo* was introduced in 2018 and is expected to become fully operational in 2019. The fund will invest BRL 100 million in start-ups with annual revenues below BRL 1 million. The fund will use BNDESPAR resources and matching funds from private investors, including pre-selected angel investors and accelerators, and will be managed by an external entity. Initial investments are capped at BRL 500 000, while follow-on investments are capped at BRL 5 million. Companies receiving follow-on investments will be subject to an assessment by an investment committee consisting of the fund's external managers and BNDESPAR managers. The goal of *Fundo de Coinvestimento Anjo* is to invest in a total of 100 companies, with priority sectors similar to those targeted by *Criatec*.

The activity of BNDESPAR could be expanded in three areas

Although BNDESPAR is relatively successful in its activity, there are still some gaps in its equity finance offer. First, there is a paucity of follow-on equity finance that could prevent the scale-up of successful start-ups and growth-oriented SMEs. To address this gap BNDESPAR could set a new fund, based on a co-investment approach with private operators. For example, in Portugal, the 200M Fund is a matching fund through which the government invests together with qualified national and international investors in domestic high-growth SMEs.[3]

Second, there is no fund in Brazil dedicated to "hard-tech", which refers to companies that want to address difficult technological problems. Hard-tech companies are generally risky but generate above-average profits when they succeed.

Third, BNDES could strengthen the venture-debt market, as the first debt venture fund was only approved in April 2019.[4] In this investment typology, investors typically intervene in the scale-up phase of innovative companies that are considered too risky or requiring too large sums to be suitable for bank loans. One advantage of venture debt compared to private equity is that the former does not dilute excessively the equity participation of early-stage investors.

The global private debt market has expanded rapidly in many countries, especially in Europe, and has become an important financing source for companies that are positioned high on the risk-return scale. Debt venture is offered either stand-alone (i.e. not in

combination with private equity) or sponsored (i.e. complementing a private equity operation, typically referred to as the "leverage component") (Thompson et al., 2018). Private debt in Brazil is underdeveloped and is likely to benefit from government support. BNDES could potentially follow the example of the European Investment Bank (EIB) in establishing a co-investment scheme (see Box 5.3).

Box 5.3. International learning model – European Investment Bank's venture-debt instruments

Description of the approach

The European Investment Bank (EIB) is the publicly owned, non-profit long-term lending institution of the European Union (EU). Since December 2016, it has established full-scale venture-debt operations under the European Fund for Strategic Investments (EFSI). The main purpose is to address a market gap for innovative companies at a somewhat mature stage with a financing need between EUR 7.5 million and EUR 50 million.

Applications are scrutinised by EIB's financial experts, who review the quality and experience of the company's management team, capital structure, business plan and future strategy. Upon approval, the EIB co-invests with third-party sources up to 50% of the eligible project costs. The investment comes with a tenor of 5 to 7 years.

The EIB invests in high-growth SMEs that have already received equity investments and have a strong business plan to scale up their activities, but that lack the necessary funds. By the end of 2018, EIB had signed 80 operations for a total portfolio of EUR 1.8 billion, making it the biggest provider of venture debt in the EU.

Factors of success

The scheme addresses an identified market gap in the EU, i.e. the lack of funds for scaling up innovative ventures. It offers relatively large tickets at long tenors, allowing beneficiaries to focus on expanding the business rather than on securing additional funds. With a few exceptions, the capital does not dilute the equity stake of early-stage investors. In addition, securing funding from the EIB implies going through a rigorous selection process that shows the business potential of recipients, making it easier for the selected companies to acquire additional funding from private investors. Finally, the EIB scheme does not imply a direct involvement in the day-to-day management of the business, making it appealing to both entrepreneurs and early-stage investors averse to losing control of the business by taking on board VC funds.

Relevance to Brazil

Similarly to Europe, also in Brazil, there are limited opportunities for firms with high growth potential to secure follow-on funding to scale up their activities. BNDES could draw inspiration from the EIB scheme to stimulate the debt venture market in Brazil.

Further information

Website of the European Fund for Strategic Investments: https://www.eib.org/en/efsi/what-is-efsi/index.htm.

SME innovation programmes

Setting the context: the place of SMEs in national innovation policies

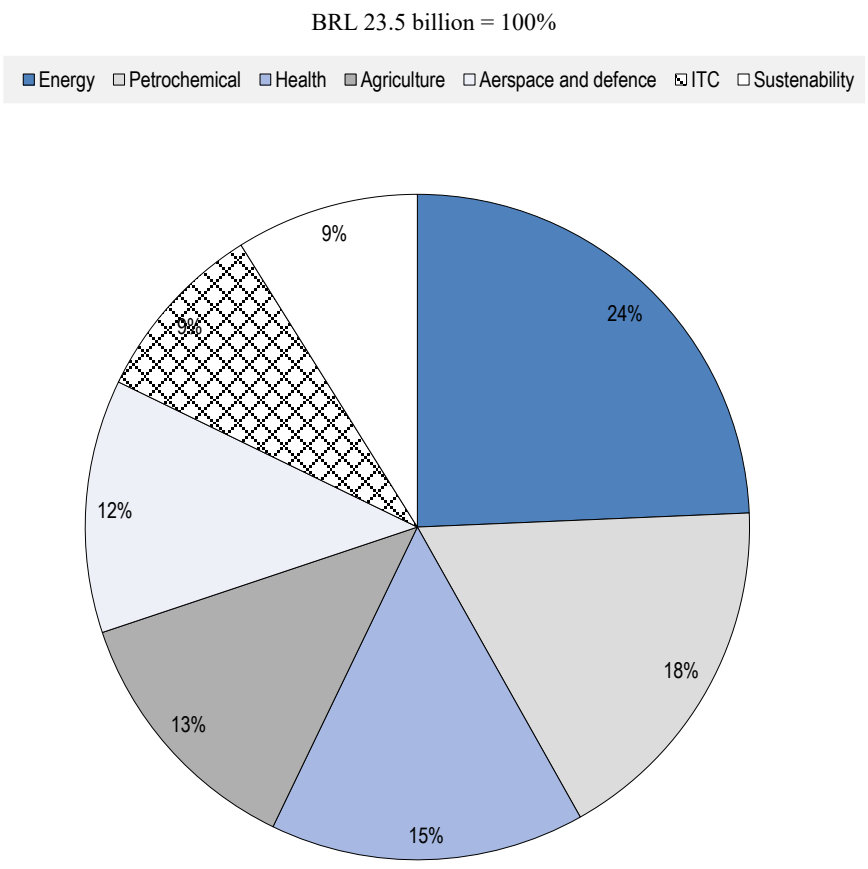
National innovation policies mostly favour large companies

Overall, national innovation policies in Brazil tend to favour large companies. *Lei do Bem* and *Lei da Informática*, the two main federal laws administering R&D tax credits, command large annual budgets but are basically only accessible by large companies. Since almost all SMEs fall within either the "presumed profit" (*lucro presumido*) corporate income tax regime or the Simples Nacional preferential tax regime, they are automatically excluded from R&D tax credits. Based on 2012 data from MCTIC, 45 large firms (more than 500 employees) in ICT hardware and related electronics received 81% of tax expenditures under the *Lei da Informática*, with each of these firms receiving on average over 160 times more in benefits than the average small-firm recipient (less than 500 employees). As to the *Lei do Bem*, 346 large firms received over 92% of tax spending under this programme, with each firm receiving on average 46 times more in benefits than the average small-firm recipient (Dutz et al., 2017). It should be kept in mind that tax expenditures (i.e. foregone fiscal revenues) in Brazil accounted for about 61% of total spending on business support policies and for 2.9% of GDP in 2015, much more than subsidised credit (27% of total spending and 1.3% of GDP) and general expenditures (i.e. grants and spending on programme activities) (12% of business support spending and 0.5% of GDP) (Dutz et al., 2017).

Innovation programmes beyond R&D tax credits also appear to benefit mostly large companies. By way of example, *Plano Inova Empresa* (PIE) (Enterprise Innovation Plan) was launched in 2013 by the Office of the President of the Republic with a large budget of BRL 32.9 billion to foster productivity growth at the firm level. BNDES and FINEP were given the responsibility of managing most of the funding (BRL 28.5 billion, i.e. 87% of the total), most of which went into loan subsidies (BRL 20.9 billion, 73% of the total). The PIE chiefly targets certain priority sectors (BRL 23.5 billion) that are typically the domain of large corporations, such as defence, energy, mining and petrochemicals. Figure 5.2 shows the distribution of PIE spending across sectors: 41% of total spending is allocated to energy and petrochemicals (Corder et al., 2016).

Of the total BRL 32.9 billion of the PIE budget, only 1.8 billion was allocated specifically to SMEs, 66% in the form of subsidised credit, 19% in the form of grants, 12% in the form of equity investment through the Criatec Funds, and 3% through decentralised interventions delivered by local governments (Corder at al., 2016).[5]

Figure 5.2. *Plano Inova Empresa*'s spending by sector, 2013-18



Source: Corder, S., A. Buainain and I. de Souza Lima Junior (2016), "Análise Preliminar do Plano Inova Empresa", http://dx.doi.org/10.5151/engpro-1enei-011.

StatLink http://dx.doi.org/10.1787/888934088598

The remainder of this section looks more closely at federal programmes fostering innovation activity in SMEs, keeping in mind that these programmes account for a relatively small fraction of innovation policy spending in Brazil. The focus is on programmes that target existing SMEs, whereas programmes for innovative start-ups are analysed in Chapter 7 of the report. A distinction is made between consulting and mentoring programmes, subsidised credit programmes (mostly for larger SMEs), and collaborative innovation programmes.

Consulting and mentoring programmes

Brasil Mais Produtivo *is well aligned with state-level industrial priorities*

Brasil Mais Produtivo (BMP) is a recent initiative established by the former Ministry of Industry, Foreign Trade and Services (MDIC) to enhance productivity in manufacturing SMEs (11-200 employees) through factory-line cost reductions.[6] The programme has offered technical advice on lean manufacturing, energy efficiency and business digitalisation.

The lean manufacturing component of the programme has aimed to reduce waste in the production process and to improve inventory management. The first phase consisted of 120 hours of *in situ* technical training for a total cost of BRL 18 000 for each company, one-sixth of which to be covered by the company and the rest by the government.

In the first phase of the programme (July 2016-August 2018), this component supported 3 000 companies, for a total government cost of BRL 50 million. Many of the supported companies were located in official clusters (*Arranjos Produtivos Locais*, APLs), or other relevant sectors for the local economy, and showed strong export potential. The most represented sectors were food and drinks (32%), textile and fashion (30%), engineering (22%) and furniture (15%). The most represented states were São Paulo (12%), Minas Gerais (11%) and Santa Catarina (11%), which reflects the geographical concentration of manufacturing in the South and Southeast of Brazil.

Results from a monitoring exercise of this first phase of BMP point to a positive impact beyond the initial objectives. Beneficiary companies saw an average increase in productivity by 52%, against the initial objective of 20%; a reduction in labour turnover by 61%; and a drop in faulty products by 65%.

With respect to the energy efficiency component, the first phase of BMP only supported 48 companies. Consulting services had a duration of 140 hours per firm and covered issues related to energy efficiency such as lighting, power systems, heating and refrigeration. Based on the abovementioned monitoring exercise, this component of the programme led to an average reduction in energy consumption of 26.4%. In 2019, it is expected that the energy efficiency component be expanded to another 300 companies, with a total investment in each company of BRL 21 000 (BRL 4 800 of co-investment).

On the whole, BMP is an interesting new initiative which seeks to reduce the large productivity gap between SMEs and large companies in manufacturing (see Chapter 2). The programme is also well aligned with state-level policies by giving priority to companies in local clusters or other sectors important to the local economy, although there are also path-dependency risks by which some sectors might continue to be privileged even when they have lost their international competitive advantage and new technologies and/or sectors should rather be given priority.

However, BMP also has strong sector and regional biases

However, BMP also leaves some open questions. With food, textile and furniture accounting for 77% of participating companies, the programme seems to have a clear preference for traditional low-tech manufacturing. This is partly due to the programme targeting small companies, which are more likely to be in low-tech industries, and there are already federal programmes that target high-tech industries. Nonetheless, the overrepresentation of three specific sectors suggests that BMP might be overlooking other sectors that would deserve attention. Participants in BMP are also highly concentrated in the industrial heartland of Brazil (the South and Southeast), which clearly reflects the country's industrial geography but which can also further exacerbate regional disparities. Closer attention to SMEs in the other regions of Brazil would be warranted.

In 2019, the government was considering moving some parts of the programme online to reduce costs and reach more companies. However, the success of the programme, which aims to improve business operations through tailored solutions, seems to depend heavily on face-to-face interactions between the consultants and the business owners. An alternative to reduce government costs and self-select stronger companies into the programme would be to increase the proportion of the company's cost-sharing, for example

from the current one-sixth to one-third or one-half of the intervention cost. This requirement could also differ depending on the location of participating companies, with the aim to attract more enterprises from lagging regions into the programme.

The Operational Efficiency Programme from Canada (Box 5.4), which as of 2019 had been discontinued, offers the example of a programme that shares similar objectives with *Brasil Mais Produtivo* and that could offer interesting insights on how BMP could be fine-tuned in the future.

Box 5.4. International learning model – Canada's Operational Efficiency Programme

Description of the approach

The Business Development Bank of Canada (BDC), Canada's national development bank, set up the Operational Efficiency Programme (OEP) in 2014. As of 2019, the programme had been discontinued. The objective of this programme was to fine-tune business operational efficiency by helping participating companies to benchmark their performance against the industry average, to identify and eliminate causes of waste in the production process, and monitor progress against a set of key performance indicators built as part of the BDC support. The methodology hinged on-site visits and interviews with managers and staff. For example, stage I of this programme (i.e. the "potential for operational efficiency") included two-and-a-half days of site visits and interviews with company managers and workers, followed by a two-day preparation of an Action Plan to improve operational efficiency. Participants needed to employ at least 20 workers to be eligible, but most of them did not have more than 50.

Factor of success

There were three main factors behind OEP's success. The first was the standardisation of package tools based on a BDC's proven methodology, which assured consistency of the work across Canada. The second factor was the recruitment of qualified and experienced external consultants, which enabled more flexibility in meeting business demands and reduced the overhead costs of the programme. However, external consultants remained under the close supervision of BDC, which helped ensure services quality. The third factor was the development of a strong relationship with clients: clients were required to engage fully during the programme, and BDC officials were involved during the initial stage together with external consultants.

Obstacles and responses

One of the main challenges lied in the time and cost commitment for business owners. General lack of awareness among SMEs about the importance of operational efficiency also posed an initial challenge. This problem was solved through the organisation of workshops at business-related events.

Relevance to Brazil

Canada's OEP could provide insights to the Brazilian government on how to fine-tune *Brasil Mais Produtivo* in the future. For example, the clear cost structure and deliverables of OEP made the programme's offer transparent and appealing to SMEs, which may become more willing to take on a larger share of programme costs.

Further information

Marchese, M. et al. (2019), "Enhancing SME productivity: Policy highlights on the role of managerial skills, workforce skills and business linkages", https://doi.org/10.1787/825bd8a8-en.

Innovation vouchers are available in Brazil through SEBRAE and MCTIC

Brazil operates two technology voucher programmes: SEBRAETEC and *Bonus Tecnológicos* (technology vouchers). SEBRAETEC has been in place since 1999 and offers subsidised consulting services to micro-enterprises and small companies, as defined by *Lei Complementar* 123/2006 (MPEs). Consulting services are delivered across seven different areas: design, intellectual property, quality control, innovation, sustainability and digital services. SEBRAE manages a national web portal, as well as 13 portals at the state level, where MPEs and consultancies can both register to ease the match between the demand and supply of technology-oriented services. SEBRAE subsidises up to 70% of the cost of consulting for MPEs. The number of participants and the annual budget of SEBRAETEC have fluctuated considerably over the last years. In the period 2015-17, the programme reached a total of 268 000 companies through a budget of BRL 603 million (i.e. BRL 2 250 per company).

The Ministry of Science, Technology, Innovation and Communication (*Ministério da Ciência, Tecnologia, Inovações e Comunicações*, MCTIC) and the National Council for Scientific and Technological Development (*Conselho Nacional de Desenvolvimento Científico e Tecnológico*, CNPq) operate *Bonus Tecnológicos*. In this case, vouchers are given for partnerships between micro/small companies and medium/large companies in the field of advanced manufacturing. Funds are mostly used to share technological R&D infrastructures, to contract specialised technical services and/or to transfer technology. The most recent public call for vouchers (third quarter of 2018) offered a total of BRL 2 million.

Innovation vouchers are traditionally used to solve minor technological problems or scope out larger ones. Existing evidence suggests that the additionality of innovation vouchers is typically high, but that the impact on long-term innovation is rather limited (OECD, 2010). The main success factors in innovation voucher programmes are presented in Box 5.5, based on evidence from OECD countries.

Box 5.5. Main success factors for innovation vouchers

- Simplicity: given the small sums involved, the administration of innovation vouchers should be as simple as possible, for example avoiding heavy reporting on the use of the funding.
- Effective promotion: because innovation vouchers also aim to overcome an information barrier between SMEs and knowledge institutions, it is important that they are advertised widely among potential users.
- Clear purpose: Applications should be simple but still ask firms how they plan to use the vouchers. This will facilitate the match of the enterprise with the appropriate knowledge institution.

- Effective brokerage: Brokerage of the scheme is best performed by a government agency, rather than by another organisation such as a university. Government institutions are, in fact, in a better position to connect voucher users with other national support programmes.

Source: OECD (2010), *Innovation Vouchers*, https://www.oecd.org/innovation/policyplatform/48135973.pdf.

SEBRAE'S Local Innovation Agents appear overstretched and might benefit from stronger industry experience

Since 2010 SEBRAE runs in collaboration with CNPq a network of local innovation agents called ALI (*Agentes locais de inovação*), who offer free and personalised consulting services to SMEs. The methodology of the programme provides for agents to visit small businesses in their premises, perform a diagnostic assessment, and propose a tailored action plan. Once the plan is refined and accepted, the entrepreneur implements it with the support of the innovation agent over a period of a maximum of 8 months.

The ALI network has expanded considerably over its existence, passing from serving 5 500 companies through a network of 400 consultants in 2010 to working with 44 000 companies through a network of 1 250 consultants in 2017. The average number of companies followed by each agent has accordingly increased from 14 to 35, probably stretching too much the ability of the agents to offer high-quality services to their clients. Over the same period, the annual budget of the programme fell from the peak of BRL 135 million in 2015 to the low of BRL 28 million in 2017. A recent impact evaluation by SEBRAE shows that 30% of the companies in the programme managed to reduce costs, while 35.3% increased revenues (SEBRAE, 2018a). Both are positive outcomes, although this also means that 35% of participants did not receive any direct profit-related benefit from the programme.

Moving forward, a rethinking of ALI could be in order. The programme appears overstretched, with too few agents for the number of companies served. Furthermore, the outcomes of ALI are positive, but not exceptional. One of the causes could lie in the profile of the local innovation agents, who are mostly holders of CNPq scholarships lacking industry experience. Evidence from other countries shows that the impact of innovation agents is stronger when they have credible industry experience, especially if this experience has been gained in the same sectors of the company they attend and/or as entrepreneurs.

In the Spanish region of Andalusia, for example, a network of young local innovation agents mostly consisting of university graduates was dismantled when it became clear that its impact on local business innovation had fallen short of expectations (Box 5.6). On the other hand, Canada's network of Industry Technology Advisors (ITA) has been considered a good practice through the use of industry-experienced technology consultants working hand in hand with a much smaller number of companies than the ALI network in Brazil. The case of ITA is detailed in Box 5.7 and could inspire a possible reform of ALI in the future.

Box 5.6. The short-lived experience of local innovation agents in Andalusia, Spain

Between 2005 and 2010, the regional government of Andalusia, Spain, ran a network of 85 innovation agents mostly delocalised in industrial estates, science parks and technology centres. During the 5 years of the programme, the Andalusian innovation agents, who were mostly recent university graduates, assessed the innovative needs of about 80 000 firms and signposted these companies to public programmes from which they could benefit. The local innovation agents were also tasked with implementing some specific programmes to favour the access of SMEs to information technology and management training. While more firms, including in peripheral areas and low-quality industrial estates, were able to get involved in regional innovation policies thanks to the work of the agents, the programme could not show after five years strong evidence of increased business innovation at the firm level. In 2010, the network was discontinued, although the regional government praised its ability to have introduced for the first time many small firms, including in peripheral areas, to the concept of technological innovation.

Source: OECD (2011), "Entrepreneurship, SMEs and Local Development in Andalusia, Spain", https://doi.org/10.1787/5kgdt917nvs5-en.

Box 5.7. International learning model – Canada's IRAP Industry Technology Advisors

Description of the approach

Canada's Industrial Research Assistance Programme (IRAP) engages with over 8 000 SMEs every year, providing direct technical/business advice and funding support through a network of 255 field staff known as Industrial Technology Advisors (ITAs). The ITAs are close to their client base and are often located in technology parks, innovation support organisations, incubators, universities, and colleges across the country. These individuals typically join IRAP after they have achieved extensive private sector experience as senior managers or/and entrepreneurs in small businesses. The sector experience of ITAs is typically matched with the needs of the regional client base.

The location and number of ITAs are constantly re-evaluated to ensure the appropriate skill sets are available to meet the demands of the market. Typically, ITAs have a local office but they also travel extensively (for some, 80% of their time) to meet with the clients at their site and bring them the necessary support and resources.

To obtain funding from IRAP, firms are invited by their ITA to submit project proposals that outline the business opportunity as well as the proposed innovation project. The depth of the assessment process is commensurate with the maturity of the firm, the complexity of the project, the amount of the IRAP contribution requested, and the involvement of the company and its other partners.

Factors of success

The ITA-client relationship is widely regarded as the fundamental element that sets IRAP apart from other federal government programmes in Canada. In view of the growing recognition that growth constraints are also attributed to the realm of managerial skills and capabilities, the extensive discussions held between the ITA and the client enable the ITA

to assess the managerial and technical needs of the client. ITA-client relationships are resource-intensive by design, but it is through this relationship that the opportunity for significant impact is created and realised.

Obstacles and responses

A possible weakness is the limited number of ITA officers, given the geographical expanse of Canada. However, this problem is partly overcome by the fact that ITAs tend to travel extensively to engage with a larger number of companies.

Relevance to Brazil

ITAs are essentially local/industrial development agents, but compared to Brazil's local innovation agents they have stronger industry experience. Brazil could consider strengthening the profile of its network of local innovation agents by hiring people with industry and/or entrepreneurial experience, similar to the profile of Canada's ITAs. At the moment, most local innovation agents in Brazil are, in fact, scholarship holders from the National Council for Scientific and Technological Development (*Conselho Nacional de Desenvolvimento Científico e Tecnológico*, CNPq)

Further information

OECD (2017), *SME and Entrepreneurship Policy in Canada*, www.oecd.org/publications/sme-and-entrepreneurship-policy-in-canada-9789264273467-en.htm; National Research Council Canada Industrial Research Assistance Program's Website: https://nrc.canada.ca/en/support-technology-innovation/.

"ProVA-Retail Innovation Laboratory" supports innovation in the retail trade sector

The Brazilian government has also recently started to support innovation in the retail sector through a new programme called ProVA-Retail Innovation Laboratory. The initiative was launched in 2016 by the Secretary of Commerce and Service (SCS) at former MDIC, after a process of consultation with retail representative organisations through the Forum on Retail Competitiveness. The ProVA Lab opened its doors in 2018 and is now operated by the Brazilian Association of Industrial Development (ABDI) in partnership with the Ministry of Economy. It is currently hosted at a shopping mall in São Paulo and aims to contribute to the improvement of innovation, competitiveness and productivity of the retail ecosystem.

As of mid-2019, two cycles of activities had been completed, which had reached more than 1 900 retailers. In particular, two start-up acceleration programmes were completed, which resulted in two patent applications and the internationalisation of a start-up participating in the acceleration programme. The third cycle of the project is expected to spread the experience of the programme beyond São Paulo by launching retail innovation spaces in other parts of the country still in partnership with trade and services organisations.

Subsidised credit programmes

BNDES MPME Inovadora should seek to reach more SMEs through a larger budget and smaller loans

MPME *Inovadora* is a credit line offered by BNDES to SMEs with annual revenues below BRL 300 million to undertake innovation projects. Loans can go up to BRL 20 million, can cover 100% of the investment, and come with better conditions than market rates. The loan

interest rate is composed by the long-term interest rate of the Central Bank, the BNDES rate of 1.05% and the rate charged by the financial institution issuing the loan (subject to negotiations with the client). Clients can also request a guarantee on the loan through the BNDES Investment Guarantee Fund (*Fundo Garantidor para Investimentos*, FGI).

Between 2016 and 2018, the programme issued BRL 156 million of loans to 44 companies, which makes the impact of this programme relatively limited. The average credit was BRL 3.6 million, suggesting that the main recipients are likely to have been relatively large SMEs. Going forward, subject to the evaluation of past activity, the budget of BNDES MPME *Inovadora* could be increased, while the average loan size could be reduced to reach more SMEs.

FINEP Inovacred targets mid-sized firms

FINEP *Inovacred* offers subsidised loans to SMEs with annual revenues below BRL 90 million to develop new products and processes, ameliorate existing ones, or introduce marketing and organisational innovations. The programme is delivered by financial institutions (e.g. development banks and commercial banks) that receive remuneration of 3% per year on the issued loans, but that also carry the related operational risk.

FINEP *Inovacred* loans have a ceiling of BRL 3 million for companies with annual gross revenues up to BRL 16 million and a ceiling of BRL 10 million for companies with annual gross revenues up to BRL 90 million. The interest rate on the loans equals the Central Bank's long-term interest rate for companies with annual revenues up to BRL 16 million, while the same rate plus 1% for companies with annual revenues between BRL 16-90 million. The maximum duration of the loan is seven years: in the first two years, the company pays back only the interest rate (grace period), with the remaining five years used to pay back the loan principal. The project being supported, however, must be completed within the first two years of the loan duration.[7]

Between 2015 and 2017, the programme disbursed loans worth BRL 607 million to 336 projects, corresponding to an average of BRL 1.8 million per project. Compared to BNDES MPME *Inovadora*, FINEP *Inovacred* has therefore reached more companies involved in smaller innovation projects, although beneficiary companies are still likely to be relatively large SMEs by Brazilian standards. In doing so, the programme is especially relevant for the sort of mid-sized firms that otherwise receive relatively little attention in Brazilian SME policies.

Collaborative innovation programmes

SEBRAE's PROCOMPI encourages open innovation, but its budget is spread too thinly

PROCOMPI (*Programa de Apoio à Competitividade das Micros e Pequenas Indústrias*) is the result of a collaboration between the National Industry Confederation (*Confederação Nacional da Indústria*, CNI) and SEBRAE which supports competitiveness in micro and small enterprises through collaboration with industry associations and local development organisations. PROCOMPI has been in place since 1999 and, between 2010 and 2015, invested BRL 30 million in about 2 300 small enterprises across 17 sectors. This was 15% higher than the initial target, with half of the investment going to the lagging regions of the North and Northeast of Brazil. In 2016, the government allocated BRL 23.4 million to the 5th cycle of the project (2016-20), which is expected to fund 118 projects, with each project to involve a minimum of 25 companies from the same sector.

A report on the last budget period (2010-15) shows that PROCOMPI encouraged participation in innovative projects in 59% of participating companies, much above the initial objective of 20%. However, only 14% of participants introduced product or process innovations, slightly below the initial target of 15%. PROCOMPI has mostly targeted low-tech sectors such as furniture, ceramics, food and beverage, and textile (SEBRAE/CNI, 2015).

PROCOMPI has an important objective – stimulating innovative collaboration among micro and small enterprises – but runs on a very thin budget. In the next funding cycle, each project will receive on average only BRL 200 000 and will be expected to work with at least 25 companies, which limits the scope for learning. The budget of PROCOMPI should be increased, and each project should possibly involve a smaller number of companies to favour mutual learning and enhance the impact on firm-level innovation.

FINEP Conecta is a well-designed initiative aimed at fostering industry-university collaboration

FINEP *Conecta* aims to bridge the gap between industry and academia by funding, through subsidised loans, risky but highly innovative projects. In 2017, the programme had a total budget of BRL 500 million. Depending on the size of the firm, FINEP *Conecta* loans offer different conditions in terms of interest rate subsidy, grace period, loan maturity and FINEP participation rate, as shown in Table 5.1 which summarises credit conditions for the standard loans in this programme.

An important aspect of this programme is that the stronger the collaborative component of the project, the better credit conditions become. Projects that receive a 15% score on collaboration receive a 1% bonus on the loan interest rate; projects that receive a 25% score on collaboration additionally receive longer grace periods and maturity up to 12 years; and so forth.

On the whole, FINEP *Conecta* pursues an important objective, which is bridging the gap between industry and university. The programme is also well-designed, with long-term maturity and strong government participation to reflect the uncertain nature of innovation.

Table 5.1. FINEP *Conecta* credit conditions, 2019

Firm size	Financing limit (BRL)	Interest rate	Grace period	Total loan duration	FINEP participation (%)
Size I	150 000-3 million	TJLP	Up to 24 months	Up to 96 months	Up to 90
Size II	150 000-3 million	TJLP	Up to 24 months	Up to 96 months	Up to 80
Size III	150 000-10 million	TJLP+1%a	Up to 24 months	Up to 96 months	Up to 80

Note: Size I: companies with annual operational revenues below BRL 4.8 million (i.e. micro and small companies as defined by *Lei Complementar* 123/2006); Size II: companies with annual operational revenues between BRL 4.8 million and BRL 16 million; Size III: companies with annual operational revenues between BRL 16 million and 90 million. TJLP stands for *Taxa de Juro Longo Prazo*, i.e. the Central Bank's long-term interest rate.
Source: FINEP (2019), *Condiçoes Operacionais*, Brasília.

Collaborative innovation should be further strengthened

On the whole, there is scope in Brazil for further strengthening collaborative innovation programmes, especially between SMEs and research organisations, since this type of collaboration is rare in Brazil (see Chapter 2). Germany's ZIM programme offers a possible model to enhance industry-university collaboration (Box 5.8). Portugal's Interface Programme also encourages collaborative innovation, including between multinational enterprises and local SMEs (Box 5.9), something which Brazil should also pursue more proactively (see Chapter 6).

Box 5.8. International learning model – Germany's ZIM Programme (Central Innovation Programme for SMEs)

Description of the approach

In German, ZIM stands for *Zentrales Innovationsprogramm Mittelstand*, i.e. Central Innovation Programme for SMEs. It is a national programme of the Federal Ministry for Economic Affairs and Energy designed to support SME innovation and encourage collaboration between SMEs and research establishments. SMEs can undertake R&D projects on their own (individual projects) or co-operate with research institutes or other companies (co-operation projects). Furthermore, innovative business networks can apply for funding for management and organisation services or for R&D projects initiated by the network (co-operation networks). ZIM mostly supports the development of new products, technical services and new production processes. The two main selection criteria are the innovativeness and marketability of the project. The application process is very simple to encourage participation by small companies.

ZIM is open to all technologies and sectors and is Germany's largest innovation programme for SMEs. In the period 2009-19, ZIM supported more than 40 000 projects. Most of these projects have concerned co-operation between SMEs and research institutes. Hundreds of innovation-networks have, indeed, been founded with support from ZIM; on average, each network has consisted of just over ten individual partners, mostly enterprises, but also research institutes and universities. A budget of EUR 555 million is allocated for 2019.

Factors for success

The easy application and quick decision-making processes are two key success factors of the programme. Furthermore, the possibility for companies to apply for three different types of project and to choose from many different technology fields offers strong flexibility on how to frame the project.

Relevance for Brazil

Collaborative innovation is relatively weak in Brazil, especially collaboration between companies and universities. A project like ZIM could address this problem in Brazil, especially through the modalities of co-operation projects and co-operation networks.

For further information

Webpage: https://www.zim.de/ZIM/Navigation/DE/Meta/Englisch/englisch.html;
Flyer: https://www.zim.de/ZIM/Redaktion/DE/Publikationen/Publikationen.

Box 5.9. International learning model – Portugal's Interface Programme

Description of the approach

Due to lack of human and financial resources, SMEs often innovate in the context of collaboration with other players, such as buyers, suppliers or research organisations. In order to leverage and strengthen these technological and knowledge partnerships, Portugal has launched the "Interface Programme", which includes support for:

- *Technological Interface Centres*: these centres support the development of joint innovation and R&D projects between SMEs and research organisations, including higher education institutions.
- *Competitiveness clusters*: the Interface Programme supports 20 industry clusters through a budget of EUR 10 million.
- *Collaborative laboratories*: these labs foster collaborative applied research and have the main objective of creating scientific employment in Portugal.
- *Suppliers clubs*: through this line of action, the main objective is to integrate SMEs into global value chains, leveraging on collaborations with multinational enterprises based in Portugal.

Factors for success

The involvement of business associations, multinational enterprises and research organisations at the stage of policy formulation has enabled the government to design a policy that closely addresses the needs of these different players. For this programme to work, the government has also put in place incentives for researcher mobility between academia and industry. Finally, a strong emphasis has been placed on projects that see an active collaboration between large and small companies, including but not only through the suppliers' clubs.

Relevance for Brazil

A programme like Interface would support collaborative innovation between SMEs and research organisations as well as between SMEs and multinational enterprises, both of which are currently weak in Brazil.

For further information

Website of the programme: http://www.programainterface.pt/pt.

Public procurement for SMEs

In OECD countries, approximately 12% of GDP and 29% of total government spending concerns the acquisition of goods and services from the private sector, which means that the impact of public procurement on policy objectives, such as business growth and social inclusion, can be significant (OECD, 2018). Nonetheless, SMEs are faced with barriers in accessing government contracts, such as lack of expertise in interactions with the government and lack of time to deal with complex bidding procedures.

In the OECD area, the most commonly used measure to encourage participation by SMEs in public procurement is e-procurement (88%), the assumption being that online bidding favours SME participation, followed by splitting contracts into smaller lots (83%), and encouraging joint bidding/consortia (68%). This last approach was, for example, followed in Chile, which introduced "temporary supplier unions" in 2015. Fewer countries have introduced simplified bidding procedures for SMEs (57%) or requirements for prime contractors to subcontract to SMEs (56%). Finally, half of the countries (50%) have set up early-payment arrangements for SMEs, while less than 20% have given preferential financial treatment to SMEs, such as waving procurement fees (OECD, 2018).

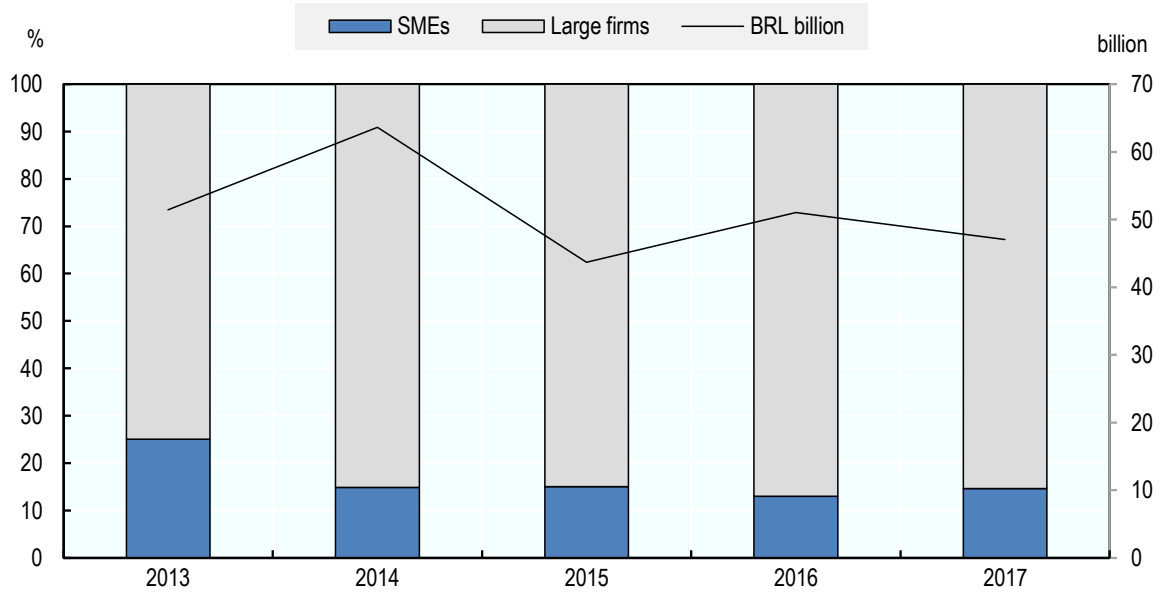
There is a gap between legislation and implementation in public procurement for SMEs

In Brazil, public procurement contracts were worth BRL 47 billion in 2017, with about 15% of the total volume awarded to micro and small companies as defined by *Lei Complementar* 123/2006 (*micro e pequenas empresas*, MPEs) (Figure 5.3). When only federal ministries and agencies are taken into account, government contracts amounted to BRL 28.3 billion, 9% of which was awarded to MPEs (BRL 2.7 billion). A study about online federal procurement over the period 2004-10 showed that winning at least one contract in a given quarter increased business growth by 2.2%, with continued growth for at least two years after winning the contract (Ferraz et al., 2015).

In Brazil, the access of MPEs to public procurement is governed by *Lei Complementar* 123/2006, which indicates that all contracts up to BRL 80 000 be reserved for these companies. Government ministries and agencies must also allocate up to 25% of their calls for tender only for MPEs, provided that these calls concern the acquisition of "divisible goods". Furthermore, MPEs can be selected when their offer is of the same price or up to 10% more costly than the one of a medium or large company, i.e. the so-called *Empate*. This same principle applies to MPEs that are based in the same location of the public office administering the bidding process, with the aim to encourage local development. However, this last clause is still scarcely used by local public administrations, perhaps due to lack of awareness. The preferential treatment in the context of public procurement is also conceded to consortia whose members are only MPEs, similarly to other countries, such as Canada, Korea or the United States through the "Small Business Set-aside" system (OECD, 2018).

Figure 5.3. Share of MPEs in public procurement

LHS (Left-hand side): Percentage of value of public procurement contracts to MPEs and Large Firms;
RHS (Right-hand side): BRL billion



Source: OECD based on data from SEBRAE.

StatLink http://dx.doi.org/10.1787/888934088617

To increase awareness of public procurement opportunities among small firms, the federal government has established a number of online portals to make information publicly available, such as the Transparency Portal (*Portal da Trasnparência*), where citizens can access the full registry of public revenues and expenditures, bids, contracts and conventions. In addition, the federal government has organised a series of matchmaking events between government buyers and private sector suppliers through the programme *Fomenta*.

An assessment of government contracts between 2003 and 2012, before and after the introduction of *Lei Complementar* 123/2006, found that the law lowered participation costs for MPEs (and in particular young firms), which also resulted in a larger number of contracts awarded to these companies. However, this did not reduce procurement costs for the public administration, and small companies continued to be more likely to have their contracts terminated due to incompliance with terms and conditions. This was the result of a number of reasons: lack of administrative and legal capabilities by MPEs to appeal to courts; sanctions more likely to occur in less complex contracts such as those usually assigned to MPEs; and average stronger scrutiny by the public administration of contracts assigned to MPEs (Reis and Cabral, 2015).

Overall, the Brazilian law on public procurement is favourable to MPEs, although the share of government contracts assigned to these enterprises fell from 25% to 15% of the total between 2013 and 2017. Contracts to MPEs by federal ministries and agencies also declined between 2014 and 2018, from 14% to 12%. Thus, there is a gap between legislation and implementation which might be the result of reluctance by small business owners to get involved in what they perceive as a complex bidding process, as well as lack

of preparation among public procurement officers on how to design calls for tender that are compliant with the preferential treatment reserved for MPEs. Late payment by the government is another factor likely to discourage small business owners from participation in public procurement.

Going forward, programmes such as *Fomenta* which connects buyers and suppliers, should be scaled up, while the training of procurement officers on MPE-friendly calls for tender should be mainstreamed across the whole public administration. The creation of consortia of MPEs to win government contracts could also be encouraged, including by increasing awareness about this possibility offered by the law. Finally, the government should also ensure the timely payment of contracts both by the government and large private sector companies contracting work to smaller enterprises. The United Kingdom offers a good example of the latter approach (see Box 5.10).

Box 5.10. International learning model – The United Kingdom's Statutory Duty for Payment Practices and Performance

Description of the approach

In 2017, the government of the United Kingdom became the first to introduce legislation requiring some of the UK's largest private businesses to report their payment practices onto a public database. The duty to report was introduced to help tackle the problem of late payments, which is a significant challenge for SMEs worldwide and can make the difference between their survival or demise. The rationale behind the policy was that it would increase transparency and make payment behaviour a reputational and boardroom issue. Companies with good payment practices would set an example for poorer payers, and SMEs would know what to expect when trading with big companies.

Businesses meeting certain size criteria are required to report on a number of different aspects of their payment practices, including the average number of days taken to pay invoices; the percentage of invoices paid within 30 days, 60 days and more than 60 days; the percentage of invoices paid beyond terms; and a company's longest and shortest payment terms. There is also an opportunity for them to include narrative about their payment terms, for instance, if they offer more favourable terms to SMEs. A named director is required to sign off the report.

Failure to submit a report and submitting misleading or false information are criminal offences on the part of the company and its directors. Stakeholder feedback has indicated that the possibility of prosecution does encourage directors to ensure reports are submitted.

Success factors

The Prompt Payment Code (PPC) is an example of the positive effects of the publication of payment data. The PPC is a voluntary code that gives a gold standard for businesses to demonstrate that they treat their suppliers fairly. Signatories are required to pay 95% of invoices within 60 days. The code is administered independently on behalf of the government. Visibility of the payment data, from the new reporting duty, has enabled the administrators of the code to challenge poor performers and suspend or remove them. A press notice naming the companies is then issued.

In terms of success, it is apparent from their reactions to being "named and shamed" that big businesses do not want the reputational damage that comes with their poor payment

practices being brought into the spotlight. Seeing that the data is being used to uphold the integrity of the code has led other signatories to take steps to improve their payment practices to avoid being removed.

Obstacles and responses

The PPC predates the duty to report by ten years. One of its obstacles to success was that prior to the publication of payment data, it was impossible to know whether PPC signatories were meeting the terms of the code.

However, making payment practices a reputational issue for companies does impact payment behaviour. Other businesses have learned of the PPC from the publicity surrounding the removals and are either signing up or striving to meet the terms of the code, recognising the importance of having good payment data.

The UK Government recently recognised the importance of the PPC when used in conjunction with the published payment data by announcing its intention to reform the PPC to make it more robust, including deeper scrutiny of payment practices and tighter referencing requirements.

Relevance to Brazil

Late payment of invoices disproportionately affects small businesses, to the point where it can jeopardise their survival. By adopting the approaches outlined above to tackling payment delays, Brazil could help improve the cash flow of smaller businesses, which would put them in a stronger position to hire, make investments, commit to contracts, and reduce their risk of business failure.

For further information

Payment Practices Reporting (PPR): https://www.gov.uk/government/publications/business-payment-practices-and-performance-reporting-requirements; PPR database direct link: https://check-payment-practices.service.gov.uk/search; Prompt Payment Code: http://www.promptpaymentcode.org.uk/;
UK Department for Business, Energy and Industrial Strategy (2019), *Creating a Responsible Payment Culture: A Call for Evidence on Tackling Late Payment Government Response*, https://www.gov.uk/government/consultations/creating-a-responsible-payment-culture-a-call-for-evidence-on-tackling-late-payment; UK Department for Business, Energy and Industrial Strategy (2017), *Duty to Report on Payment Practices and Performance – Government Response*, https://www.gov.uk/government/consultations/business-payment-practices-and-policies-duty-to-report.

Brazil could use public procurement to stimulate SME innovation

At present, Brazil does not use public procurement as a means to encourage business innovation, contrary to a growing number of OECD countries (OECD, 2017). The government of Brazil could pilot an initiative that fosters the use of public procurement to stimulate innovation in SMEs and start-ups. The initiative could see the government launching a call for new products or services (i.e. an innovation challenge) to be delivered by small enterprises going through a competitive process. Alternatively, through a fair procurement process, the government could award contracts to entrepreneurs with pre-

commercial innovations for their testing within the federal government. This approach has, for example, been implemented in Canada through the Build in Canada Innovation Programme (OECD, 2017). In Portugal, the "Partnership for Innovation", among other things, also aims to foster the acquisition of innovative goods and services by the public administration.

Entrepreneurship education

Entrepreneurship education in Brazil rests on strong foundations

Many countries around the world have subscribed to the notion that entrepreneurship education is important throughout the education system in order to build entrepreneurial mind-sets and create an entrepreneurial culture in the population. In the context of Brazil, SEBRAE has the most important role in the offer of entrepreneurship education. Since 2013, SEBRAE's National Programme for Entrepreneurship Education (*Programa Nacional de Educação Empreendedora*, PNEE) has reached 4 million students through 120 000 teachers at 6 000 educational institutions. The aim of PNEE is to build an entrepreneurial culture in the education system by training teachers who can teach students about entrepreneurship. The PNEE uses both in-person and web-based delivery formats.[8]

Boxes 5.11 and 5.12 summarise the main information on SEBRAE entrepreneurship education programmes, from elementary children through to universities students and professionals. These programmes are available across the country at no cost for the schools and students, although enrolment is fully voluntary. To participate, schools work with the closest SEBRAE office, either independently or through their Municipal Department of Education.

Box 5.11. SEBRAE's entrepreneurship education programmes at grade school level

SEBRAE's entrepreneurship education programmes at the primary and secondary levels are all teacher-led and include a combination of traditional classroom teaching and experiential learning opportunities. SEBRAE trains all teachers through programmes that range from 23 to 48 hours in duration. These train-the-trainer programmes are offered either online or in local SEBRAE offices around the country.

- **First Steps** of **Young Entrepreneurs** (*Jovens Emprendedores Primeiros Passos*, JEPP): Students aged between 6 and 14 learn, through play in a fun environment, how to start and operate a business, build a team, calculate risks, make complex decisions, and identify opportunities. Within the 20-30-hour programme, there is a different theme for each of the nine different course levels.
- **Waking up** (*Despertar*): Through a 70-hour teacher-led programme, high school students learn about personal and professional development, citizenship, co-operation and ethics, through study, experiential learning, and a Young Entrepreneur Fair at the end.
- **Growing and Enterprising** (*Crescendo e empreendeendo*): This shorter, 12-hour, teacher-led experiential learning programme exposes high school students to the complexities of the world of work and teaches them to recognise opportunities, plan the future, and appreciate business and entrepreneurship.
- **Training of Young Entrepreneurs** (*Formação de Jovens Empreendedores*, FJE): Through a 60-hour teacher-led classroom programme, high school students

participate in six sequential workshops to develop an entrepreneurial mindset, appreciate their own potential, plan the future, and identify opportunities.

- **Young Rural Entrepreneur** (*Jovem Empreender no Campo*, JEC): High school students in rural areas evaluate their options with regard to developing a family business and learn about rural property and income opportunities. This is done through training of 20 hours in 5 teacher-led classrooms that include discussions, readings, debates, activities, and group work.

Box 5.12. SEBRAE's entrepreneurship education programmes in higher and vocational education

Through the PNEE, SEBRAE works with higher education institutions across Brazil to infuse entrepreneurship education into the curriculum of undergraduate programmes. The main initiatives in higher and vocational education are as follows:

- **Empretec:** Based on a UN methodology used in 40 countries, this 60-hour programme, delivered over six full-immersion days, helps participants develop entrepreneurial characteristics and behaviours and identify new business opportunities. Brazil has run this programme for 25 years.
- **Entrepreneurship Education in Vocational Education and Training (VET)** (*Disciplina de Empreendedorismo para a Educação Profissional*): Provided through VET partners, this teacher-led programme is delivered in four separate modules, between 24 and 52 hours each, on topics related to life and career planning, entrepreneurial attitudes and entrepreneurship fundamentals, and the world of work.
- **Entrepreneurship Education in Higher Education** (*Disciplina de Empreendedorismo para a Educação Superior*): Through 80 hours of instruction, this programme aims to teach students how to identify business opportunities, build a business model and write a business plan.
- **Entrepreneurship Education & Innovation** (*Disciplina de Empreendedorismo e inovação*): Through 80 hours of instruction delivered over four modules, this programme brings real-world situations into the classroom through interactive and in-person simulations.
- **Extension Project on Social Entrepreneurship and Social Impact Business** (*Projeto de Extensão de Empreendedorismo Social e Negócios de Impacto Social*): Delivered through 20 in-person classrooms and field meetings, each 8 hours long, this programme teaches students about the entrepreneurial ecosystem and how to tackle social challenges. Students develop a project proposal at the end of the course.
- **Entrepreneurial University Challenge** (*Desafio Universitário Empreendedor*): This is an online training programme that teaches entrepreneurial skills in an interactive way through games related to marketing, management, entrepreneurship and innovation.

In addition to the educational programmes outlined above, SEBRAE also organises the Global Entrepreneurship Week in Brazil, which in 2018 saw about 8 000 events across the country, and operates a Reference Centre for Entrepreneurship Education, a website with entrepreneurship education material freely available.[9]

In addition to SEBRAE, the Brazilian Ministry of Education has partnered with former MDIC (now Ministry of Economy) to create the Friend of the Entrepreneur Institute (*Istitução Amiga do Emprendeedor*, IAE), where each partnering higher education institution has access to SEBRAE content on entrepreneurship education. As of December 2018, still at an early stage of this new programme, 276 of the 2 448 public and private universities across Brazil had registered (i.e. 11% of the total). The Ministry of Education also implements the international programme Junior Achievement (JA), which delivers experiential learning in entrepreneurship, financial literacy and work readiness worldwide. JA is available in 41 institutes and 655 campuses across Brazil. Since 1983, the JA network has worked with more than 150 000 volunteers and has served more than 5 million students in Brazil.

Entrepreneurship education could further increase its outreach

Overall, Brazil's entrepreneurship education infrastructure is strong. Nonetheless, Brazil also faces some challenges to further develop entrepreneurship education. First, Brazil needs a more explicit focus on attracting disadvantaged individuals from poor and minority brackets of the population into entrepreneurship education. Second, the online content available through the Reference Centre for Entrepreneurship Education could be reorganised to improve its ease-of-use, and enhanced with more information and educational materials to attract and inspire would-be entrepreneurs. Third, there is an issue about the capacity of educational institutions to provide the physical and curriculum space to deliver entrepreneurship education together with other courses. Schools already teach many important subjects to students, and this may lead them to question the value of entrepreneurship education over other subjects they must teach.

To address this last issue the notion of infusing entrepreneurship into existing education programmes, rather than adding additional courses and contents, has gained traction. In the United States, the Consortium for Entrepreneurship Education has disseminated its National Content Standards for Entrepreneurship Education to state-level education departments across the country. The objective is to offer information and examples on entrepreneurship education activities that can be delivered in existing courses by teachers from any discipline (see Box 5.13).

Box 5.13. International learning model – National Content Standards for Entrepreneurship Education, United States

Description of the approach

States like Nebraska and Michigan in the United States have adopted the National Content Standards for Entrepreneurship Education, which was created by the Consortium for Entrepreneurship Education. There are 15 standards divided into the three broad areas of entrepreneurial skills, ready skills, and business functions.

Standards are matched by a toolkit which intends to persuade schools about the importance and benefits of entrepreneurship education at each level of the education system, to explain how to nurture an entrepreneurial spirit, and to offer a complete curriculum including examples of exercises. The aim of the standards is to create lifelong learning that starts as early as elementary school and progresses through all levels of the education system.

Examples of activities are:

- *Our Town USA*: A classroom activity in which students brainstorm what types of business are needed in their community.
- *Biotechnology*: In groups, students create their own biotech companies, including setting a vision and electing a CEO.
- *Real-World Science Entrepreneurs*: Business people and entrepreneurs speak to students about science-related companies and organisations.
- *Logo Design and Marketing*: The goal is to develop a logo and create attractive flyers, posters, or web pages to promote the games of the school's baseball team.

Factors for success

Important factors for success include:

- By providing sample exercises for teachers to use in their classrooms, it becomes easier for schools to infuse entrepreneurship education into existing courses.
- The toolkit and examples provide teachers with innovative and refreshing activities that they can try with their students, and plant the seed for new ideas for exercises to try and share with other teachers.

Obstacles and responses

Infusing entrepreneurship education into the existing curriculum requires strong buy-in by educational institutions and teachers.

Relevance for Brazil

Brazil's entrepreneurship education system is strong, but it is limited in outreach by the voluntary participation of education institutions. Adopting activities such as those presented in this example can help develop entrepreneurship education within existing courses and, thereby, strengthen its outreach.

Sources for further information

Consortium for Entrepreneurship Education's National Content Standards for Entrepreneurship Education (including teacher resources): http://www.entre-ed.org/; Nebraska Department of Education's implementation of the standards: https://www.education.ne.gov/entreped/national-standards/.

Programmes for workforce and managerial skills development in SMEs

The development of managerial and workforce skills are both key determinants of the ability of SMEs to survive and grow. Both skillsets influence the so-called "absorptive capacity" of the firm, i.e. its ability to absorb knowledge from external sources to improve products and services.

Sistema S *is a key player in upgrading managerial and workforce skills in SMEs*

Sistema S (see Chapter 4 for a description) is mostly in charge with managerial and workforce training at the firm level in Brazil, notably SENAC (*Serviço Nacional de Aprendizagem Comercial*; National Service for Apprenticeship in Trade), SENAI (*Serviço Nacional de Aprendizagem na Industria*; National Service for Apprenticeship in Industry) and IEL (*Instituto Euvaldo Lodi*). These organisations directly emanate from national business associations: SENAI and IEL are spin-outs of the National Industry Confederation (*Confederação Nacional da Indústria*, CNI), while SENAC stems from the National Trade Confederation (*Confederação Nacional do Comércio de Bens, Serviços e Turismo*, CNC). This should in principle allow the training offer to be more closely aligned with business demands, although consultation with the private sector could be further strengthened in order to receive more timely and detailed feedback on existing skills needs.

SENAC caters to skills upgrading in the trade sector

SENAC is the main organisation involved in the delivery of management and workforce training in the trade and services sectors which, as seen in Chapter 2, accounts for a very large share of the Brazilian economy. According to a recent report published by SENAC (2017), 57% of SENAC graduates work shortly after having completed their courses. Furthermore, in 2017 alone, more than half a million women (approximately 65% of total SENAC enrolments in vocational education) gained new career opportunities through SENAC courses.

The Commercial Professional Learning Programme has been SENAC's flagship initiative since its inception in 1946 and helps young people enter the labour market as apprentices. In 2017 alone, this programme trained more than 75 000 people. The SENAC Gratuity Programme (*Programa SENAC de Gratuidade*, PSG), born out of an agreement with the federal government, represents two-thirds of SENAC's revenues. PSG offers free vacancies in initial and continuing technical education courses for low-income people. In the first ten years of operation, PSG prepared more than 2.1 million Brazilians (SENAC, 2017). SENAC also runs a distance learning education programme in the form of the SENAC's National Distance Education Network, which includes more than 200 options in terms of free courses, graduation courses and post-graduation courses. In addition, SENAC mobile units visit the country to provide vocational education for residents living in places without fixed school units; in 2017, 262 municipalities and more than 18 500 Brazilians were reached in this way.

To improve the contents and methods of professional education, SENAC has engaged in sectoral fora, whose objective is to learn the reality of occupations from different perspectives and map, at the national level, the main demands, trends, and technological innovations that will influence different professional profiles in trade, services and tourism. This has led to the formulation of *Programa Comércio* (Trade Programme), which aims to reposition SENAC's courses with a view to improving business competitiveness.

Overall, SENAC plays an important training role in a sector that accounts for a very large share of national employment. SENAC's course offering is also large and diversified, both

in terms of contents and delivery methods. Finally, sectoral fora are expected to help SENAC design courses that are well-informed and meet local labour market demands.

SENAI plays an important role to upgrade skills in manufacturing

SENAI is the main training organisation that caters to manufacturing. SENAI operates a corporate university, 25 Innovation Institutes and 61 Technology Institutes across Brazil. The SENAI corporate university is mostly in charge of courses for managers, teachers and technicians, while the Technology and Innovation Institute provides technical services to Brazilian manufacturing companies. Since its inception in 1942, SENAI has trained approximately 74 million Brazilians through both face-to-face and online courses aimed at both existing workers and individuals who want to start a career in industry. Similarly to SENAC, SENAI also runs distance learning education programmes and mobile units that reach out to remote communities. SENAI also acts as a consulting body for individual companies interested in custom-tailored services. Some of the most relevant SENAI initiatives are as follows:

- SENAI 4.0: this programme supports the introduction of Industry 4.0 technologies in the Brazilian business sector, i.e. the use of automation and data-exchange technologies in manufacturing.
- Skills Certification Programme: through this programme, SENAI formally evaluates and certifies professionals who have significant work experience in a trade, but who do not have a formal diploma in this trade. In doing so, participants become more attractive in the job market.
- *Inova* SENAI: this programme offers awards to SENAI students, teachers, technicians, and consultants who have developed innovative projects in technology management.
- PSAI (*Programa SENAI de Ações Inclusivas*): PSAI develops competencies for people with disabilities through the adaptation of curricula, courses, and books, and through improved accessibility through special labs, adequate classrooms, and community engagement.
- Notice of Innovation for Industry: In collaboration with SEBRAE and SESI (*Serviço Social da Indústria,* Social Service of Industry), this programme finances up to BRL 400 000 in grants for the development of innovative processes, products and services in manufacturing companies.

SENAI plays an important role in skills upgrading in Brazilian manufacturing. Two programmes, in particular, stand out. SENAI 4.0 covers the key area of Industry 4.0 that is especially important to productivity growth in SMEs that are close to the technology frontier. Through this initiative, SENAI offers any company the possibility to undertake an online assessment of its level of technology maturity; provides fee-based consulting services to individual companies; and organises vocational courses from beginner level (between 20-60 course hours) through to postgraduate level (300-360 course hours). As seen in Chapter 2, there is a large productivity gap between SMEs and large firms in manufacturing, calling for policy initiatives that can help bridge this gap. A second SENAI initiative worth being flagged is the Skills Certification Programme, which supports the social inclusion of disadvantaged people through the formal recognition of the skills they have acquired on the workplace.

Going forward, the distinction between the work of SENAI and IEL (see below), especially in the area of management training, is not always straightforward, which may result in a

duplication of courses and programmes. While this is *per se* not a problem – companies should be able to choose the most efficient solution when faced with different alternatives – the fact that the work of both organisations is paid through wage levies means that this overlap has consequences for nonwage costs, which are high in Brazil (see Chapter 3).

There are some overlaps in the offer of programmes between SENAI and IEL

The Institute Euvaldo Lodi (IEL), which similarly to SENAI emanates from CNI, mostly focuses on management training in medium-sized and large companies. The main programme of IEL is the Entrepreneurial Mobilisation for Innovation programme, which offers tailored advice to individual companies through an IEL network of private sector consultants. In addition, IEL runs two major programmes for entrepreneurs and business executives: the Business Education Programme helps entrepreneurs to develop competencies in business management, finance, marketing, logistics, legislation and leadership, while the Executive Education Programme provides senior executives with training on modern business management.

Other IEL's initiatives targeted at innovation include Industry 2027 and Lean Office IEL. Similarly to SENAI 4.0, IEL's Industry 2027 supports Brazilian enterprises in adopting advanced manufacturing technologies, while Lean Office IEL focuses on streamlining the whole business administration process.

IEL's activities are noteworthy, especially because they cater to medium-sized companies which are largely missing in the SME policy debate in Brazil. Nonetheless, as noted earlier, some of IEL activities are very similar to those of SENAI, resulting in strong similarities between programmes. Stronger synergies could be built between these two institutions when it comes to management training, especially since they both emanate from the National Industry Confederation.

SEBRAE supports management training in its specific constituency

SEBRAE also operates management training programmes for its constituency. Given the nature of SEBRAE's target group (MPEs), management training focuses on basic topics such as how to manage a team, law compliance (e.g. employment, health and safety at work laws) and accounting and financial management.

Brazil could benefit from rationalisation in the offer of management training and from more leadership training

Brazil features a large range of skills development opportunities at the company level, especially with respect to management training, whereas opportunities for in-company workforce training are more limited. This is not unique to Brazil, to the extent that workforce training is often the responsibility of the Ministry of Labour or the Ministry of Education, which tend to focus on other constituencies than SME workers, notably the unemployed and labour market entrants.

Organisations in *Sistema S* – notably SENAI, SENAC and IEL – are the main providers of management training in Brazil, which has led to the existence of similar programmes run by different institutions. This would not be a problem *per se* to the extent that market demand could determine which programmes survive and which ones do not. However, the fact that *Sistema S* is mostly financed through wage levies has implications for nonwage labour costs which, as seen in Chapter 3, are high in Brazil. Rationalisation in the offer of management training could bring benefits not only through reduced payroll costs but also through the design of larger and better-informed programmes. It would also make sense for large national programmes to be assessed through more rigorous evaluation methods,

which has so far rarely been the case. Finally, there is scope for better organising the information about existing programmes through the creation of a single interactive web portal that gathers information from different ministries and organisations part of *Sistema S*.

A final point is that while there are many management training courses, there are much fewer opportunities for leadership training in Brazil. The two are not exactly the same thing: a manager formulates plans, creates efficient organisational structures, and oversees day-to-day operations, whereas a leader challenges the status quo, creates visions of the future, and inspires organisational members to want to achieve the leader's vision. As it stands, Brazil's portfolio of management training is strong on managerial skills and includes some leadership development, but the latter could be expanded significantly. Good leadership development programmes are experiential in nature, include intentional and unhindered self-reflection, and nurture vision setting (Rowland, 2016). Content covered in leadership development programmes can include topics related to enhancing managerial competencies, building professional networks, and clarifying a vision.

Women's entrepreneurship programmes

Brazil's performance in women's entrepreneurship support is mixed

Women represent 31% of the entrepreneurial population in Brazil, taking into consideration both employers and self-employed in the formal and informal sectors (SEBRAE, 2016). However, women represent about 47% of micro-entrepreneurs under the *Micro Empreendedor Individual* (MEI) regime, suggesting that women-owned enterprises are on average smaller than men-owned ones.

According to the Global Entrepreneurship Monitor (GEM) Women's Entrepreneurship report (GEM, 2017), Brazilian women open 2% more companies than men, and female entrepreneurs have more years of education than male entrepreneurs. Nonetheless, women-led companies are less innovative and less profitable (Kelley et al., 2017). For example, Brazil has a very low number of women-owned growth-oriented businesses; it has been estimated that if women were to start growth-oriented businesses at the same rate as men, 5.8 million more jobs would be created in two years (Aidis et al., 2015).

The performance of Brazil with regard to supporting women's entrepreneurship is mixed. The most recent Female Entrepreneurship Index report published by the Global Entrepreneurship and Development Institute (GEDI) (Terjesen and Lloyd, 2015) analysed 77 countries and scored each one from 0 to 100 on the environment for women's entrepreneurship in each country. Brazil earned a score of 31, where scores below 50 indicated the need to reduce obstacles to women's entrepreneurship, and was ranked 60th among the 77 countries. Brazil scored the highest on the ratio of total female entrepreneurial activity and performed quite well on other indicators such as equal rights in the perception of opportunities, women's willingness to start businesses, attitudes towards women in leadership and decision-making positions, and labour force gender parity. However, Brazil scored low on female entrepreneurs who are offering new products, the percentage of female-owned businesses that are active in technology sectors and employ new technologies, and the percentage of high-growth female-owned businesses that intend to employ at least ten people and grow more than 50% in five years. Brazil scored the lowest of all countries on the percentage of female-owned exporting businesses. The findings from this report show that while Brazil shows progress on equal rights and positive perceptions about women in leadership and entrepreneurship, the Brazilian environment

features barriers to women interested in growth-oriented entrepreneurship, notably in technology-based entrepreneurship and export activities.

SEBRAE and Rede Mulher Empreendedora are the two main institutions involved in women's entrepreneurship support

Brazil has begun to recognise some of the country's deficits in women's entrepreneurship and has taken the challenge head-on. SEBRAE and *Rede Mulher Empreendedora* (RME, Female Entrepreneur Network) are the two main institutions involved in fostering women's entrepreneurship. In July 2018, for example, SEBRAE joined UN Women and the UN Global Compact and committed to the "Women's Empowerment Principles", which are intended to promote women's full participation in all sectors and at all levels of the Brazilian economy (SEBRAE, 2018b). In addition, SEBRAE is conducting its own internal audit to understand if the agency is a woman-friendly workplace. The RME is an organisation that supports women's entrepreneurship in Brazil through a network of more than 300 000 women business owners, classes, networking events, mentoring, advertising for women's businesses, and partnerships with other institutions that aim to encourage women entrepreneurs. The RME has recently started a 24-month programme, funded by Google (*Ela Pode*, She Can), which hopes to reach 135 000 women. Participants can expect to receive: the "She Can" designation, logistical and professional support, networking opportunities, and presentation of the company name, logo, and website on the RME website. SEBRAE and RME have also partnered together, along with Women of Brazil (*Mulheres do Brasil*), to launch in 2019 the country's most comprehensive initiative to boost women's entrepreneurship with a budget of BRL 10 million across 11 states. The two-year National Project for Women's Entrepreneurship is based on the following pillars: capacity-building (soft and hard skills), business networks and intelligence.

In addition to SEBRAE and RME, another institution involved in the support of women's entrepreneurship in Brazil is the National Secretariat for Women's Policies, which is housed within the Ministry of Woman, Family and Human Rights. The focus of this government department is mostly women's safety and rights across society, but also pays attention to equality and equity in the workplace and the job market, with women's entrepreneurship being a subcomponent of this line of action.

Women's entrepreneurship needs to be encouraged more proactively through the development of a four-pronged strategy

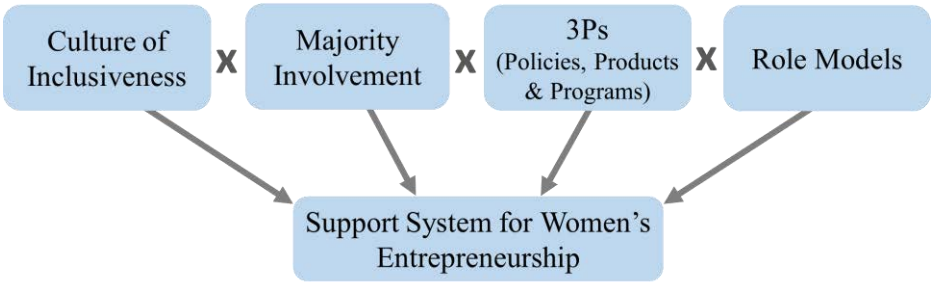
Moving forward, apart from the main efforts led by SEBRAE and RME, most institutions in Brazil do not seem to be doing very much to support women's entrepreneurship. There is a perception among most government entities that special initiatives for women are unnecessary, if not discriminatory against everyone else because all products and programmes are designed for everyone, including women and other minority groups. However, a lack of exclusion does not build an inclusive culture where women feel welcome, supported, and encouraged, and enjoy equal opportunities to those of men. In a study of 17 countries, GEDI noted that gender-blind business support measures fail to support women's business development as much as they support men's business development (GEDI, 2013).

One of the most significant contributions that Brazil could make in support of entrepreneurship is improving the country's encouragement of women's entrepreneurship through an inclusive entrepreneurial ecosystem. The academic literature on the topic shows that when it comes to many aspects of the entrepreneurial ecosystem women do not have equal access to resources and support, nor can they expect equal opportunities for success.

Government policies and regulations can strongly influence the attractiveness of entrepreneurship for women. Similarly, normative expectations of women in society tend to place responsibilities related to the household on women rather than men, which can indirectly mark entrepreneurship as a less-desirable career choice for women (Brush et al., 2018).

For Brazil to have a profound impact on women's entrepreneurship, there needs to be a genuine, concerted, and long-term effort around four dominant goals: creating a culture of inclusiveness, involving the majority, developing specialised products and programmes, and highlighting female role models (see Figure 5.4).

Figure 5.4. Entrepreneurship supportive ecosystem for minorities



First, building a culture of inclusiveness is important in all of the Brazilian ministries, throughout *Sistema S*, and among national financial institutions. This will involve setting diversity and inclusion as core organisational values, including by actively recruiting women and minorities and creating opportunities for them to grow into leadership positions. The more women are visible in senior leadership positions, the more natural it will become for Brazilian institutions charged with entrepreneurship promotion to understand and overcome the challenges that women face.

Second, majority involvement refers to the inclusion of men in the support of gender equality and women's access to business opportunities. It is difficult for a minority group (like women in the world of entrepreneurship) to gain real traction and be recognised and respected by the masses without the support of the majority, such as male entrepreneurs, male leaders and male family members. LeanIn.org offers tips for men who want to support women in their workplaces and reap the benefits of doing so: men who work collaboratively with women and leverage the full talents of their teams have also been found to outperform their peers (see Box 5.14).

Box 5.14. Seven Tips for Men Who Want to Support Equality, by LeanIn.org

Empirical research has shown that women face gender-specific challenges in their pursuit of leadership and influence. For example, success and likeability are positively correlated for men (successful men are "confident" and "strong") and negatively correlated for women (successful women are "aggressive" and "bossy"), male performance is often overestimated compared to female performance, and women are interrupted more in meetings, given less credit for their ideas, and have less overall influence. To combat these inequities, LeanIn.org offers seven tips for men who want to support gender equality:

- *Challenge the Likeability Penalty*: When you hear a woman referred to as "bossy", ask for clarification on why this was said and question if the reaction would be the same if a man had done the same.
- *Evaluate Performance Fairly*: Make sure gender bias in evaluating performance is understood by all of your team members. Set specific and measurable criteria for excellent performance, and communicate these expectations clearly and in advance.
- *Give Women Credit*: Make sure women get the credit they deserve and look for opportunities to highlight their accomplishments. Also, challenge women when they say they or other women are not ready or are not qualified, and encourage women to go for new opportunities.
- *Get the Most Out of Meetings*: Encourage women to sit in visible positions in meetings, assert that you would like to hear a female colleague finish when she is interrupted, openly invite women to contribute to the conversation and make sure to give credit for ideas to the deserving individual.
- *Share Office Housework*: Pay attention to who gets tasked with service and support work, volunteer to do some of the note-taking, event organising, and new hires training, or propose someone else who could benefit from collaborating with different co-workers and developing new skills.
- *Make Work for Parents*: Be careful of assuming that mothers will not be willing to take on challenging assignments or travel, be vocal about the time you spend away from work with your family, take paternity leave and/or advocate for it in your company, and breakdown the biases linked to motherhood and fatherhood.
- *Mentor Women and Offer Equal Access*: Take an active role in making sure that women receive the same high-quality mentorship that men tend to have, including a sponsor who advocates and opens doors for them.

Third, examples of women-specific entrepreneurship programmes will include, among others, export and supplier diversity programmes, targeted financing products, and business development policies that do not discriminate against women. In the specific context of Brazil, one striking element is the lack of access to finance for women entrepreneurs. For example, in terms of credit disbursed to entrepreneurs under the MEI regime, the average loan size for men is BRL 80 600, almost 20% higher than for women (BRL 67 500). Moreover, men account for 69% of MEI loans, compared to 31% for women, although

women represent 45% of MEIs. Finally, although women have lower delinquency rates than men (3.7% vs. 4.4%), they pay higher interest rates on their loans.[10]

Clearly, the mere fact that all bank products are available for everyone without discriminating against one gender or the other, has not resulted in women taking out loans as much as men. In the whole credit market, this might be the result of the sectors in which women are more likely to operate or of an average lower growth propensity of women entrepreneurs. However, the fact that within the same MEI regime, which gathers similar-sized companies, male entrepreneurs have received a disproportionate share of loans and bigger loans than women, suggests the existence of some form of gender discrimination in the Brazilian credit market.[11]

Special funds and financing products for women could help tackle this problem. Diversity and inclusion training will also be needed in financial institutions in order to get around the hidden biases of bank loan officers. For growth-oriented women entrepreneurs, venture capital (VC) and angel investment need to be rebalanced, by recruiting more women investors and advisors and creating VC funds that are led by women and specifically designed for investment in women-owned businesses (Halabisky, 2018). Business incubators and accelerators specifically meant for women can also help dissociate women's entrepreneurship from its necessity-driven stereotype, that is, that women only start a business to complement the income of a male breadwinner (see Box 5.15).

Box 5.15. International learning model – Enterprise-Works' Accelerating Women and Underrepresented Entrepreneurs (AWARE) Programme, United States

Description of the approach

Through their 4 000 m² facilities, Enterprise-Works supports female and underrepresented entrepreneurs who want to launch and grow technology-based businesses. Women who participate in Enterprise-Works have developed new proprietary products and successfully secured funding, including government grants and big-business contracts. In a gender-biased venture capital reality, where the vast majority of investment goes to male entrepreneurs, Enterprise-Works' in-resident entrepreneurs have introduced female venture capitalists to female entrepreneurs, and mentored junior entrepreneurs on pitching ideas, hiring employees, and negotiating deals.

Factors for success

The three main factors which have underlain the success of this initiative are:

- A dedicated in-resident entrepreneur who is familiar with the needs of entrepreneurs from underrepresented groups.
- Team-based mini-grants for proof-of-concept.
- Mentorship, training, and networking opportunities.

Obstacles and responses

The two most challenging aspects of launching a programme like AWARE are the grant writing and winning process, and the institutional and human capacity to implement the programme. Grant writing is a learned skill that takes time to develop. Many universities have Development Offices or other places where grant writing professionals can assist not

only with writing proposals but also with strategising what should go into the proposal. If the grant is awarded, the university must be able to implement the programme, including building out space, hiring staff, etc. When grant funding runs out, a sustainability plan or an exit strategy should be prepared.

Relevance for Brazil

SEBRAE, the Ministry of Education, the Ministry of Science, Technology, Innovation and Communication and the new Ministry of Economy can all house incubator programmes for women and underrepresented groups in entrepreneurship, or grant resources for these initiatives to the private sector.

Further information

More information on the AWARE programme is available on the institutional website: http://www.researchpark.illinois.edu/AWARE.

Several articles on incubator and accelerator best practices and example programmes can be found at the following web links: Incubators and Accelerators Open Doors for Female, Immigrant, and Underrepresented Entrepreneurs: http://www.insightintodiversity.com/incubators-and-accelerators-open-doors-for-female-immigrant-and-underrepresented-entrepreneurs/; 31 Top Accelerators and Incubators for Women: https://www.startupfunding.co/blog/31-top-accelerators-and-incubators-for-women; Accelerators Focusing on Women-led Start-ups: https://fundingsage.com/accelerators-focus-women-led-startups/.

Educational programmes to help women develop business leadership skills must address not only general business issues but also gender-specific issues. The general view is that there is value in mixed-sex settings in which men and women sit together in the same programme. However, research has also found that in mixed-gender programmes, women tend to suppress the gendered aspects of their experiences and deny gender differences, in an effort to be taken seriously, which in turn restricts their transformational learning process. In contrast, participants in women-only programmes tend to develop greater confidence, sense of control, broader and deeper networks, enhanced skills, and self-awareness. Women-only programmes, therefore, support transformational learning by providing a psychological "safe" space that protects female participants from gender pressure. In addition, gender-sensitive pedagogy is consistent with a relational learning style that women tend to prefer (e.g. see Debebe et al. 2016). In order for business leadership development to have a deep change in women's beliefs and actions, a combination of mixed-sex and women-only programmes would, therefore, be recommended.

An example of a women-only business training and development programme, Women[X] Pakistan, is described in Box 5.16.

Box 5.16. International learning model – Women^X Pakistan

Description of the approach

Women^X Pakistan is a World Bank-funded programme that supports women entrepreneurs by enhancing their business acumen and leadership abilities, helping them expand their professional networks, and assisting them with identifying growth opportunities. Through the resources and networks garnered from the Women^X programmes, graduates from across Pakistan stay connected, share information, exchange ideas, and expand their customer base. Women^X Pakistan has supported growth-oriented women entrepreneurs in five major cities of Pakistan.

Women^X delivers its programme to selected participants in two phases. Phase 1 is spread out over 4-months with 16 days (once a week on Saturdays) of in-class business training (e.g. operations management, entrepreneurial accounting, business law, marketing, taxation, and more) and soft skills development (e.g. leadership, negotiations, communications, and organisational behaviour and human resources). Phase 1 also includes peer-to-peer coaching sessions and monthly networking events.

Upon completing Phase 1, approximately half of the participants are invited to participate in the 5-month Phase 2, which offers more tailored business guidance and mentorship from industry leaders. Participants in Phase 2 receive one-on-one coaching, business clinics, peer-to-peer coaching, and networking opportunities.

Factors for success

The Women^X Entrepreneurship Programme enables participants to:

- Boost productivity and sales, hire staff, and access new supply chains.
- Identify profitable new business opportunities, develop a business expansion plan, and expand to new markets (local, regional, and international).
- Design marketing strategies that are effective and affordable and implement operational accounting systems.
- Nurture communication, management, and leadership skills.
- Earn a certificate from some of the most prestigious universities in Pakistan.

Obstacles and responses

Pakistan is a patriarchal society where women's participation in the economy is not sufficiently valued. Women^X was therefore delivered through partnerships with top-notch educational designers and programme implementers, and the best universities in each region of the country. Women^X also recruited expert consultants from outside of Pakistan for guidance and feedback. The strategy of enlisting experts and high-quality institutions made the programme expensive and reliant on World Bank funding but enabled the delivery of a truly high-quality programme to Pakistani women.

Relevance for Brazil

SEBRAE is Brazil's leading source of programming for women entrepreneurs. That said, SEBRAE's efforts with RME are embryonic and just beginning to mature. Examples like Women^X could help Brazil avoid reinventing the wheel and adapt programmes and practices that others have already successfully implemented.

Further information

The website of the programme: http://www.womenxpakistan.com/.

Finally, in the specific context of Brazil, it would make sense to bestow more influence on the National Secretariat for Women's Policies within the Ministry of Woman, Family and Human Rights. Currently, the majority of funding for women-targeted programmes goes to local municipalities and civil societies, which do projects that are in line with the Nation Plan of Policies for Women, but without the Ministry having control over the budget and/or who receives the funding. When projects are of low quality, this secretariat loses influence and resources. In addition, the home where the National Secretariat for Women's Policies is housed has changed several times in the last years, causing changes in mission and management and jeopardising its organisational efficiency.

The fourth and last element of the entrepreneurship supportive ecosystem for minorities concerns the power of role models. Women need to see examples of other women entrepreneurs who have navigated the obstacles of being a woman while developing and growing their businesses. Having someone to look up to and learn from can result in increased resilience and belief in one's ability to be an entrepreneur (Bullough et al., 2014).

Women entrepreneurs who have been successful usually appreciate being recognised for it and relish in the gratification of helping other women to do the same. This makes role modelling one of the least expensive mechanisms of the supportive ecosystem model (Figure 5.4). Role models do not typically receive compensation for serving other women entrepreneurs, and access to role models can be provided through activities that would already be in place in any high-quality programme, such as networking events, mentoring, and guest speaking opportunities. Examples of everyday women entrepreneurs are likely to leave a stronger impression than famous people because aspiring women entrepreneurs can identify with them on a more personal level.

Entrepreneurship programmes for other target groups

Entrepreneurship programmes for other target groups are generally small-scale

Brazil also supports entrepreneurship development in other underserved minorities, such as migrants/refugees and Afro-Brazilians. SEBRAE is the leading organisation in entrepreneurship programmes for migrants and refugees, whereas the privately-run *Feira Preta* Institute is committed to encouraging entrepreneurship among Afro-Brazilians. Some of SEBRAE's programmes include:

- The Entrepreneur Refugee Project (*Projeto Refugiado Empreendedor*), which promotes entrepreneurial culture among refugees and asylum seekers to enable their social and economic inclusion in the country.
- The *Dekassegui* Entrepreneur (*Dekassegui Empreendedor*), which fosters the entrepreneurial culture of Brazilian migrants living outside of the country (e.g. Japanese Brazilians).
- *Arvore*, a voluntary return and reintegration programme for Brazilian migrants.

With respect to Afro-Brazilians, the *Feira Preta* Institute operates targeted business accelerators and incubators. This Institute also organises the largest annual Afro-Brazilian trade fair in São Paulo, where Afro-Brazilian entrepreneurs from different sectors convene to sell their products and services.

On the whole, entrepreneurship support for underrepresented groups is small-scale in Brazil, although policies that promote inclusive entrepreneurship have the potential to level the playing field for minority groups and reduce poverty through job creation

(OECD/European Union, 2017). In order for Brazil to understand how minorities and underserved populations perceive the current national entrepreneurship ecosystem, the government should collect data on the ethnic make-up of the people who apply for and take out loans – and what interest rates they are paying – as well as the ethnic make-up of the people who apply to entrepreneurship education programmes. Data should also be made available on the gender and ethnicity of those who are starting businesses and on the size of those businesses. Good data will cast light on the conditions of minorities in entrepreneurship and highlight where improvements can be made, taking into account that the support conceptual framework presented in the section on women's entrepreneurship – culture of inclusiveness, majority involvement, specialised policies and products, and role models – can be easily applied to other underrepresented groups (see Figure 5.4).

Conclusions and policy recommendations

This chapter has looked at Brazil's targeted programmes for SMEs in different policy areas. Brazilian programmes to encourage SMEs' access to finance mostly consist of loan subsidies, although there has been in the last two years a rapid process of convergence between market interest rates and the average interest rates of BNDES, the main source of SME finance in Brazil. Conversely, loan guarantees only cover about 1% of new SME loans, leaving a lot of scope to enhance their diffusion. In the area of equity finance, BNDESPAR, a subsidiary of BNDES, is the main institutional player in seed and early-stage equity finance. However, there is a lack of follow-on finance in Brazil, which is especially important for SMEs ready to scale up.

Most innovation policy spending goes to large companies in Brazil, notably through R&D tax credits (e.g. *Lei do Bem* and *Lei da Informática*) and certain direct credit programmes (e.g. *Plano Inova Empresa*). Thus, targeted SME innovation programmes comparatively run on smaller budgets, although some of them are promising and could be expanded. On example is *Brasil Mais Produtivo* (BMP), which supports productivity growth in manufacturing where the productivity gap between SMEs and larger companies is especially marked.

Other programmes could benefit from some adjustments. ALI and PROCOMPI, both of which see the involvement of SEBRAE, appear to be overstretched, trying to cover a large number of companies through thin budgets. Furthermore, in the case of ALI, the profile of local innovation agents could be strengthened by adding staff with industry experience. On the other hand, BNDES MPME *Inovadora* and FINEP *Inovacred* work with larger SMEs, targeting a group of companies (mid-sized firms) that is otherwise broadly overlooked by Brazilian SME policies.

National legislation supports the participation of micro and small companies, as defined by *Lei Complementar* 123/2006 (MPEs), in public procurement. However, there is a gap between legislation and implementation, as only 15% of the volume of government contracts is assigned to micro and small enterprises. This gap is more likely to be bridged by concrete actions than by new legislation, such as strengthening existing training for SMEs on tendering for government contracts, increasing the capacity of procurement officers to design bids compliant with preferential treatment for MPEs, and reducing late payments of government contracts. Brazil could also use public procurement as a demand-side policy to encourage innovation in SMEs, similarly to what is increasingly done in OECD countries. The federal government could pilot a public procurement programme where it asks for innovative goods or services from small businesses going through a competitive tendering process.

The entrepreneurship education ecosystem of Brazil has good reach and content. However, there are some challenges to overcome with respect to including underserved and/or underrepresented individuals in a more explicit way and infusing entrepreneurship skills into existing traditional courses to reach more students.

Workforce and managerial skills are critical to business survival and growth. Skills upgrading at the firm level is mostly undertaken by *Sistema S*, including SENAC, SENAI, SEBRAE and IEL. SENAC offers a comprehensive portfolio of courses aimed at services and trade, which tend to receive positive student evaluations. SENAI is responsible for skills development in manufacturing, including through two major flagship initiatives on Industry 4.0 and skills certification for disadvantaged individuals. IEL also targets the industry sector, with some of its programmes similar to those of SENAI. More generally, while opportunities for management training abound, leadership training is much less available.

Finally, Brazilian women tend to own fewer and smaller enterprises than men, with the last factor that is also the result of the prevailing sectors in which women entrepreneurs tend to operate. In terms of policies, there is a common perception in Brazil that special programmes for women entrepreneurs are not needed since all programmes are open to everyone. However, a lack of explicit exclusion is often not enough to build a culture of full inclusion in which women enjoy the same opportunities as men. This is also true for other underrepresented groups in the entrepreneurial population, such as Afro-Brazilians, migrants and refugees.

Policy recommendations on federal programmes for SMEs and entrepreneurship

Debt finance

- Continue to reduce the interest rate subsidy in government loans and expand the use of government-backed loan guarantees to further strengthen access to finance for SMEs.
- Introduce non-financial forms of support in public development banks, based on evidence that combining financial support with technical advice improves the performance of supported companies and/or partner financial institutions.
- Pull ahead in the ongoing trend by which BNDES lending has increasingly shifted from large companies to SMEs. Consider launching a credit line for start-ups, as done by other countries such as the UK (Start-up Loan Programme).
- Strengthen the role of the National Programme for Productive Microcredit (PNMPO) as a gateway to other government programmes relevant to micro-enterprises and own-account workers.
- Make microfinance more widely available across Brazil, given its current predominance in the Northeast and under-utilisation of available funds.

Equity finance

- Ensure that government-backed VC funds also provide follow-on equity finance and not just seed finance, with a view to ensuring that promising start-ups and high-growth firms continue to receive adequate support for scale-up.
- Consider the establishment of a dedicated equity fund for "hard-tech" ventures, i.e. companies working on unproven technologies with higher levels of risks but also higher levels of possible returns.
- Develop a venture-debt capital market to support investments in innovative ventures in need of follow-on capital.

SME innovation

- Increase innovation support for SMEs through targeted measures with the aim to reduce the productivity gap with larger firms, including programmes that encourage collaborative innovation.
- Expand *Brasil Mais Produtivo* to narrow the large productivity gap between SMEs and large companies in industry. At the same time, increase the cost-sharing requirement of the programme to self-select stronger companies, making an exception for companies in lagging regions.
- Strengthen the profile of local innovation agents by hiring more people with industry experience.
- Increase the budget of the ALI and PROCOMPI programmes or alternatively reduced the number of companies attended to reduce the current overstretch of these two programmes.

Public procurement for SMEs

- Scale up existing training programmes for micro and small companies on how to bid for government contracts and for procurement officers on how to design calls that are compliant with existing preferential legislation in public procurement.

- Launch a pilot initiative supporting SME innovation through public procurement in which the government demands innovative products or services from small businesses going through a competitive process.

Entrepreneurship education and management training

- Strengthen the inclusion of disadvantaged groups and groups underrepresented in the entrepreneurial population into the existing offer of entrepreneurship education courses.
- Consider infusing entrepreneurial skills in traditional school and university courses to further strengthen the outreach of entrepreneurship education.
- Streamline the offer of management and workforce training at the firm level, mostly undertaken within *Sistema S*, with a view to creating critical mass, improving training quality and reducing nonwage costs for employers.
- Establish a shared and interactive web portal pulling together information on existing management training programmes across *Sistema S* with the aim to ease selection and access by firms.
- Expand leadership development opportunities across Brazil, which are typically experiential in nature and include competency-building, self-analysis, vision setting, and networking opportunities with other leaders.

Women's entrepreneurship

- Make sure that women's entrepreneurship policies are not limited to ensuring that mainstream programmes are available to everyone, but also include initiatives specifically targeted at women.
- Ensure that women's entrepreneurship policies aim at the following four objectives: i) create a culture of inclusiveness; ii) involve men in gender equity efforts; iii) develop specialised programmes for women; iv) showcase role models of women entrepreneurs.

Notes

[1] As of August 2019, the total credit approved by BNDES *Crédito Pequenas Empresas* was BRL 500 million.

[2] An increased focus on loan guarantees versus loan subsidies should not be detrimental to start-ups, which find it more difficult than established SMEs to receive bank loans and for which credit subsidies might continue to be the best credit policy option.

[3] Privileged sectors in the Portuguese 200M Fund are life sciences, biotechnology, IT, tourism and activities under the scope of Industry 4.0.

[4] The private debt market is a category of capital providers that engages in debt rather than equity finance. This category uses private investment partnerships as the main investment vehicle, adopting many legal and institutional features from the private equity market.

[5] Additional information on *Plano Inova Empresa* is available in Portuguese on the websites of BNDES and FINEP: https://www.bndes.gov.br/wps/portal/site/home/financiamento/produto/plano-inova-empresa and http://www.finep.gov.br/apoio-e-financiamento-externa/programas-e-linhas/programas-inova/o-que-e-o-programa-inova.

[6] The new government has recently changed the governance of the programme which, as of mid-2019, has a strategic committee including representatives from the following Ministries and agencies: Ministry of Economy (coordinator); Ministry of Science, Technology, Innovations and Communications; Ministry of Mines and Energy; ABDI; SENAI; SEBRAE; BNDES; and EMBRAPII.

[7] Additional information on FINEP *Inovacred* is available at the following website: http://www.finep.gov.br/apoio-e-financiamento-externa/programas-e-linhas/descentralizacao/inovacred/inovacred-empresa-e-ict-s.

[8] Additional information on SEBRAE's PNEE is available at the following website: http://www.sebrae.com.br/sites/PortalSebrae/sebraeaz/educacao-empreendedora-no-ensino-fundamental,0c54be061f736410VgnVCM2000003c74010aRCRD#0.

[9] Additional information on SEBRAE's Reference Centre for Entrepreneurship Education is available at the following website: http://cer.sebrae.com.br/biblioteca/?lang=en.

[10] Data on access to finance by MEI users are provided by SEBRAE, based on a survey conducted by the Brazilian Central Bank in 2016.

[11] Microcredit is probably an exception, as it has been reported by many organisations that women entrepreneurs are overrepresented in microfinance in Brazil. While this is positive, microcredit is not adequate for women entrepreneurs who would like to grow their business.

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Chapter 6. SME export policies in Brazil

This chapter describes and assesses Brazil's federal policies in support of small- and medium-sized enterprise (SME) export, which include, among others, export training, trade facilitation, export financing, and e-commerce promotion. Export training is widely available through the National Plan of Exporting Culture (PNCE), operated by the Ministry of Economy, and the Export Qualification Programme of the National Export and Investment Agency (Apex-Brasil). Both programmes are well-designed, although it is not clear the extent to which they have resulted in an increase in the number of exporting SMEs and/or SME export volumes. Trade facilitation for SMEs has mostly occurred through the Simples Exportação *regime, while there is scope for increasing the availability of export finance and for launching new programmes forging closer ties between multinational enterprises and local SMEs.*

Introduction

Micro and small enterprises, as defined by *Lei Complementar* 123/2006 (*Micro e Pequenas Empresas*, MPEs),[1] accounted for 40.8% of the total number of Brazilian exporting companies in 2017. When medium enterprises are included, the proportion surges to 71%. However, the MPE share in national export volumes is trivial, amounting to only about 0.5% of the total in 2017 and rising to 3.3% when mid-sized enterprises are included.[2] There is also a high level of concentration of exporting MPEs in five south and south-eastern states in the industrial heartland of Brazil, with about 70% of them located in São Paulo, Rio Grande do Sul, Minas Gerais, Paraná, and Santa Catarina. This may pose problems to the extent that states with few exporting MPEs may not see the importance of engaging in export support policies.[3]

There are many reasons why SMEs are less likely to be involved in exporting. First, the large size of the Brazilian domestic market may act as a disincentive. Second, many MPEs are in non-tradable sectors and, thus, they are not the target of export promotion policies.[4] Third, many of them lack awareness of export opportunities, exporting know-how, and the capacity to meet the demand and requirements of international markets. Fourth, many small business owners may not be able to function in English and other languages spoken in global markets. Finally, there may also be disincentives to exporting inadvertently caused by trade requirements, including logistics challenges and customs requirements. All of these challenges are relevant and should be addressed in any domestic SME export strategy.

Key players in the SME export ecosystem

Several federal institutions are involved in export and foreign trade policy in Brazil. At the beginning of 2019, the main institutions were the Ministry of Economy, the Ministry of Foreign Affairs (*Ministério das Relações Exteriores*, MRE), the Brazilian Agency for Export and Investment Promotion (*Agência Brasileira de Promoção de Exportações e Investimentos*, Apex-Brasil); and the Brazilian Micro and Small Business Agency (*Serviço Brasileiro de Apoio às Micro e Pequenas Empresas*, SEBRAE). In addition, there are also other federal entities charged with providing export credit to SMEs.

The Ministry of Economy and the Ministry of Foreign Affairs are the two main ministries supporting SME export

The Ministry of Economy is the main Ministry responsible for SME export promotion. At the Ministry of Economy, the Special Secretariat for Foreign Trade and International Affairs (*Secretaria Especial de Comércio Exterior e Assuntos Internacionais*) is the main body responsible for all policies related to business internationalisation. In particular, SECEX (*Secretaria de Comércio Exterior*) is responsible for implementing the National Plan of Exporting Culture (*Plano Nacional da Cultura Exportadora,* PNCE) and collects a broad range of export and foreign trade information on the Single Foreign Trade portal as part of the Integrated Foreign Trade System (***Sistema Integrado de Comércio Exterior*, SISCOMEX). This includes "**The Guide to Foreign Trade and Investments" ("Invest & Export Brasil"); the "Showcase of Exporters" (*Vitrine do exportador*), an online and searchable directory of Brazilian companies; and the "Learning how to Export" (*Aprendendo a Exportar*), a website focused on providing guidance and knowledge about the entire export process. SECEX is also responsible for all activities related to trade in services.

Still at the Ministry of Economy, under the Special Secretariat for Productivity, Employment and Competitiveness (*Secretaria Especial de Produtividade, Emprego e Produtividade*), there are also some activities aimed at business internationalisation, especially for micro and small companies as defined by *Lei Complementar* 123/2006 (MPEs). In particular, the Sub-secretariat for Micro and Small Businesses (*Subsecretaria de Desenvolvimento das Micro e Pequenas Empresas*, SEMPE) follows the implementation of the PNCE and SEBRAE's MPE export programmes, while the Sub-Secretariat for Innovation and Start-ups (*Subsecretaria de Inovação e Novos Negócios*, SIN) operates *StartOut Brasil*, a programme which aims to internationalise start-ups through capacity-building and business missions to foreign markets.

The Ministry of Foreign Affairs (MRE) is also a relevant player in the support of business internationalisation. In addition to helping SMEs with participation in trade missions and trade fairs, the MRE manages the Invest & Export Website. This web platform spreads information to all entrepreneurs, but it is especially relevant for SMEs, which are generally less experienced on foreign trade issues. The website hosts six sections, three of which are dedicated to domestic companies (Export, Import and Invest) and three of which are meant for foreign companies (Buy from Brazil, Invest in Brazil, Discover Brazil).

Apex-Brasil plays an important role in policy implementation

Apex-Brasil works under the responsibility of the MRE and is the key federal agency facilitating the access of Brazilian companies to international markets. It is a well-functioning agency that operates a number of programmes both for large companies and SMEs. It is present in 16 states and has 8 offices abroad that work closely with the Trade Promotion and Investment Departments (*Sector de Promoção Comercial e Investimentos*, SECOMs) at Brazilian embassies and consulates.

In 2018, Apex-Brasil worked with 15 737 Brazilian companies, of which 4 527 (29%) were already exporters, contributing to 21.5% of total national exports. The Export Qualification Programme (PEIEX), which targets non-exporters or export beginners, supported 7 258 companies, while 7 957 companies were backed through trade promotion activities (participation in missions and trade fairs) around the world. Apex-Brasil also offers the e-Xport Brazil programme focusing on internationalisation opportunities through e-commerce. The agency estimates that 55-60% of its clients are SMEs.

SEBRAE also supports the export of micro and small businesses

Through its network of 700 service centres throughout Brazil, SEBRAE also fosters exporting by micro and small companies (MPEs) through the organisation of online and classroom-based training courses, seminars and workshops. SEBRAE and Apex-Brasil work collaboratively, with SEBRAE referring MPE clients to Apex-Brasil and vice-versa. SEBRAE also offers a Business Linkages Programme that seeks to integrate MPEs into the supply chains of large domestic producers in selected sectors and has recently developed online e-commerce training modules for MPEs.

BNDES and Banco do Brasil offer export financing solutions

Two federal institutions are mostly involved in the offer of export financing:

- *Banco do Brasil* provides both short- and long-term export finance to Brazilian exporters. Specific to SMEs (enterprises with no more than BRL 10 million in annual revenues) is the PROGER Export programme, which provides credit to finance the pre-shipment production of goods bound to foreign markets and the post-shipment financing of sales transactions.

- BNDES (*Banco Nacional de Desenvolvimento Econômico e Social*), Brazil's main public development bank, offers pre- and post-shipment export financing solutions for which SMEs can also apply.

CAMEX co-ordinates foreign trade policy at the national level

At the federal level, the Chamber of Foreign Trade (*Câmara de Comércio Exterior*, CAMEX), a high-level interagency body, is responsible for co-ordinating Brazilian foreign trade policy. Since the creation of a super Ministry of Economy in January 2019, CAMEX falls under the responsibility of this Ministry and its members include, besides the Minister of Economy, the Ministers of Agriculture, Defence and the Executive Office of the President (*Casa Civil*). CAMEX has a broad range of responsibilities, including setting the terms and conditions of export financing programmes and supervising the work of the National Trade Facilitation Committee (*Comitê Nacional de Facilitação de Comércio*, CONFAC).

CONFAC, established in mid-2016, brings together representatives from the government and the private sector to identify measures that can reduce trade-related compliance costs and, thereby, increase the competitiveness of Brazilian companies. To co-ordinate with the private sector, CONFAC has established a Subcommittee on Cooperation which is composed of representatives of the National Industry Confederation (CNI), the National Trade Confederation (CNC), the National Transport Confederation (CNT), the National Agriculture and Livestock Confederation (CNA), and SEBRAE.

While CAMEX and CONFAC play an important co-ordination role, there is no co-ordinated approach at the federal level for the development of SME exporters. It would, therefore, be important to mainstream SMEs in trade policy discussions held within CAMEX to ensure that their needs are taken into consideration, especially in the context of export promotion policies. The involvement of agencies and financial institutions such as Apex-Brasil, SEBRAE and BNDES in this policy dialogue would be useful, even without a voting right.

Co-ordination of export support at the state level, on the other hand, is the main role of the National Plan of Exporting Culture (*Plano Nacional da Cultura Exportadora*, PNCE). As explained in the next section, the main objective of this plan is to ensure that export promotion of state-level public and private institutions is executed in a co-ordinated and coherent way.

Main federal SME export programmes

This section presents information on the main federal programmes supporting SME exports, starting with the National Plan of Exporting Culture. The rest of the section looks at programmes by the following categories: access to information; export training; women in trade; trade facilitation; export finance; tax-based export incentives; e-commerce initiatives; and supplier development programmes.

The National Plan of Exporting Culture

The National Plan of Exporting Culture (PNCE) aims to increase the number of SME exporters

The PNCE was originally launched in 2012 and is currently managed by the Ministry of Economy. The aim of this programme is to enliven the export culture by developing and organising a network of state-level public and private institutions involved in export

promotion. This is done through the creation of PNCE State Committees that include the main regional organisations involved in trade promotion.

The PNCE pursues three objectives:

- Identify companies with export potential and expose them to exporting activity for the first time.
- Enable one-time or casual exporters to become regular exporters.
- Diversify the exports of those companies that already export regularly.

The PNCE has designed a logical framework based on the sequential steps of the export path, with support activities organised along this path (Table 6.1).

Table 6.1. The PNCE's logical framework for export support

Stage	Target group	Type of support
Awareness	Groups of enterprises that have never exported and have export potential but do not know the benefits of export or the basic steps of the export process.	Export seminars and basic (online) training modules on how to export.
Commercial intelligence	Companies deciding to start the export process and needing information on the potential market(s) for their product(s).	Support to develop market studies and identify potential markets. These actions can be delivered to groups of SMEs or to individual enterprises.
Product and process suitability/adequacy	Companies that have identified a target market for their products and have detailed information about this market.	Support to help the enterprise adapt the products to the standards and requirements of the target foreign market.
Trade promotion	Companies that already have products that meet the requirements of the market(s) in which they intend to act, or that seek to know more about the requirements of their potential buyers or need more information on competitors and consumers.	Invitations to participate in trade shows and business roundtables.
Marketing	Companies ready to market abroad, but who need support in identifying buyers, forms of distribution, customs procedures, and so on.	Support for negotiation, logistics, distribution, etc.

Due to some bottlenecks experienced in the first phase of the programme implementation, such as duplications in existing export support services and information gaps making it difficult for enterprises to identify where to receive support, the PNCE adopted a new service model in 2018. This model, launched as a pilot in the two states of Minas Gerais and Roraima, includes a diagnostic of the internationalisation competencies and requirements of each company, delivery of an international maturity evaluation assessment, and a personalised export development action plan inclusive of targets. Following the success of the pilot phase, this new methodology is expected to be rolled out nationwide.[5]

The full implementation of the PNCE's new methodology in the 26 States (plus the Federal District) will require considerable time, effort and resources, but it is important and should be resourced adequately. Among other things, it will require training staff on the new export-readiness methodology. However, it would also important that the PNCE include outcome-oriented targets among its objectives, such as an increase in the number of new SME exporters. At present, the PNCE does use an online management information system to monitor and evaluate the actions of all state-level partnering institutions, but this only covers the number of actions implemented and the number of SMEs served.

Export information

There are a number of mechanisms to inform businesses about exporting opportunities, but no dedicated guide targeted to MPEs

A number of mechanisms are used by the government to disseminate information on exporting. The Foreign Trade and Investments Guide ("Invest & Export Brazil") brings together the information of more than ten portals dedicated to the topic of foreign trade, covering many thematic issues in Portuguese, English and Spanish. This product is the result of a partnership between the Ministry of Economy, the MRE, the Ministry of Agriculture and Apex-Brasil, and is linked to the SISCOMEX portal. The Ministry of Economy also publishes the Basic Guide to Exporting Services, while the MRE makes the Complete Guide on the Brazilian Export Process (*Guia completa sobre o processo exportador brasileiro*) available to Brazilian companies, especially SMEs, that addresses questions such as "why export", "what to export", "where to export" and "how to export". COMEX-STAT, an online database on Brazil's foreign trade statistics developed and maintained by the Ministry of Economy, allows free access to users to make detailed data queries on Brazilian exports and imports. Finally, Apex-Brasil also develops content for Brazilian exporters, preparing market studies to support export promotion and presenting business opportunities in strategic countries and sectors. Apex-Brasil also organises a wide range of webinars to update companies about market access opportunities as well as facts and issues affecting Brazilian trade and investment.

However, there is no dedicated guide on exporting and importing for MPEs, in particular. The Invest & Export website includes information mostly relevant to foreign companies wanting to do business with Brazilian companies, while the Basic Guide to Exporting Services makes only one reference to MPEs in relation to a programme offered by SEBRAE. As MPEs face many challenges in entering foreign markets, it would be useful to disseminate to this business segment the whole range of information on MPE-specific training and capacity-building programmes, simplified export and import facilitation regimes, export financing instruments, and tax incentives for exporters. The document should be organised to provide a clear journey able to navigate users through the different stages of the export process.

Another initiative of the federal government to profile Brazilian companies in international markets is the online and searchable directory called "Showcase of Exporters" (*Vitrina do exportador*). This is offered for free to Brazilian companies, which can customise their information in the directory (in Portuguese, English and Spanish), including product photos and specifications and contact information for foreign buyers. In 2018, there were 3 600 companies in *Vitrina do exportador*, only 10% of which were active exporters. This suggests underuse of the service, the reason for which should be explored to strengthen take-up.

Export training programmes

There is an adequate supply of export training

There is an adequate supply of opportunities for entrepreneurs to learn about exporting. A number of these opportunities are accessible through online portals, while others are offered in face-to-face classrooms. Some of the export training programmes cover basic issues, while others are more intensive courses offering training in combination with coaching. The Ministry of Economy, SEBRAE and Apex-Brasil are the main institutions involved in export training.

The Ministry of Economy and SEBRAE both offer basic export training

"Learning to export" (*Aprendendo a exportar*) is a website that explains the operational procedures of exporting.[6] The website has been in place for many years and, more recently, has integrated the PNCE. Visits to the site average about 20 000 per month, which suggests a relatively high degree of interest. To further evaluate the effectiveness of the site, further analysis on the visitors would be useful, such as demographic characteristics, time spent on the site, number of reviewed components, etc.

SEBRAE offers the Internationalisation Programme for Micro and Small Enterprises, which is aimed at both exporting and non-exporting companies. The first step is to complete an online diagnostic tool on SEBRAE's website that assesses the level of export-readiness of the company. In 2018, almost 400 MPEs filled out this form, most of whom received a very low score. Based on this assessment, MPEs are offered subsidised consultancy support (up to 70% of the cost), normally used to improve internal production processes and product labelling. Overall, this looks an interesting programme that should be aggressively promoted among MPEs, given their very low contribution to national exports.

SEBRAE also offers online courses ranging between 10 and 20 hours through which MPEs are introduced to export procedures. The major advantage of online courses is that the training is easily accessible across the entire country. However, online delivery does not compensate for the advantages of face-to-face workshops where entrepreneurs can question the instructor and benefit from the exchange with other participants. SEBRAE could consider adding a webinar component to the offer of online courses, which would enable participants to engage in dialogue with an instructor.

Apex-Brasil's Export Qualification Programme aims at SMEs that have never exported

One of the most comprehensive export training programmes in Brazil is Apex-Brasil's Export Qualification Programme (*Programa de Qualificação para Exportação*, PEIEX). PEIEX targets all company sizes, but primarily SMEs that have never exported. It is implemented in regions where there is a density of companies with export potential. In these locations, Apex-Brasil partners with universities, technology parks and industry federations that bring together experts who are properly trained in the PEIEX methodology to help companies prepare to export. Each PEIEX-trained professor handles 12 companies per year.

Some of the training is delivered in group sessions, but most of the programme consists of PEIEX technical experts visiting each enterprise (Apex-Brasil, 2018). The expert first identifies the company's exporting potential (first visit) and then evaluates the export-readiness of the business and designs a work plan to support the export activity (second visit). At the end of 6 months, SMEs with an exportable product are given the opportunity to participate in international trade missions and match-making opportunities organised by Apex-Brasil and its partners. Participation in PEIEX is free of cost to SMEs. In 2018, PEIEX served 7 258 SMEs, about 15% of which were already exporters, while the rest was not exporting at the time of the training (Apex-Brasil, 2018).

Several actions have been taken to improve the performance of PEIEX. The programme has expanded in more Brazilian states, using a methodology that has looked at industrial density, number of industrial establishments and productive vocations. The programme has also adopted a more rigorous definition of the profile of SMEs that can join the programme, improved the criteria to choose the PEIEX partners and redefined targets (e.g. the number of companies served and not the number of services) (Apex-Brasil, 2018). Finally, in 2018, Apex-Brasil introduced a new objective of tracking the conversion of participants from the

Export Qualification Programme (training) to trade promotion activities (e.g. missions and trade fairs), to new exporters (i.e. success in exporting).

Since 2008, over 20 000 companies have completed the PEIEX Programme. However, there are few metrics on the export performance of these companies, such as the percentage that started exporting and the percentage that persisted with regular exporting activity. Attempts to monitor the conversion of participants from training through trade promotion to active exporting will provide valuable data for assessing the effectiveness and impact of the programme, although it might be difficult to catch the export evolution of those companies that export through commercial exporting companies (*comerciais exportadoras*).[7]

Apex-Brasil also offers online export training

Apex-Brasil also manages a web platform offering online export training, i.e. "Passport to the World". It provides access to up-to-date knowledge about export, business internationalisation, FDI attraction and strategic markets. Visitors can undertake training independently through webinars and online courses, which cover issues such as operational and strategic export processes, business opportunities abroad, and international expansion strategies.

Apex-Brasil could launch other programmes to encourage further SME exports

One of the objectives of the PNCE is to enable one-time exporters to become regular exporters. Apex-Brasil should explore other possible programme options to achieve this goal. One, for example, could be to identify SMEs from the exporter database that have the potential to become regular exporters (sorting them by state and sector) and offer them further diagnostics and mentoring support. This activity could be executed in collaboration with SEBRAE, if the company is an MPE.

In addition to the group-based (and online) training approach to help SMEs move up the export path, many SMEs will likely need to upgrade their production capacity and improve their product quality. Thus, in addition to information, training and advice, SMEs will need access to financing to be able to undertake these improvements. Presently, such targeted financing programmes are not readily available (see section on export finance) and could be facilitated by BNDES with technical support from Apex-Brasil.

Apex-Brasil could also explore the option of encouraging the formation of SME export consortia that have been successful in other countries (e.g. Argentina, Italy, Mexico and Spain). In this approach, groups of SMEs with similar products and distribution channels are helped to form consortia to reach export markets that they would not be able to reach individually. Mexico provides an example of how SME export consortia can be supported (see Box 6.1).

Box 6.1. International learning model – Mexico's Export Consortia Programme (*RedExporta*)

Description of the approach

ProMéxico is Mexico's federal government agency responsible for promoting Mexican exports and attracting foreign direct investment. Its programme *RedExporta* encourages groups of SMEs to form an export consortium to create synergies in their exporting activity. The objectives are to increase the number of Mexican exporting companies, strengthen existing exporters, and diversify export markets through formal business partnerships. By partnering up and pooling their know-how and resources, SMEs can overcome many of the obstacles they face in exporting, such as inexperience in international markets and in identifying efficient distribution channels, limited access to information, inability to meet the requirements of international buyers, and financial and regulatory limitations.

RedExporta covers the costs of hiring consultancy services (up to MXN 250 000) to start, guide and organise a formal association of companies in the same sector or product line, preferably with the same distribution channel abroad. The support must be requested by a group representing at least five SMEs, to a maximum of 15 companies (with at least one of the SMEs being an experienced exporter). In 2016, there were 30 export consortia in *RedExporta*. In the 2016-18 period, 20 new export networks were expected to emerge as well as the consolidation of the existing 30.

RedExporta consortia may also obtain advice and funding support from ProMéxico for packaging, technical assistance in the production process, participation in trade fairs, consultancy for international trademark registration, legal advice on the preparation of international contracts, and consultancy for the development of an e-commerce and digital marketing strategy.

Network managers must file quarterly reports on promotional activities and biannual reports on export sales. Both *ex ante* and *ex post* data are collected on each participating company in the consortia, and the performance of *RedExporta* is measured against the number of promotional actions undertaken, the number of companies benefiting from such activities, the effectiveness of such activities in terms of increased export, and the level of satisfaction of companies with the support received.

Success factors

The success of an export network depends on a number of factors. SMEs in the network should be of similar size, have similar economic capacity, share quality control mechanisms, and have an export mentality, but their products and services should not compete directly against each other. Assessing the level of competitiveness of each SME's products and services is a critical step in determining the training and technical assistance needs of the consortium. ProMéxico employs its export check-up for this purpose.

SMEs must know their partners reasonably well and be able to communicate their respective needs and what they hope to achieve by participating in the project. This involves group sessions in the initial phase of formation to provide opportunities for each SME to present its products and/or services, visit the plants of the other interested parties, take part in training courses and, where possible, participate in an international fair, either in Mexico or abroad, as a group. It is also important for SMEs to hold frequent meetings to collectively define the goals of the network, as well as to agree on member contributions, criteria and rules for the admission of new members, and dispute settlement mechanisms. The external consultant hired to guide the group in forming the consortium and making these decisions is a critical aspect. The continuity and success of the network hinge on the agreements reached at the beginning of the process.

Obstacles and responses

One of the main problems faced in earlier versions of this programme was the lack of resources to engage an external manager or consultant to mediate between the partners of the consortium and to develop a plan of action for the consortium as a whole. Appointment of one of the members of the consortium as the manager tended to create a lack of trust among the other SMEs and raise doubts as to the manager's commitment to putting the group's needs above those of his/her own company. This weakness has been overcome by making a grant available to each approved consortium for the hiring of an External Export Manager.

Relevance for Brazil

The specific aim of export consortia is to work with a cluster of SMEs to achieve efficiencies in bringing their products and services to foreign markets. The concept of working with clusters is not new to Brazil. Business clusters – *Arranjos Produtivos Locais* (APLs), as they are called in Brazil (see Chapter 8) – have long been supported by the federal and state governments with training and consulting focused on solving common business challenges. The export consortia approach could be integrated within the context of existing APLs to facilitate the export of APL-based companies.

For further information

ProMéxico (2016a), *Creating Synergies to Compete – RedExporta: A Programme for Creating and Strengthening Export Networks in Mexico*, Mexico City.

Finally, Apex-Brasil could develop an account management system for those SMEs which are regular exporters to help them export more and in more diversified markets. The role of an account manager would consist of following closely the activity of regular exporters and provide tailored advice and solutions from within the government or from the external community of business advisors. A similar programme, for example, has been developed in Scotland to support growth-oriented companies (see Box 6.2).

Box 6.2. Scottish Enterprise's account management system

Scottish Enterprise is the Regional Development Agency of Scotland. Scottish Enterprise has developed an account management system to support more closely those local companies which have the potential to grow fast, create jobs locally and enter international markets. The account management process is facilitated by an account manager, who is a single point of contact who provides/co-ordinates one-to-one advice and guidance to a strategic contact(s) within the client company. The account manager has access to a team of experts within Scottish Enterprise or through external consultants who can offer advice across key areas for business growth, such as access to finance and investment, innovation, market development, and organisation and strategy development. Bespoke support is provided against agreed growth projects or against another clear rationale for Scottish Enterprise's intervention (e.g. to retain employment in companies going through a phase of restructuring but considered strategic to the local economy).

Source: Upper-Quartile (2013), *Evaluation of Scottish Enterprise Engagement with Account Managed Companies*, http://www.evaluationsonline.org.uk/evaluations/Search.do?ui=basic&action=show&id=530.

Export development of women entrepreneurs

Apex-Brasil is actively promoting the presence of women entrepreneurs in international trade

Apex-Brasil was the first to recognise in Brazil the opportunity for bringing more women-owned and women-led businesses into the exporting arena when it launched the "Women's Leadership in Exports" category in the 2014 Apex-Brasil Award. It subsequently supported the 2015 Women Vendors Exhibition and Forum in São Paulo and participated in the programme of the VII Women Entrepreneurs Forum organised by *Rede Mulher Empreendedora* (see Chapter 5).

In 2016, Apex-Brasil launched its Women in Export Project with the goal of sensitising and empowering 2 000 female-led companies to export over two years. Through the programme, women producers are made aware of export opportunities, offered export qualification training, and invited to participate in international trade missions. In the first few months of the programme, and through co-operation with the RME, 1 360 companies were introduced to the export topic. An additional 401 women-led companies participated in Apex-Brasil's export qualification actions, such as PEIEX and others. Of the companies supported by Apex-Brasil in 2015 and 2016, 3 500 were owned or led by women.

Apex-Brasil also makes special efforts to link Brazilian women-led companies to platforms that connect them with international buyers. Two examples are the She-Trades platform of the International Trade Centre (ITC), which connects international buyers to companies led by women, and WE-Connect International, an institution that certifies women-owned businesses as qualified suppliers to international buyers concerned about diversity in their supply chain.

Trade facilitation

Both large and small firms stand to benefit from trade facilitation, although empirical evidence shows that the impact is greater on smaller firms (OECD, 2017a). Thus, trade facilitation has the potential to help SMEs integrate into global markets through lower trade administrative costs, such as those related to compliance with customs procedures.

Since the establishment of the National Trade Facilitation Committee (CONFAC) in mid-2016, Brazil has made significant progress in implementing trade facilitation measures, leading among Latin American countries in most trade facilitation policy areas (OECD, 2017b). It has seen substantial reductions in international trade regulations, the number of licenses and procedures required for importing and exporting, and improved competitiveness in port logistics.

Under the World Trade Organization (WTO) Trade Facilitation Agreement, CONFAC is required to seek information from business associations on improvements to the trade system, specifically on import and export procedures, which it does through the Subcommittee on Cooperation (see previous section in this chapter). In this regard, CONFAC could try to include SME representative organisations in the consultative process on trade barriers.

The Single Foreign Trade Portal is Brazil's main trade facilitation policy

The Single Foreign Trade Portal pursues a broad reformulation of the import and export processes in Brazil. The portal was jointly initiated by the former Ministry of Industry, Foreign Trade and Services (MDIC) and the federal tax agency (*Receita Federal)* – both of which are part of a super Ministry of Economy since 2019 – in collaboration with 20 other entities. The goal is to reduce export and import requirements by around 40% and increase Brazil's foreign trade flows by around 6% (CONFAC, 2018).

The Single Portal, developed within the framework of the Integrated Foreign Trade System (SISCOMEX), brings together information on export and import procedures and centralises the interactions between government and operators, using automation and information technology tools. The single interface with government and the provision of harmonised information reduces the operational costs related to import and export transactions, including the faster release of cargo and unified goods inspections.

New international co-operation agreements are supporting trade facilitation

The Ministry of Economy and the UK Foreign and Commonwealth Office (FCO) signed, in August 2019, a Memorandum of Understanding on Prosperity Fund Cooperation on Trade Facilitation. This Memorandum covers different areas including intellectual property, trade regulations, ports and the accession of Brazil to the OECD. One component of the agreement also intends to "create a more inclusive foreign trade environment by supporting more SMEs to export, import and participate in global value chains". This objective is pursued through the support of existing government programmes aimed at SME internationalisation.

A simplified export regime for MPEs, Simples Exportação, has had limited success and could be phased out

As noted earlier, small companies stand to benefit even more than larger companies do from trade facilitation. With this in mind, and in compliance with the preferential treatment that the Brazilian Federal Constitution grants to micro and small companies with annual gross revenues below BRL 4.8 million (*micro e pequenas empresas*, MPEs), the federal tax agency (*Receita Federal*) issued in 2016 normative instructions for the introduction of a simplified export regime for MPEs.

This simplified export regime, which was called *Simples Exportação*, hinged on two main pillars:

- A Simplified Export Declaration (*Declaração Simplificada de Exportação*, DSE) applicable to MPEs opting for the Simples Nacional preferential tax and regulatory regime (see Chapter 3) and whose export shipment did not exceed USD 50 000 in each consecutive six-month period.
- Simplified operational procedures, to the extent that the latter could be carried out directly by the exporting MPE listed in the Export Register or by a qualified International Logistics Operator that would be authorised to perform all of the necessary export procedures on behalf of the MPE.

Receita Federal estimated that the use of certified logistics operators could increase the MPEs' share in Brazilian exports from 0.8% to around 5% of the total; however, there are little signs that this has happened. In 2015, the MPE share of the export volume was 0.51% but in 2017, had only increased to 0.54% (see Chapter 2).

Given the small DSE shipment threshold of USD 50 000 (over a six-month period), it is not surprising that three-quarters of DSE users in 2017 were MPEs. However, this amounted to only 2 200 MPEs, i.e. one-quarter of the total 9 000 exporting MPEs. In terms of volumes, only USD 23.3 million of exports took place through the DSE in 2017 (SEBRAE, 2018a).

The policy to develop a door-to-door logistics system to facilitate the exports of micro and small companies had a reasonable intent, but it was not informed by a preliminary analysis to understand the specific problems that small companies might face in the use of this system and how these problems could best be addressed. In the end, it turned out to be difficult for the federal tax agency to administer the "authorised logistical operator" component of the programme. Part of the reason was the lack of adequate consultation with MPEs and logistics operators on the mechanics of the regime. Only a few logistics operators (large courier and express shipment companies) were authorised under the scheme by *Receita Federal*, mostly because registration rules were seen as too complex by smaller operators. In particular, this involved the limitation of providing the special logistics services only to MPEs in the *Simples Nacional* regime whose shipping requirements did not exceed USD 50 000 over a consecutive six-month period. These restrictions curtailed the market opportunity for the authorised logistics companies in giving priority to this business segment.

In addition, few MPEs showed interest in the policy, which was the outcome of the sector concentration of Brazilian MPEs in trade and traditional manufacturing of heavy items (e.g. furniture); the overall cost of exporting, especially by air; and the limited percentage of MPEs with the capacity to export. Lack of adequate promotion of the scheme to MPEs, as well as their general low knowledge of exporting, may also help explain the limited take-up of this policy.

De facto, as of mid-2019, *Simples Exportação* could already be considered dormant legislation. In October 2018, the DSE was replaced by the Single Export Declaration (*Declaração Única de Exportação*, DUE), a new export customs clearance document for all exporting companies regardless of their size. In addition, the DUE regulations state that in cases where the export shipment is by an express or postal delivery operator, an international express transport company or other logistics operator, this third party shall act as the declarant in the export operation. This suggests that the export shipments of MPEs, as well as exporters of all sizes, can be facilitated by these third-party arrangements.

It follows that it could make sense for the federal government to phase out *Simples Exportação*, especially considering its limited use so far. With respect to trade facilitation,

it is probably more sensible to set rules that are simple for everyone, whereas micro and small companies will benefit more from other targeted policies discussed in this chapter, from access to export-related information to export training, from export finance to supplier development programmes.

Nonetheless, under the DUE, it will be important for the revenues and customs officials to collect data on the size of exporting companies to measure the proportion of MPEs among all exporting companies and their share of domestic exports in relation to the total. As well, further research and analysis of the trade facilitation barriers facing Brazilian MPEs would be worthwhile.

Export financing

The CAMEX Export Financing and Guarantee Committee (COFIG) is in charge of setting the terms and conditions of financial assistance to Brazilian exports. This includes overseeing the Export Financing Programme (*Programa de Financiamento às Exportações,* PROEX) and the Export Guarantee Fund (*Fundo de Garantia à Exportação*, FGE).

PROEX, implemented by *Banco do Brasil*, supports the export of Brazilian goods and services. It offers two forms of export support: i) PROEX Financing: this consists in direct financing (short-term or long-term) to the Brazilian exporter or to the importer of Brazilian goods (for up to 85%-100% of the export value); and ii) PROEX Equalisation: this instrument helps to offset the cost of credit obtained by either the exporter or the importer from a financial institution to finance Brazilian exports. However, the minimum revenue threshold of BRL 60 million per year that is necessary to qualify for PROEX financing makes most SMEs ineligible for this programme.

Aside from PROEX, there are three main export financing instruments that are relevant for SMEs: PROGER Export, BNDES's direct export credit, and export credit guarantees.

PROGER Export is the main export financing tool for micro and small enterprises

Funding for PROGER Export is allocated to *Banco do Brasil* from the Worker Support Fund (*Fundo de Amparo ao Trabalhador*, FAT). Through the programme, *Banco do Brasil* extends credit (of up to BRL 600 000 per transaction in national currency) to small enterprises with gross annual revenues of up to BRL 10 million, for the purpose of financing the production of goods for export (pre-shipment mode), as well as expenses related to export promotion. The credit line offers a competitive interest rate, a payment term up to 12 months, coverage of 100% of the export value or trade promotion expenses, a zero-tax rate on international financial transactions, and possibility of a supplementary credit guarantee from the Microenterprise Support Fund.

BNDES's export credit reaches few companies

BNDES offers three export financing solutions in which SMEs can participate: i) BNDES Exim Pre-shipment (direct credit to the exporter through a financial agent); ii) BNDES Post-shipment (both supplier and buyer credit); iii) and BNDES Exim Automatic, which offers importers of Brazilian goods access to BNDES financing through banks in their home countries.[8]

BNDES's export credit products are well-conceived and useful; however, they reach only a very small number of SMEs, making their impact limited. In 2017, SMEs accounted for about 60% of the 1 500 exporters served by the pre-shipment credit line and for 40% of the over 100 companies which had used Exim Automatic (BNDES, 2018).

Export credit insurances for SMEs should be scaled up

The Export Guarantee Fund (*Fundo de Garantia à Exportação*, FGE), which is operated under the responsibility of the Ministry of Economy, is financed through federal resources and through proceeds from the Fund's own operations. The FGE supports the Export Credit Insurance (*Seguro de Crédito à Exportação*, SCE), which offers guarantees for export credit transactions against commercial, political and extraordinary risks that may affect the exports of Brazilian goods and services. As such, the government essentially plays the role of a "guarantor of last resort" to banks responsible for financing Brazilian exporters.

The Brazilian Guarantees Agency (*Agência Brasileira Gestora de Fundos Garantidores e Garantias*, ABGF) is responsible for structuring, managing and monitoring the guarantee operations, based on a contract with the Ministry of Economy. One of the FGE/SCE products is specifically meant for SMEs, *i.e.* the SCE/MPME which was started in 2015.

To be eligible for this product, companies must meet the definitional criteria set by CAMEX.[9] No minimum transaction amount is required for this product, with the credit insurance that can cover the credit risk of all export transactions, both pre-shipment and post-shipment risks. One-third of the requests for SCE/MPME come from exporting companies (i.e. insurance against their own financing) and two-thirds from banks issuing credit to exporters. The default rate, as of early 2019, averaged 20% for the whole FGE/SCE portfolio and 15% for SMEs, although it was higher for certain riskier countries.

The use of SCE/MPME peaked in the first quarter of 2017, when it insured export transactions of USD 13.5 million, but dropped to USD 5 million in 2018. Budget constraints limit the number of projects that can be insured; in fact, the SCE/MPME insurance is not self-sustaining, to the extent that premiums and fees do not cover the administrative costs and indemnifications of the programme.

The SCE/MPME product not only is limited in scope, but it is also encumbered by processing issues at the Ministry of Economy, which are the result of fiscal responsibility rules that could nonetheless be simplified (e.g. collecting premiums and distributing pay-outs on guarantee defaults). There also needs to be improvements in the risk assessment and pricing methodologies of SCE/MPME if this export credit insurance is to be used more widely.

Finally, educating SMEs on the use of export credit insurances also remains a challenge. In 2018, the ABGF was carrying out an analysis of the experience of companies that used this type of insurance compared to others that did not. This assessment could offer insights on the incremental impact of export credit insurances on the export activity of SMEs and could help build the case for increasing budgetary resources for this credit policy instrument.

Tax-based export incentives

Tax-based export incentives should be made more predictable

Brazil operates a Special Regime for Re-integration of Tax Values for Exporting Companies (*Regime Especial de Reintegração de Valores Tributários para as Empresas Exportadoras*, REINTEGRA), which is also meant to encourage exporting. REINTEGRA allows eligible exporter companies to recover residual tax costs incurred in the export production chain through a tax credit of 0.1% to 3% of their total export revenues, depending on the year and type of products exported.[10] The government has, indeed, the prerogative to set the amount of the tax credit on an annual basis,[11] which however adds an element of unpredictability to this policy, making it difficult for eligible companies to do

long-term export plans. The REINTEGRA percentage tax credit should preferably be stabilised to facilitate long-term export planning by Brazilian companies.

E-commerce and online trading

E-commerce can go a long way in boosting SME exports

An important option for increasing the export activity of SMEs is by increasing their capacity to sell online. For example, the UN Economic Commission for Latin America and the Caribbean (ECLAC), based on survey data on cross-border e-commerce by firms in the LAC region, shows that firms selling online have more diversified export markets, with 49% selling to three or more markets, compared to 12% of firms exporting only through traditional channels (ECLAC, 2018). Thus, engaging more SMEs in cross-border e-commerce can help diversify export markets in Brazil, one of the objectives of the PNCE.

Chapter 2 of this report shows that a lower proportion of Brazilian companies has a presence online through a company website than any OECD country, although 21% of small enterprises (10-49 employees) report having received orders online, above the OECD median value of 19.6%. A 2018 SEBRAE survey on the digital transformation of MPEs additionally reports that 23% of the interviewed companies sell their products online, although 43% have a website (SEBRAE, 2018b). There is, therefore, the potential for expanding the use of e-commerce by SMEs in Brazil starting from a relatively good initial base of information and communication technology (ICT) and Internet business users.

In March 2018, the government established an Inter-ministerial Committee for the Digital Transformation, which was co-ordinated by the Civil Office of the President of the Republic and tasked with reviewing legislation and regulations on the digital economy, including those affecting e-commerce. A Subcommittee on Electronic Commerce and Exports was also formed to propose actions that could foster the use of domestic and international e-commerce. Key actions in the 2018-19 Subcommittee's work plan are: establishing agreements and partnerships with international marketplaces, supporting the development and use of digital means of payment, and integrating logistics and taxation within the context of e-commerce. The Subcommittee is also in charge of developing actions to support SMEs in e-commerce.

Apex-Brasil is the main institutional player in e-commerce support

Apex-Brasil has been one of the first government entities to offer e-commerce support for SMEs, with the launch in 2017 of the e-Xport Brazil programme, whose aim is to raise awareness among Brazilian companies of business opportunities in e-commerce.[12] This programme includes training and mentoring on how to develop an appropriate global marketplace strategy; preparation of market intelligence studies; promotion of strategic partnerships with main e-commerce players; and individualised consultancies (Apex-Brasil, 2018). Given an analysis of the main e-commerce trends and opportunities, Apex-Brasil identified Argentina, China, Mexico and the United States as key targeted markets. In 2018, the programme had attracted interest from 700 Brazilian companies and was negotiating strategic partnerships with more than 10 marketplaces in the target countries. Apex-Brasil is also developing partnerships with Alibaba and Amazon.

Trading online vouchers could help spread the use of e-commerce

Going forward, the government could consider the use of trading online vouchers to further prompt more SMEs into e-commerce. The concept of the voucher is not new to Brazil, which already offers innovation vouchers (see Chapter 5). In this regard, the Ireland example of the trading online voucher could be of interest to Brazil (see Box 6.3).

Box 6.3. International learning model – Ireland's trading online voucher scheme

Description of the approach

The trading online voucher (TOV) scheme was launched in Ireland in mid-2014 with funding from the Department of Communications, Climate Action and Environment under a strand of the National Digital Strategy to encourage micro-enterprises (defined in Ireland as enterprises with 10 or fewer employees and less than EUR 2 million in turnover) to develop their online trading capabilities and invest in the latest digital tools to expand their markets. It is delivered by the network of 31 Local Enterprise Offices (LEOs) throughout the country. The aim of the TOV is to close the trading online gap between the largest and smallest enterprises by addressing some of the perceived barriers, including financing and know-how.

The scheme offers a financial incentive of up to EUR 2 500 on a 50-50 matched funding basis, along with training, mentoring and networking support. The TOVs target businesses with no or limited online trading presence and at least 12 months of operation. The voucher can be used to purchase Internet-related software, development of an app, development or implementation of a digital marketing strategy, ICT consultancy services, and/or training and skills development on establishing and managing an online trading activity.

It is attracting micro-enterprises, including sole traders, from a diverse range of sectors, including arts and crafts, clothing and shoe shops, food suppliers, farm producers, manufacturers, and professional services. In 2017, 1 189 micro-enterprises were awarded TOVs, bringing the total to 4 127 since mid-2014. The goal in 2018 was to award the TOV to an additional 1 500 businesses. The micro-enterprises availing of the TOV averaged around four employees.

The impact assessment of 800 businesses in early 2016 found positive results:

- Users experienced an average increase in sales of 21%.
- 84% experienced an increase in customer enquiries.
- 73% reported that the new online business did not displace existing sales, but actually generated additional sales.
- 60% of the businesses began to export.
- 89% said that the trading online component would become a more important component of their business in the next 6 months.

Success factors

The success of the scheme is based on a number of factors. The first refers to the efforts of the LEOs to promote the scheme through a series of information sessions across the country. These sessions covered a range of topics, including developing a website, digital marketing, social media for business, and search engine optimisation. On a regular basis, the LEOs also offer trading online seminars during which business owners are given tips on selling online, followed by an explanation of the TOV scheme. To apply for a TOV, the business owner has to first attend one of these seminars.

Second, the LEOs were also able to provide referrals to e-commerce training providers and expert consultants with whom the voucher recipients could engage to receive the support most suited to their needs.

Obstacles and responses

Creating widespread awareness among micro-enterprises was necessary to promote the TOV scheme and interest in learning more about the benefits of trading online and how to establish their own online presence. To promote the programme, the LEOs delivered information seminars in their communities, which initially reached over 10 000 businesses.

Feedback from stakeholders has also suggested that the value of the voucher is too low considering the amount of professional assistance that may be required. Ireland is considering increasing the voucher value for micro-enterprises, although it is cognisant of the cash flow implications for the smallest firms given the matching contribution requirement. Finally, it is also being considered to allow enterprises to receive a second voucher to consolidate further their e-commerce capability and online presence.

Relevance for Brazil

In 2018, retail e-commerce sales in Brazil amounted to approximately USD 25.4 billion, and are projected to grow to USD 32.6 billion by 2022. If SMEs can be more aggressively supported in developing their e-commerce capabilities and use of digital platforms and marketplaces, this would generate increased sales from both domestic and export markets. A trading online voucher scheme could help Brazilian SMEs to engage in e-commerce and expand into international markets.

For further information

Local Enterprise Office, Ireland (https://www.localenterprise.ie/Discover-Business-Supports/Trading-Online-Voucher-Scheme-/); Department of Communications, Climate Action and Environment (DCENR), Dublin at: https://www.dccae.gov.ie/en-ie/communications/topics/Digital-Strategy/trading-online-voucher-scheme/Pages/Trading-Online-Voucher-Scheme.aspx/; DCENR (2016), *Growing Small Business through Online Trade: Enterprise Impacts of the Trading Online Voucher Scheme*, https://www.dccae.gov.ie/en-ie/communications/publications/Pages/Online-Trade-Impact-Report-May-2016.aspx/.

Supplier development programmes

Supplier development programmes, including MNE-SME linkages, should be more actively supported

Brazil is much less integrated into global markets than other large emerging economies (OECD, 2018). This reflects several decades of inward-oriented policies, including an industrialisation strategy through import substitution. Trading little, Brazil has remained on the side-lines of global value chains (GVC) (see also Chapter 3).

So far, there has also been limited focus on SMEs in Brazil's FDI attraction policies, although this topic is increasing in importance as specific chapters on SMEs are being negotiated into regional and bilateral trade agreements. Stronger linkages between multinational enterprises (MNEs) and local SMEs typically benefit SMEs by exposing them directly to foreign technology and indirectly to foreign market knowledge. Brazil has some examples of supply chain initiatives targeting SMEs, but these are not sufficiently

focused on integrating SMEs into the supply chains of exporting firms or Brazil-based MNEs. In fact, there is a feeling among some policymakers that favouring linkages between MNEs and local SMEs could result in "selling out" domestic enterprises to foreign companies.

Brazil's main supplier development initiative is SEBRAE's National Productive Chain programme, which aims to bring small enterprises into supply relationships with large domestic companies. In this programme, SEBRAE and the large company (anchor firm) jointly define the product or service requirements that need to be met by suppliers. Subsequently, SEBRAE develops together with the potential small suppliers an action plan to meet such requirements, which could include training courses or tailored consulting services. When the small businesses are ready to become suppliers, they are matched to the anchor firm.

This programme has hitherto supported more than 255 projects in 25 States, benefited 65 000 small businesses and 170 medium and large partner companies, and resulted in BRL 6.6 billion worth of business (SEBRAE, 2017). Although an evaluation of the programme in 2014 produced favourable results, both for the participating small businesses and the anchor firms, it did not consider the contribution of small business suppliers to export outcomes, either indirectly or directly (SEBRAE, 2014).

An improvement to the programme would be to target large export-driven MNEs among the selected anchor firms, with the objective of exposing domestic SMEs to foreign technology and global supply chains. The example of the ACT model in Mexico could be of inspiration for Brazil (see Box 6.4).

Box 6.4. International learning model – Mexico's Model for Alliances with Transnational Companies (ACT)

Description of the approach

The Model for Alliances with Transnational Companies (ACT Model) was designed by the federal government of Mexico with the express purpose of increasing the domestic content of the products exported by the MNEs in Mexico, improving the participation of Mexican SMEs in global supply chains, and attracting more FDI into the country. *ProMéxico*, the export and investment promotion agency of Mexico, works with over 50 MNEs under the ACT Model mechanism, focusing primarily on automotive, auto parts, aerospace, electrical, and metal-working sectors.

The ACT Model tracks the production processes of Mexico-based MNEs so that it can identify domestic SMEs best suited to meet the supplier needs of these MNEs. *ProMéxico* officials first conduct a series of interviews with the MNE to better understand its supply requirements, its plans to open up new manufacturing lines in Mexico, purchase targets, types of input materials, and the minimum supplier requirements. Upon agreement to participate in the programme, the MNE submits its specific requirements to *ProMéxico*. Based on this intelligence, the ACT programme develops a shortlist of suppliers, which involves a technical inspection of the potential suppliers' plants to assess their inputs, machinery, production processes, capabilities and capacity. Once the MNE has selected the potential suppliers, the MNE and *ProMéxico* schedule business meetings with the shortlisted companies and conduct plant visits. The MNE makes its choices, provides an

estimate of purchase figures, and submits a project proposal to the *ProMéxico*'s approval committee.

The ACT Model has succeeded in increasing the share of local content into Mexican exports and providing a reliable means of monitoring the productive capacities of Mexican SMEs. Between 2013 and 2015, the business volume between MNEs and SMEs within the framework of this programme was valued at about USD 13 billion, with 487 SME clients which had become suppliers.

Success factors

Key to the success of the ACT programme is the proactive position taken by *ProMéxico* to collect information on the procurement needs of MNEs and to develop a database of Mexican SMEs with a supplier profile. The shortlist of suppliers is identified from the *ProMéxico* databases of company profiles, which contains domestic suppliers meeting certain criteria, such as experience in supplying MNEs, a quality and safety culture, technological infrastructure, and trained employees with language capability. This is complemented by the efforts of *ProMéxico* teams to promote the ACT programme to MNEs and facilitate the match-making process. Another key to success is the assistance provided to suppliers to improve quality standards and technical know-how.

Obstacles and responses

Being able to match MNEs with local suppliers requires a database of domestic company profiles. Thus, one has to be put together. In Mexico, this was accomplished by collecting data from domestic manufacturing firms on a "supplier capacity profile" form. This form captures information on the supplier's main products, quality and standards certifications, main Mexican customers, and sales parameters in the last three years. Company information is also sourced by *ProMéxico* from chambers of commerce and industry and state governments.

Identifying a large number of domestic SMEs with the right supplier profile can be a challenge. *ProMéxico* overcame this challenge by offering programmes to support the upgrading and modernisation of manufacturing SMEs to help them meet the supply requirements of MNEs. This was achieved by fostering collaboration with other government agencies with mechanisms in place to promote the growth or development of suppliers, such as the national SME agency, the Foreign Trade Bank and the National Development Bank.

Relevance for Brazil

Brazil is a less open country to trade than others in Latin America and is, therefore, less connected to global value chains. In addition to further lowering tariff and non-tariff measures, Brazil could increase the participation of SMEs in GVCs by adopting a programme similar to the Mexican ACT Model. This could be facilitated by Apex-Brasil in co-operation with the Ministry of Economy, the MRE and SEBRAE, with the BNDES on the side to make financing available to SME suppliers for quality and process upgrading.

For further information

ProMéxico (2016b), *Global Value Chains: A Model for the Integration of Mexican Companies*, Mexico City.

Conclusions and policy recommendations

Increasing the number of SMEs exporting to foreign markets is a priority of the federal government of Brazil. As shown in Chapter 2, very few micro and small companies operate in international markets, which is partly the result of a large majority of them working in non-tradable sectors but also, more generally, of the limited integration of Brazil in international markets.

The National Plan of Exporting Culture (PNCE) is an important federal initiative aimed at turning non-exporters into exporters. The PNCE follows a logical framework based on five steps to lead companies to export. On the whole, it is a well-designed programme which would nonetheless benefit from more quantifiable targets, including with respect to the increase in the number of exporting companies. Alongside the PNCE there are also other export training opportunities in Brazil, notably through Apex-Brasil which operates the Export Qualification Programme.

Trade facilitation policy targeted at SMEs has mostly occurred through *Simples Exportação*, a simplified export regime reserved to MPEs under *Simples Nacional*. This regime was based on the use of a Simplified Export Declaration for export shipments not exceeding USD 50 000 in each consecutive six-month period. The use of this policy, however, has been limited and has not produced the anticipated result of increasing the participation of MPEs in Brazilian exports. The Single Export Declaration, a further simplified customs declaration that applies to all exporting enterprises regardless of their size, has recently replaced the Simplified Export Declaration, making a case for *Simples Exportação* to be phased out.

Finally, there is scope for further encouraging the use of e-commerce by SMEs and the participation of SMEs in global supply chains through nurturing stronger linkages between multinational enterprises and SMEs. Surprisingly, in fact, there is no dedicated programme to build stronger relationships between Brazil-based MNEs and local SMEs, although this could offer an important opportunity for Brazil to tap into global supply chains.

Policy recommendations on SME export policies

- Take into consideration the needs of SMEs in the trade policy dialogue within CAMEX, especially with respect to export promotion, by involving organisations such as Apex-Brasil, SEBRAE, BNDES and ABGF.
- Favour the inclusion of SME representative bodies in the consultations of the CAMEX Trade Facilitation Committee (CONFAC) with the private sector.
- Produce a Guide to Exporting for MPEs that covers special programmes, provisions, and simplified regulations that apply to this business segment (e.g. export training, export finance mechanisms, etc.).
- Implement a management information system to track SMEs participating in the National Plan of Exporting Culture (PNCE) through the exporting path laid out by the programme. In this context, set up quantifiable targets to measure how many SMEs have become active exporters after participation in the PNCE.

- Expedite the PNCE process of mapping state-level export supports in all 26 Brazilian states and the Federal District. In the process, develop a searchable web-based system of local institutions involved in export promotion.
- Set up a monitoring system to track the progression of participants in the Export Qualification Programme (PEIEX) of Apex-Brasil, from training through participation in trade missions to an active exporter status.
- Improve the risk assessment and pricing methodologies of the SME export credit guarantee (SCE/MPME) and increase its awareness among SMEs.
- Consider phasing out the *Simples Exportação* regime given its limited use among MPEs and the introduction of a new simplified Single Export Declaration applicable to all companies regardless of size.
- Stabilise the percentage tax credit under the REINTEGRA regime to make it more favourable to exporters, or alternatively give enough notice of rate changes to favour long-term export plans by companies.
- Support the creation and consolidation of export consortia in Brazil to help SMEs with similar products and distribution channels to reach export markets they would not have the resources or capacity to target individually.
- Consider offering trading online vouchers to help SMEs develop their digital capacity for e-commerce.
- Use supplier development programmes to promote business linkages between local SMEs and MNEs, with a view to increasing the participation of Brazilian SMEs in global supply chains.

Notes

[1] As elsewhere in the report, a distinction is made in this chapter between MPE and SME. MPE stands for *micro e pequena empresa* (micro and small business), based on the definition of *Lei Complementar* 123/2006 (annual turnover up to BRL 4.8 million). SME refers more generally to the small and medium enterprise segment, which generally goes above the abovementioned turnover threshold and up to 250 people employed, based on the OECD definition.

[2] According to *Lei Complementar* 123/2006, micro-enterprises are those with annual turnover below BRL 360 000; small enterprises those with annual turnover between BRL 360 000 and BRL 4.8 million; and medium enterprises those with annual turnover between BRL 3.6 million to BRL 30 million.

[3] Further information on export activity by firm size is presented in Chapter 2 of the report. Chapter 6 only focuses on the policy support framework for SME export promotion.

[4] Non-tradable sectors include mostly services that are locally provided and difficult to trade, such as retail trade, health or education.

[5] The client service model of the PNCE was first developed and applied in different states by Brazil's National Industry Confederation (CNI). Eventually, CNI transferred this model to the Ministry of Economy.

[6] Topics covered in the "Learning to export" website include: Why export; Planning to export; Knowing important themes (e.g. trademarks, certifications, logistics and distribution, e-commerce, export tax incentives); Identifying markets; Product suitability to the markets; Promoting the products; Negotiating with the importer; Operationalising the export; Where to get support (with links to the PNCE, the CNI International Business Centres, Apex-Brasil, etc.).

[7] *Comerciais exportadoras* (commercial exporting companies) are companies whose activities include the trading of goods.

[8] In BNDES Exim Automatic, BDNES disburses a loan to the importer of Brazilian goods through a local intermediary bank in national currency. The bank of the importer abroad, which approves the credit, makes the payment to BNDES through a representative bank in Brazil.

[9] CAMEX (by resolution in May 2015) defines SMEs as companies with revenues up to BRL 90 million and exports up to USD 3 million in the calendar year prior to the application. However, medium enterprises, with up to BRL 300 million in revenue and up to USD 5 million in exports, are also eligible.

[10] The products that benefit from this scheme include milk and its derivatives, equipment, automotive vehicles, including parts and components, steel, sugar, ethanol, meat products, fruit and nuts, plus many others. The tax benefit is only applicable to the export of products manufactured in Brazil and containing from 40% to 65% of national content, depending on its classification in the Tax on Industrialized Products List.

[11] In May 2018 the government reduced the REINTEGRA tax credit from 2% to 0.1%.

[12] SEBRAE also operates training programmes for MPEs about the use of e-commerce.

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Chapter 7. The innovative start-up ecosystem in Brazil

This chapter describes and assesses the innovative start-up ecosystem of Brazil. This ecosystem includes many public and private sector entities which collaborate well with each other. Brazil also has a sound innovation policy legal framework in which priorities are well outlined. Nonetheless, the patent system is burdened by a heavy backlog, while research and development (R&D) tax credits are virtually not available to either start-ups or innovative small- and medium-sized enterprises (SMEs). There are quite a large number of specific programmes targeted at start-ups in Brazil. Business incubators, technology parks and accelerators are widely available and have generated positive results, while open innovation programmes look promising. On the downside, there are some redundancies among certain programmes and some of them are of a very small scale.

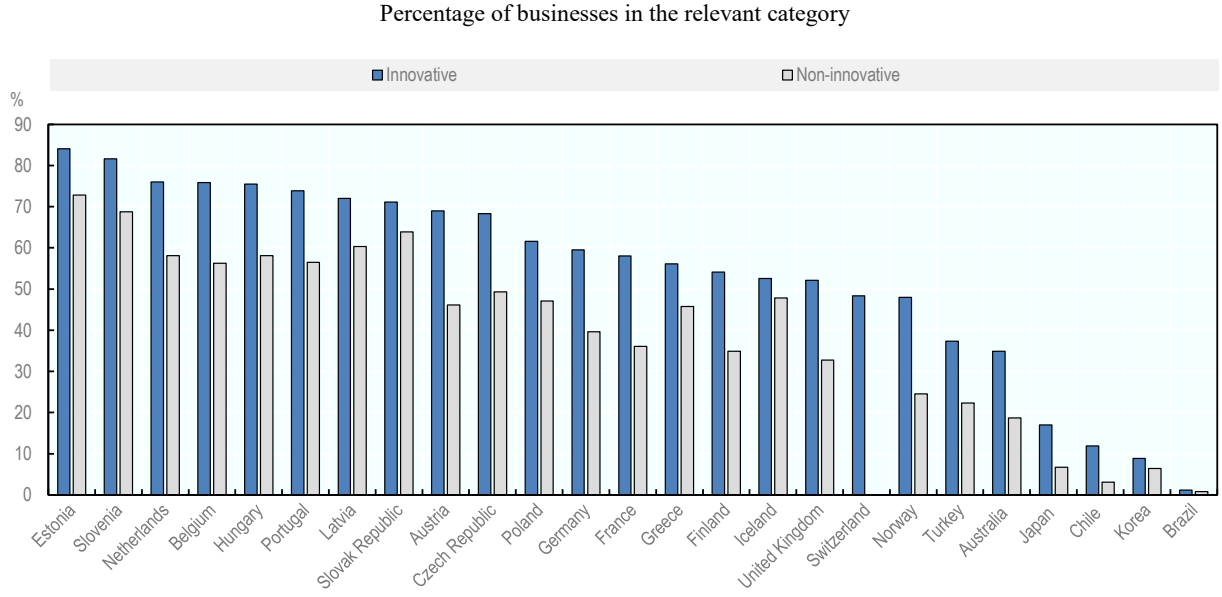
Introduction

Brazil's entrepreneurial activity is not particularly growth-oriented

Chapter 2 has shown that Brazil displays high rates of business creation and business destruction, but that high business churning is not associated with strong job creation. Furthermore, Brazil has a high rate of high-growth firms (HGFs), but most HGF employment is found in a small number of large high-growth firms and the average HGF age is not very young. Overall, this suggests that entrepreneurial activity in Brazil is not sufficiently growth-oriented.

Brazilian innovative SMEs also have limited access to international markets. In particular, contrary to other countries, innovation does not make internationalisation more likely to happen for Brazilian SMEs (Figure 7.1).

Figure 7.1. SMEs participating in international markets by innovation status, 2012-14



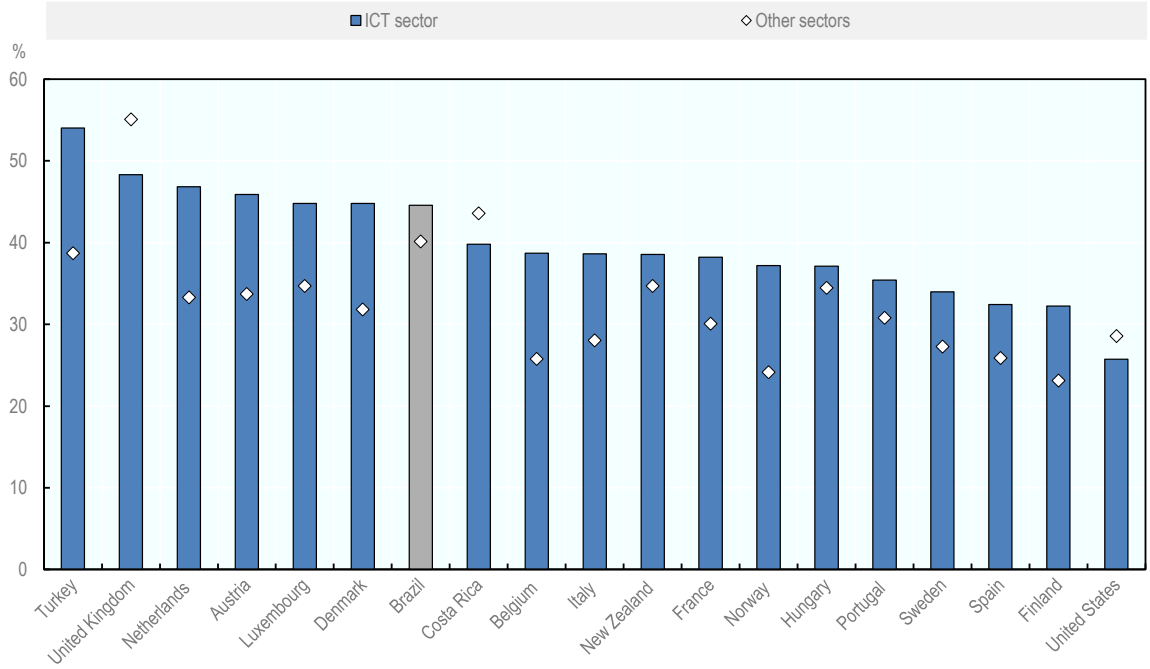
Note: SMEs are defined as companies with up to 249 employees.
Source: OECD (2017), *OECD Science, Technology and Industry Scoreboard 2017: The Digital Transformation*, https://doi.org/10.1787/9789264268821-en.

StatLink http://dx.doi.org/10.1787/888934088636

Turning to the specific sector of information and communication technology (ICT), Brazil exhibits a high share of young micro and small firms in this sector. As many as 44.6% of all ICT companies in Brazil are young and small, which is more than in many other OECD countries, although the difference between ICT and other sectors is narrower in Brazil than in most OECD countries (Figure 7.2).

Figure 7.2. Young small firms in ICT and other sectors, 2013-15

Percentage of total enterprises in ICT and other sectors



Note: Young small firms are companies that have been operational for less than 6 years and with under 50 employees.
Source: OECD (2017), *OECD Science, Technology and Industry Scoreboard 2017: The Digital Transformation, OECD Publishing, Paris,* https://doi.org/10.1787/9789264268821-en.

StatLink http://dx.doi.org/10.1787/888934088655

Brazil lacks a definition of innovative start-up

Contrary to micro and small businesses, which have long been defined by Brazilian legislation, only very recently a debate on a possible legal definition of start-ups has started to burgeon among Brazilian lawmakers. Between May and June 2019, the government launched a first public consultation among relevant stakeholder organisations for the elaboration of a Legal Framework for Start-ups and Innovative Entrepreneurship. The first question discussed in public consultation concerned a possible legal definition of a start-up. While a legal definition of a start-up is therefore still in the making, existing government and policy documents point to a concept of start-up closely linked to one of the new enterprises in technology-based and digitally-focused fields. Accordingly, this is the definition of "innovative start-up" that we adopt in this chapter.

For example, the National Digital Transformation Strategy prepared by the Ministry of Science, Technology, Innovation and Communication (*Ministério da Ciência, Tecnologia, Inovações e Comunicações*, MCTIC) defines a start-up as an "agile, dynamic and innovative economic organisation, acting upon new business models" (MCTIC, 2018a). The government-led Applied Economics Research Institute (*Instituto de Pesquisa Econômica Aplicada*, IPEA) defines a start-up as a "nascent or new endeavour, intensive in innovation, searching for resources to create a product or a service, amidst uncertainty and risk" (Turchi and de Morais, 2017).

Government investment in science and technology mostly comes from the Ministry of Education and MCTIC, followed by the Ministry of Agriculture (De Negri, 2018). However, when it comes to business innovation, MCTIC and the Ministry of Economy are the main players. MCTIC is in charge of setting long-term national research and innovation strategies, although it also operates some targeted programmes. The Ministry of Economy (notably the Special Secretariat for Productivity, Employment and Competitiveness) is in charge with the design and implementation of specific programmes aimed at innovative start-ups and SMEs (e.g. grants, knowledge transfer initiatives, etc.). Both the MCTIC and the Ministry of Economy are supported by a large number of institutions from the private sector and Sistema S in programme implementation, as shown later in this chapter.

Key players in the start-up ecosystem

This section describes the main public and private sector players in the start-up ecosystem of Brazil and assesses the way they interact with each other in policy design and implementation.

Several ministries and government agencies are involved in the innovative start-up ecosystem

Brazil's Ministry of Science, Technology, Innovation and Communication (MCTIC) is responsible for the recently published new legal framework for innovation and for Brazil's 2018-22 Action Plan for Technological Innovation. Apart from co-ordinating scientific institutions, MCTIC also manages the national R&D tax credit programme and co-ordinates a broad network of technology parks, open laboratories, innovation centres and incubators.

At the Ministry of Economy, the Special Secretariat for Productivity, Employment and Competitiveness (*Secretaria Especial de Produtividade, Emprego e Competitividade*, SEPEC) and, within its structure, the Sub-secretariat of Innovation (*Subsecretaria de Inovação*, SIN) is the department responsible for business innovation and start-ups. Under its charter, the secretariat manages innovation programmes; interacts with other governmental organisations on intellectual property; promotes the development of credit and funding instruments as well as tax incentives for innovation; and participates in the elaboration of public policy strategy documents related to new, high-impact ventures.

BNDES (*Banco Nacional de Desenvolvimento Econômico e Social*), one of Brazil's public development banks, plays an important role in stimulating SME growth in Brazil. Between credit lines and equity instruments, BNDES offers diverse financial support mechanisms to Brazilian companies of all sizes. In 2016, the support of BNDES to SMEs reached a record high, with 53% of total business loans going to SMEs (see Chapter 3). BNDESPAR, a subsidiary of BNDES, has also committed BRL 1.1 billion to seed and venture capital funds (see Chapter 5).

FINEP *(Financiadora de Estudos e Projetos*) is the national innovation agency of Brazil and operates under the authority of MCTIC. FINEP provides support through grants and co-funding schemes (including redeemable and non-redeemable loans and equity stakes) at different stages of the innovation lifecycle. The agency finances basic and applied research, technological development, prototyping and business scale-up. It often works in collaboration with universities, public labs, companies, business angels, venture capital and private equity firms.

INPI (*Instituto Nacional da Propriedade Industrial*) is the Brazilian industrial property office, a government agency operating under the Ministry of Economy. It is responsible for

granting patents and registering trademarks, industrial designs, geographical indications, integrated circuits topography, software programmes, licenses and assignments of industrial property rights, technology transfer and franchise agreements. INPI is actively involved in cross-border collaboration with fellow patent offices. For example, through IBEPI (an Iberian American platform), the agency participates in CIBEPYME to raise SME awareness of intellectual property (IP) through technological bulletins, data on granted patents, tutorial videos and online consultancy. INPI is also involved in the PROSUL *Proyecta* initiative, an online tool which sees the participation of 13 Latin American countries and which wishes to create a meeting point where researchers, entrepreneurs and IP professionals can learn more about developing, using and transferring intellectual property rights (IPR). INPI also collaborates with its counterparts in other large emerging economies, notably through IP BRICS, an initiative that started in 2012 and has one of its six axes on IP promotion among SMEs.

ABDI (*Agência Brasileira de Desenvolvimento Industrial*, Brazilian Agency for Industrial Development) is a governmental agency under the Ministry of Economy dedicated to market intelligence and technology diffusion in industrial sectors. It focuses on bridging the gap between the current industrial processes in Brazil and new worldwide industrial trends. The agency provides grants and financial incentives to manufacturing enterprises, including start-ups, and encourages collaboration among companies of different size to increase industrial competitiveness.

SENAI (*Serviço Nacional de Aprendizagem na Industria*, National Service for Apprenticeship in Industry) is the main training organisation that caters to manufacturing and stems from the National Industry Confederation (CNI). Part of *Sistema S* (see Chapter 4), it covers 28 industrial sectors and has 2.5 million students enrolled in its courses. SENAI strengthens innovation through training and consultancy services.

SEBRAE (*Serviço Brasileiro de Apoio às Micro e Pequenas Empresas*) is Brazil's *de facto* micro and small business agency. Similarly to SENAI, SEBRAE is part of *Sistema S*, receiving public funding through the payroll system but operating at arms' length from the government. SEBRAE's constituency is micro and small companies as defined by *Lei Complementar* 123/2006 (i.e. annual gross revenues up to BRL 4.8 million), but some of its programmes also target innovative start-ups.

EMBRAPII (*Empresa Brasileira de Pesquisa e Inovação Industrial*) is the Brazilian Agency for Industrial Research and Innovation, a government agency under two different ministries, the MCTIC and the Ministry of Education. It has two essential attributions: to certify public and private technological and scientific institutions across Brazil and to award non-refundable grants to innovation projects. EMBRAPII's overarching goal is to promote collaboration between industry and higher education and research institutes.

EMBRAPA (*Empresa Brasileira de Pesquisa Agropecuária*, Brazilian Agricultural Research Agency) is a Brazilian public company dedicated to agricultural research and innovation. It operates under the Ministry of Agriculture. Among its services, EMBRAPA produces know-how on agricultural products and processes, lab analysis, technical best practices, and production methods. EMBRAPA supports innovative start-ups mostly through the transfer of knowledge and technology.

Apex-Brasil (the export and investment promotion agency of Brazil), which is part of *Sistema S*, works to promote Brazilian products and services abroad, and to attract foreign investment to strategic sectors of the Brazilian economy (see also Chapter 6). The Agency

reaches out to innovative start-ups through its activities which include, among others, trade and prospective missions and the organisation of technical visits of foreign buyers.

Private sector and not-for-profit organisations also play an important role

ABStartups is the Brazilian Start-up Association, a not-for-profit association. Among its activities, the association organises matchmaking sessions between start-ups and potential stakeholders; provides management training and mentorship services; and facilitates commercial services to start-up companies. *ABStartups* essentially acts as a platform to connect start-ups, larger companies, and investors.

Anjos do Brasil is a network of Brazilian business angels, a not-for-profit organisation. The network works with investors and entrepreneurs, offering the former access to investment opportunities and the latter advice on how to pitch business ideas and draft legal documents.

ANPROTEC (*Associação Nacional de Entidades Promotoras de Empreendimentos Inovadores*) is the Brazilian Association of Science Parks, Business Incubators and Business Accelerators, a not-for-profit organisation. Its membership includes incubators, accelerators, technological centres, higher education and research institutes, public agencies and other entities engaged in entrepreneurship and innovation.

Fundação Certi is an independent not-for-profit foundation that offers research, development and specialised technological services for the private sector, the government and the third sector. It was originally founded as a research spin-off of the Faculty of Mechanical Engineering at the Federal University of Santa Catarina. *Fundação Certi* owns research centres in eight different technical and scientific domains, specifically: mechatronics, metrology, manufacturing, entrepreneurship and innovation, advanced technologies, green economy, and renewable energy. The foundation also delivers innovation programmes on behalf of the Ministry of Economy and MCTIC.

Most programmes for start-ups are the result of inter-agency collaboration and operate through matching funds

Thanks to the presence of many public, semi-public and private sector organisations involved in the national start-up ecosystem, Brazilian programmes for innovative start-ups are often based on multi-party expertise and operate through matching funds. Nonetheless, public sector programmes and competencies sometimes overlap both at horizontal and vertical levels. This means that different bodies compete in adjacent fields and that sub-entities are not always strategically aligned with parent bodies. For example, SENAI, SEBRAE and the *Instituto Euvaldo Lodi* (IEL) all provide management training, although SEBRAE only works with micro and small enterprises, while SENAI and IEL tend to work with larger companies.

Brazil's governmental research and innovation agencies, notably EMBRAPA and EMBRAPII, are both actively engaged in programme implementation, providing scientific accreditation and academic input. However, it is not clear if they also play a relevant role in policy design, a stage in the policy cycle where better articulation with frontline players can help inform policymakers. Such an approach would also enable increased sectorial participation in programmes, to the extent that EMBRAPA and EMBRAPII operate under sectorial ministries. A stronger role could also be envisaged for INPI, which seems to be disconnected from other players in the ecosystem.

In a country of the size of Brazil, policy design and policy delivery need to be closely articulated. Local presence in the start-up ecosystem is guaranteed through the network of state and local offices of organisations part of *Sistema S*, state-level economic development

departments (*Secretarias de Desenvolvimento Econômico*, SEDE) and economic development agencies, as well as through specific national programmes, such as the National Programme of Incubators and Technology Parks (P*rograma Nacional de Incubadoras e Parques Tecnológico*s, PNI), which runs nationwide in collaboration with local institutions.

Overall, Brazil's main challenges in the governance of the innovative start-up ecosystem reside in correcting some institutional and functional redundancies, mostly in the public sector, as well as in improving intellectual property management. Moreover, additional focus on post-programme impact assessments would allow to streamline policy management and better evaluate external private sector partners.

The legal framework for innovative start-ups

This section looks at the Brazilian legal framework for innovative start-ups, that is to say, at the main legislation which affects the development of innovative start-ups in Brazil.

The National Strategy for Digital Transformation

The National Strategy for Digital Transformation was published in 2018 by MCTIC (MCTIC, 2018a). It embraces the United Nation's 17 sustainable development goals and sets out, as its main objective, to improve Brazil's standing in the World Economic Forum's Global Competitiveness Index. The strategy rests on five pillars: digital infrastructure, R&D, trust, education and internationalisation.

Innovation is a common theme across the strategy. Innovation is, for example, specifically addressed in the digital infrastructure and R&D pillars. In the first, the emphasis is on connectivity and Internet coverage, while in the second the focus is on ICT, knowledge transfer and applied innovation. Both digital infrastructure and R&D are key to the emergence of more innovative start-ups in Brazil.

The focus on connectivity and Internet coverage

Agglomeration effects around major cities have allowed rapid access to the Internet and mobile communication services for people living in urban areas, who account for 85% of the total population in Brazil. However, people living outside of cities remain isolated and frequently without access to basic, fixed and mobile, communication infrastructures. Only 40% of Brazilian households have access to fixed-line broadband services and, on average, only 50% of households have access to the Internet. The 4G technology is currently available in 51% of municipalities covering 86% of the population. However, 3G is still the main standard in Brazil.

The National Strategy for Digital Transformation envisions enhanced digital connectivity including through new public tenders for radio frequencies and mobile broadband infrastructure networks; increased 4G coverage and technical preparation for 5G networks; collaborative projects between central/urban and remote/rural regions; and investments in digital data storage capacity.

The focus on business R&D

As shown in Chapter 3, Brazil's investment in R&D is equal to 1.3% of gross domestic product (GDP), compared to an OECD average of 2.4%. Among the main tax incentives for R&D and innovation, the strategy identifies *Lei do Bem* and *Lei da Informática*, which

both administer R&D tax credits. Regarding additional support programmes (e.g. public grants and subsidies) those from BNDES, FINEP and EMBRAPII are singled out as the most popular. To support R&D, the strategy advocates the need for technology hubs and testbeds for experimental technologies and innovation; public procurement to induce innovation; re-visiting the legal framework for innovation and related tax incentives; public-private partnerships between higher education institutions and private sector companies; and cross-border scientific collaboration in theoretical and applied innovation.

Start-ups are identified as potential beneficiaries of the National Strategy for Digital Transformation. In agriculture, innovative start-ups are expected to benefit from EMPRAPA's 2014-34 Action Plan, which includes a specific start-up programme (*Desafios de Startups*). Digital infrastructural investments in rural areas will also help. In services, where most innovative start-ups operate, the strategy expects opportunities to be most significant in health services, financial services and logistics.

Among the main obstacles working against innovative companies, the National Strategy for Digital Transformation refers to the lack of skilled workers (supposedly a deficit of 92 000 trained people), notably computer programmers; lack of entrepreneurial attitudes; bureaucratic and lengthy procedures for company registration and liquidation; a rigid labour law; and a complex and expensive web of state-level and federal taxes (see also Chapter 3).

To address such challenges, the strategy intends to support a minimum of 200 digital start-ups per year; simplify visa procedures for foreign workers; increase public resources dedicated to digital skills; introduce a new tax framework for equity funding; support venture capital, incubators and accelerators; create a fast-track insolvency regime; reduce registration bureaucracy and open up public procurement to start-ups; promote the internationalisation of Brazilian start-ups; and develop regulatory sandboxes for innovative experimentation.

The Action Plan for Technological Innovation 2018-22

A very small share of the national labour force works on R&D

The MCTIC published the Action Plan for Technological Innovation in 2018 within the framework of the National Strategy for Science, Technology and Innovation, 2016-22 (MCTIC, 2018b). The Action Plan sets the context of innovation in Brazil by initially presenting some data from the national innovation survey (PINTEC) run by the national statistical office. This survey shows, for example, that the share of people working on R&D in Brazil is less than in other similar countries and is also highly concentrated in public institutions. In 2014, only 1.9 per every 1 000 occupied people were employed in R&D in Brazil, compared with 2.9 in Argentina. Of those employed in R&D, more than 70% were working for the government or public higher education institutions.

Additional data from the national innovation survey show that 36% of Brazilian companies are involved in some form of innovative activity (product/process and/or marketing/organisational innovation), but only 5.7% carry out internal R&D. Moreover, most reported innovation expenditure (about 40%) consisted of the acquisition of equipment and machinery, whereas internal R&D accounted for roughly 30%. Overall, process innovation was more common than product innovation. Collaboration in innovation was mostly established with clients and suppliers, and to a much lower extent with universities and research centres. Among businesses engaged in innovation, 40% in

industry and 36% in services made use of existing public policies (see Chapter 2 for more details on SME innovation performance in Brazil).

The Action Plan for Technological Innovation aims to make the business sector the main source of R&D investment

Against this backdrop, the Action Plan for Technological Innovation aims at different things. First, it intends to make Brazil's private sector the main engine of R&D investment. Second, it focuses on bridging the distance between academia and industry. Third, it aims at enhancing the technological content and international specialisation of the Brazilian economy. The Action Plan sets goals and actions in four areas, including the innovation legal framework, the entrepreneurial ecosystem, incentives for technological development and innovation, and innovation management. Concerning the entrepreneurial ecosystem, start-ups are meant to be mostly supported through public-private collaborative efforts, IP protection, and access to venture capital finance.

R&D tax credits through Lei do Bem should be made more easily available to start-ups

The Action Plan also addresses the lack of effectiveness of the *Lei do Bem*, a law which provides innovation-related tax benefits. This law is only applicable to companies operating in the "real-profit" corporate income tax regime, whereas Brazilian SMEs typically operate under the "presumed profit" (*lucro presumido*) corporate income tax regime or the Simples Nacional preferential regime (see also Chapter 3). In total, only 3% of Brazilian companies opt for the "real-profit" regime; of these, only 0.62% uses the R&D tax credits offered by the *Lei do Bem*. Currently, the only practical way for innovative start-ups to make use of the *Lei do Bem* is to partner with larger, eligible companies and benefit indirectly through tax-exempt revenues derived from such partnerships.

In its current format, the *Lei do Bem* is not suitable for innovative start-ups, for example, because it does not include cash-refund or carry-forward provisions for those young companies which want to invest in R&D but do not have yet enough taxable income against which to claim tax credits. It would, therefore, be important to increase the period during which R&D expenditures can be deducted from the corporate income tax or to offset tax credits, presently un-collectable, against other taxes and levies paid by innovative start-ups.

The proposed shift from local content requirements to local R&D requirements comes with some risks

The Action Plan for Technological Innovation also suggests accelerating the phase-out of local content requirements (LCRs), to be replaced in some cases with local R&D requirements. This change would allow multinational enterprises (MNEs) to keep their global supply chains unchanged in exchange for investments in Brazilian R&D, which could assume the form of investments in innovative start-ups or in local venture capital funds investing in start-ups.

While this policy is well-intentioned, it would still dislodge the value chains of MNEs by targeting their internal allocation of R&D spending, thus imposing opportunity costs on foreign companies. In the specific case of mandatory R&D investments in local start-ups, they would probably not be effective if not accompanied by better intellectual property management and an upgrade in the local knowledge base. Better alternatives could be to encourage open innovation programmes led by MNEs or to seek their participation in existing private-public initiatives.

The New Innovation Legal Framework

The New Innovation Legal Framework has resulted in a revision of different laws with an impact on innovation

The New Innovation Legal Framework, which was introduced in 2016 and came into effect in 2018, is based on five fundamental pillars (MCTIC, 2018c): promoting scientific and technological activities strategic for economic and social development; promoting a triple-helix entrepreneurial ecosystem; supporting knowledge transfer and innovation; supporting innovative activities in private sector companies; and simplifying administrative procedures in science, technology and innovation projects. The new framework has resulted in a comprehensive overhaul of different laws related to higher education governance, public procurement, trade and industrial policies, and labour regulations. These legislative changes are meant to increase the agility of R&D in Brazil and to make universities more entrepreneurial and versatile.

The new framework introduces two main changes. First, it allows public sector companies to invest in private sector companies through minority equity stakes. Second, it facilitates the transfer of knowledge from public entities to private ones. Intellectual property generated by individual public sector institutions will be managed by local decentralised organisations called NITs (*Núcleos de Inovação Tecnológica*, Technology Innovation Hubs), which will be autonomous in nature and work as either public foundations or private not-for-profit organisations.

With respect to the first change, policymakers should be cautious with public equity participation in private companies, as government investments can occasionally turn into hidden subsidies. In this case, it might be better to opt for a transparent and competitive programme of government grants. On the other hand, the proposed NITs could provide an effective way to bridge the distance between public higher education institutions and private sector companies. Reality suggests that whenever investing in a university start-up, private sector investors tend to demand ownership of the intellectual property involved in the venture. NITs should not only increase the supply of intellectual property but also facilitate its marketability with third parties.

The Brazilian patent system

The Brazilian patent system is affected by a severe backlog

Brazil's patent system faces serious challenges. Patent registration backlogs go back to 10 years on average, although there have recently been some improvements.[1] In the last years, the national industrial property office (INPI) has invested BRL 40 million in IT spending, and 210 people have been hired. But, still at the end of 2018, the patent office employed only 450 researchers in IP, compared with the 810 authorised posts. Furthermore, in 2018, the agency's spending amounted to BRL 390 million, of which 80% was absorbed by staff costs, whereas revenues reached a total BRL 457 million (INPI, 2018).

Historical data point to a disconnection between scientific and technological production in Brazil. While the number of Brazilian scientific publications has grown steadily, rising from less than 40 000 in 2007 to roughly 70 000 in 2016, the number of submitted patents has remained unchanged. In 2018, INPI received 27 444 patents submissions, a number close to the one of 2008 and 17% lower than in 2014.

Submissions for patent registration are led by foreign applicants. China, France, Germany, Italy, Japan, the Netherlands, Switzerland, the United Kingdom and the United States

account for 65% of total patent submissions in Brazil. The United States alone represents 30% of the total, whereas Brazilian applicants account for only 20%. Of these, small companies account for 11% of the resident submitted patents, while individuals account for the largest proportion of the resident share (42%), suggesting the existence of entrepreneurial potential.

The backlog issue is less acute in trademark protection, where decisions are taken on average in 9 months. Most applications, 86% of the total, are submitted by Brazilian residents. Of these, 48% are submitted by micro and small businesses and 23% by individuals.

Several fast-track patent regimes have been introduced in the past to alleviate the backlog problem

INPI manages a number of special patent regimes for certain target groups. For example, *Lei Complementar* 123/2006 stipulates that INPI reduce patent fees up to 60% for micro and small companies. In response, INPI has operated since 2016 a fast-track registration scheme dedicated to this business segment (*Patentes MPE*). Three rounds have since then been launched, all of which have already been closed. Until now, 50 patents have been approved out of 253 initial applications.[2]

INPI also offers additional fast-track regimes. *Projecto Piloto Patentes ICT*, for example, was launched in 2017 for science and technology research institutions. Another related programme is INPI's *Projecto Piloto Prioridade Brasil*. This lane gives priority for international patent protection to applicants who already have a domestic patent protection procedure ongoing at INPI. In addition, INPI operates another ten mechanisms aimed at expediting patent procedures, four of which focus on minority groups, one on financial restitution linked to patent abuse, one for green patents, and one for businesses whose external financing depends on patent approval.

While fast-track regimes can help certain target groups, they hardly solve the core problem of the backlog. Furthermore, although the situation has improved in the last two years, the patent approval process is still lengthy, especially from the perspective of a start-up. As a result, as of mid-2019, existing fast-track regimes were expected to go through a review process to make them more uniform, favour the equal treatment of applicants, and facilitate the overall patent assessment process.

There are a number of initiatives aimed at modernising INPI

To address the backlog problem, INPI, with support from the Ministry of Economy, has recently started to work on an important restructuring project which includes four main initiatives. First, the Backlog Combat Plan aims to reduce the backlog by 80% in two years through, *inter alia*, improving the productivity of patent examiners. Second, the IP Digital Plan aims to digitalise all services provided by INPI. Third, an agreement between INPI, ABDI and the Ministry of Economy intends to modernise the patent application process, including through the acquisition by ABDI for INPI of new network equipment, servers and storage system. Fourth, a co-operation agreement between the government of Brazil and the UK Prosperity Fund aims to redesign the whole patent examination process by introducing a quality management system.

In addition to these reforms, the experience of the Japan patent office provides a model on how to expedite the patent application process. One specific measure that proved successful was to sub-contract preliminary activities, such as research before technical decisions, to accredited private companies. Japan also hired temporary examiners for a period of

five years, with the possibility of renewal. These measures helped reduce the average time to process a patent application from 2.4 years in 2008 to 10 months in 2014.

The need for a new Start-up Act?

There is currently a public debate on whether to introduce a Start-up Act

As noted earlier, Brazil currently lacks a legal definition of a start-up. However, this gap in legislation has recently started to be addressed through a public consultation process, co-ordinated by the Ministry of Economy and MCTIC, which has seen the involvement of over 70 organisations and 160 people. The consultation was undertaken between May and June 2019 and should support the elaboration of a Legal Framework for Start-ups and Innovative Entrepreneurship.

The idea of a Start-up Act is not unique to Brazil, and a number of other countries have already introduced similar laws. Italy introduced its Start-up Act in 2012 (Law 172/2012), Spain enacted an entrepreneurship law in 2013 (Law 14/2013), and Argentina followed suit in 2016 with the *Ley de Empreendedores*. The case of Italy is presented below as a possible inspiring practice for Brazil (see Box 7.1). The main advantage of such legislation would be not only the formulation of a legal definition of start-up – which could make existing programmes more targeted – but also the possibility to undertake a review of start-up programmes to rationalise the existing policy offer. This last objective, however, can also be achieved through the preparation of a Start-up Strategy, as done by Portugal for example (see Box 7.2).

Broadly speaking, it is important that programmes for start-ups maintain a certain degree of flexibility with respect to eligibility requirements. While a normative definition can help narrow down the policy focus, flexibility in programme formulation is essential when dealing with the concept of start-up, which is more elusive and evolving than the one of a micro and small company. Nonetheless, intellectual property ownership and R&D spending are eligibility criteria that should always be found in programmes for innovative start-ups.

Box 7.1. International learning model – Italy's Start-up Act

Description of the approach

Italy's Start-up Act offers a number of special preferences for innovative start-ups, such as: dedicated digital and free of charge procedures for incorporation; exemptions from certain fees associated with business registration; tailor-made labour laws; tax-free work-for-equity schemes; tax incentives for start-up equity investors; fast-track access to the local SME guarantee fund; support from the Italian Trade Agency to access foreign markets; a start-up visa programme for non-EU citizens or student entrepreneurs; and fast-fail bankruptcy procedures (Menon et al., 2018).

Italian law sets strict criteria to identify innovative start-ups. These should be five years old or younger; be headquartered in Italy; have an annual turnover lower than EUR 5 million; not be the result of a spinout of another company or the merger of two companies; have a mission statement explicitly related to innovation; be a limited company not publicly listed; and not have distributed profits. An innovative start-up must also comply with at least one of the following three criteria: at least 15% of R&D expenditure ratio; one-third of employees are PhD students/graduates or researchers and/or

two-thirds hold a master's degree; and being the holder, depository or licensee of a patent, or owner/author of registered software (Menon et al., 2018).

Factors for success

Information on the different policy instruments is critical. In Italy's Start-Up Act there are 19 different instruments. The start-up charge reduction is the most widely known among entrepreneurs. Human capital and educational attainment of innovative start-ups' founders are also relevant factors for success, as innovation typically requires technical and scientific knowledge.

Obstacles and responses

Excessive reliance on bank loans can act as a disincentive to receiving equity finance. Thus, public guarantees underlying start-up loans should be well-balanced, and policymakers should also make sure that a deep venture capital market is available. Moreover, eligibility criteria for start-up policies should not focus on discretionary elements, but rather on innovation-related and market-driven criteria.

Relevance for Brazil

A Start-Up Act could provide structure and coherence to the existing programmes for start-ups and spur growth-oriented entrepreneurship, which is not very strong in Brazil. Furthermore, the process of preparing this act could encourage a comprehensive review of existing tax, labour and regulatory laws from the viewpoint of start-ups.

Sources for further information

Menon, C. et al. (2018), "The evaluation of the Italian "Start-up Act"", *OECD Science, Technology and Industry Policy Papers*, No. 54, OECD Publishing, Paris, https://doi.org/10.1787/02ab0eb7-en.

Box 7.2. Portugal's National Start-up Strategy

In 2016 the Portuguese government launched the National Start-up Strategy to attract national and foreign investors into the national start-up ecosystem, to co-finance start-ups (especially in the idea/early stage of development), to promote and accelerate the growth of start-ups into foreign markets and, more generally, to implement the Government's measures to foster entrepreneurship.

The Start-up Portugal+ Programme, presented in July 2018, was designed by the Portuguese government to give a new impetus to the initial strategy and to address

emerging challenges. In addition to the original 5 measures, 20 new measures were introduced.

Portugal's start-up policies are mostly focused on the digital economy and aim to support those who have already launched a new business, with a view to increasing the impact these companies can have on value generation and job creation.

Some examples of the measures part of the strategy include:

- Start-up Vouchers: they support young people aged 18-35 who have good business ideas and want to start a business. Financial support takes the form of a monthly salary (EUR 692), mentoring and follow-up by one of the national business incubators.
- Incubation Vouchers: they provide new enterprises with up to EUR 5 000 to acquire business incubation services.
- Momentum programme: it provides financial support to innovative projects that have a high-growth potential through monthly funding, free housing and incubation.
- Seed Programme: this is a tax regime for investors in start-ups. Through this measure, investors can obtain tax deductions of up to a maximum of 40% on their personal income tax, while new businesses have access to seed capital for R&D projects as well as the acquisition of intangible assets and some tangible assets.
- National Network of Incubators and Accelerators: Portugal has a network of 150 incubators and accelerators which help domestic SMEs to grow and become more competitive.

Overall, Start-up Portugal is an embracing strategy that supports entrepreneurs through the life cycle of a business start-up. Developing a similar strategy could help Brazil rationalise and systematise its existing package of policy measures in support of new start-ups.

Targeted programmes for innovative start-ups

While the previous section looked at the overall legal framework in support of innovative start-ups, this section focuses on the main targeted initiatives for this group of companies, most of which originate from the Ministry of Economy, SEBRAE and FINEP.

Programmes led by the Ministry of Economy

InovAtiva Brasil is a highly recognised programme in Latin America

InovAtiva Brasil is implemented by the Ministry of Economy in partnership with SEBRAE and *Fundação Certi*. This programme is essentially a four-month start-up acceleration programme: eligible companies must be start-ups, but past the idea stage. Between 2013 and July 2019, 936 start-ups in roughly 20 different economic sectors had completed the programme, at a rate of about 100 start-ups per semester. Overall, since inception, more than 10 000 companies have applied for the programme, 2 155 have been selected, and 936 have completed the programme.[3]

InovAtiva Brasil's main objective is to assist entrepreneurs in the development of business skills. Up to 130 start-ups are selected per semester, with selection criteria including the

degree of innovation, scalability, team profile, and the project's development stage. Selected start-ups are provided with online training and mentoring through a network of over 500 volunteer mentors, who are typically top executives, experienced entrepreneurs and/or venture capital investors. Four months after the programme's start, there is a 3-day final event, which includes a boot-camp and a demo day, during which start-ups present their business plans to investors. Post-programme activities include keeping track of graduate companies and fostering connections with investors and larger corporations engaged in open innovation initiatives.

InovAtiva Brasil is a highly recognised programme in Latin America and has been publicly praised for its role in innovation and entrepreneurship development in Brazil. Supported companies regularly feature in national rankings of start-ups to watch and start-ups involved in open innovation programmes. Since inception in 2013, the programme's cumulative budget has totalled more than BRL 10 million for which the Ministry of Economy has been the main contributor (95% of total). The programme is essentially free of cost for participating companies, except for lodging and travel expenses related to the three-day final event.

InovAtiva Brasil is a well-structured accelerator programme. It is also an example of transparency, with detailed data on the profiles of participants that are regularly published. Companies are profiled based on several dimensions including location, business models, business fields and number of employees. Given the sheer number of innovative start-ups that have graduated from the programme, programme managers should produce additional impact assessment studies. This could include analysis of aggregate turnover, export value, number of people employed and registered patents among graduated companies vis-à-vis non-graduates or non-participant companies.

StartOut Brasil aims at born-global start-ups; some changes in the programme design could enhance its impact

StartOut Brasil was launched in 2017 with the aim to foster born-global start-ups. The programme is managed by the Ministry of Economy in partnership with the Ministry of Foreign Affairs, SEBRAE, ANPROTEC and Apex-Brasil. The programme targets already established start-ups, ideally with revenues above BRL 500 000 and/or having benefitted from venture capital investment, willing to expand into international markets. Candidates are evaluated according to their degree of innovation, development maturity, team quality, and foreign market fit.

StartOut Brasil has targeted different foreign markets such as Berlin, Paris, Buenos Aires, Miami, Lisbon, Santiago, Toronto and Boston. The selection process starts with an initial application period during which 40 start-ups are selected for a specific foreign market. The number narrows down to 20 final choices after a second-round selection led by external experts. The 20 start-ups go through a 6-8 week-long capacity-building programme consisting of consultancy, mentorship and pitch training with experts on the foreign market being targeted. After a warm-up event in São Paulo, the programme participants travel to the targeted destination for a one-week mission. During this mission, participants interact with local industry players and stakeholders in the region's entrepreneurial ecosystem. This includes visiting corporations with open innovation programmes, fellow start-ups, accelerators and potential investors. After returning to Brazil, participants are de-briefed through two post-programme counselling sessions to assess opportunities identified during the trip. Start-ups interested in relocating to their target markets are also assisted by the programme. Since 2019, the programme also selects, at each cycle, five start-ups that have

gone through at least two editions of the programme for a new immersion, but with a reduced offer of services.

Since inception, the programme's cumulative budget has totalled almost BRL 4 million, and more than 70 companies have been supported. However, if companies which have participated more than once are considered, the number of supported cases exceeds 90. Similarly to *InovAtiva Brasil*, the programme is free of charge, except for lodging and travel expenses during the warm-up event and the one-week trip abroad.

StartOut Brasil exhibits many procedural similarities with *InovAtiva Brasil*, but it differentiates itself by focusing on venture-backed companies or companies that have already gained some commercial traction. In theory, *StartOut Brasil* aims at fostering born-global companies, but the revenue criteria might, in fact, exclude very new companies without consolidated sales. Furthermore, it is not totally clear how immersion sites are selected. Thus, although *StartOut Brasil* is relatively new, some changes might benefit the programme.

First, *StartOut Brasil* should consider dropping the revenue eligibility criteria, since this is partly inconsistent with the aim of encouraging born-global start-ups. Programme managers should instead stick to the venture-backed criterion and other technical and managerial screens largely inherited from *InovAtiva Brasil*'s successful experience. Second, screening and selecting a cohort while attempting to match industry targets and preferential geographies may result in excessive latitude by programme managers. Perhaps a better way to approach *StartOut Brasil* might be to reverse its inner workings: instead of taking cohorts of start-ups to a specific foreign immersion, bringing multiple foreign investors and large companies with open innovation programmes into a local immersion. This way multiple geographies could be targeted for selected industries, bringing those geographies closer to Brazil in selected niches. Such a change would radically alter the nature of *StartOut Brasil*, but it could prove more effective and also more efficient from a budgetary point of view. As of mid-2019, a similar reform of the programme was being considered.

SEBRAE-led programmes

Capital Empreendedor is aimed at raising awareness about Venture Capital among innovative start-ups and SMEs

Capital Empreendedor aims to raise awareness about venture capital and private equity funding among high-growth firms and innovative start-ups through workshops and mentorship sessions. After three mentorship meetings, two in person and one online, entrepreneurs are offered an investor roadshow. Depending on the company's development stage, investors might include businesses and/or private equity funds. This programme is managed by SEBRAE in partnership with other public programmes, such as *InovAtiva Brasil*, and other private sector organisations such as *Anjos do Brasil*. In addition to raising awareness, *Capital Empreendedor* invests in private sector venture capital funds specialised in seed and early-stage equity investments in micro and small companies. Available funds for investment amount to BRL 45 million.[4]

Raising awareness about venture capital and private equity is laudable. However, only a very small universe of small companies will be up for the challenge of a professional investor roadshow. In addition, only a tiny share of professional investors will be interested in seed or early-stage equity stakes in innovative start-ups. Thus, offering micro and small companies investor roadshows is likely to be cost-ineffective. An alternative option,

building on SEBRAE's extensive network, would be the creation of a digital platform where innovative start-ups could be screened based on objective criteria and, henceforth, matched with potential investors. *Capital Empreendedor* could then co-invest with outside investors. While such an initiative would result in a large pool of investment opportunities, it would probably limit such opportunities to series C funding.

SEBRAE like a Boss & SEBRAE Start-up Way offer diagnostic services to small businesses

SEBRAE like a Boss is a web platform aimed at diagnosing the development stage of a company. Following the initial assessment, micro and small companies are redirected to appropriate support services offered by SEBRAE. These include low-intensive and high-intensive services. SEBRAE like a Boss classifies companies according to five different maturity stages (pre-ideation, ideation, starting operation, getting traction and scaling-up), and can be considered a gateway for start-ups and potential entrepreneurs into the SEBRAE ecosystem.

SEBRAE Start-up Way is closely related to SEBRAE like a Boss. It is the programme through which support services are mapped and integrated into the maturity assessment conducted initially. More than 7 000 start-ups have signed up for this programme, and roughly 2 000 have been individually assisted by SEBRAE's regional offices.[5] Individual assistance includes support for entrepreneurial development, innovation, market intelligence, marketing, partnerships, matchmaking and funding.

Though not specifically oriented for innovative start-ups, these two programmes could easily be adapted to identify promising innovative ventures. Given the difficulty of assessing what is innovative and what is not, adopted criteria for screening should be very objective and quantifiable. These could include educational attainment of employees, a standard definition of gross value added, intellectual property ownership, revenue growth rates and/or online revenues as a percentage of overall revenues. By identifying early-on innovative start-ups, other SEBRAE initiatives, such as *Capital Empreendedor*, would also benefit.

NEXOS offers a well-balanced approach to open innovation

NEXOS is a new open innovation programme established in late 2018 by SEBRAE and which is administered by ANPROTEC, the national association of business incubators. Its purpose is to connect medium and large-sized companies with technology-oriented start-ups through open calls for innovation. Medium and large-sized companies define the technological domains of the calls, while start-ups are invited to develop products and services in the fields of the calls. Start-ups are allowed to use resources owned by large companies as well as those owned by incubators and accelerators involved in the programme.

In the framework of NEXOS, larger companies can use R&D and innovation tax benefits from *Lei da Informática* and *Lei do Bem*. The government invests in the start-ups based on the achievement of development milestones, with investments capped at between BRL 100 000 and BRL 250 000. The large companies involved in the programme are expected to match government funding. Start-ups receive 90% of allocated funds, whereas incubators and accelerators receive 10%.[6]

The NEXOS programme builds on a previous experience in which SEBRAE, since 2016, has given guidance to roughly 200 start-ups collaborating on open innovation initiatives with about 40 large-sized companies, mostly multinationals. Thus, NEXOS intends to

provide a formal structure to these partnerships, offering specific tax incentives to leverage existing opportunities for innovative start-ups in Brazil.

This programme provides a well-balanced approach to open innovation involving public subsidies. It builds on a long-standing, successful partnership with ANPROTEC and allows large companies to take advantage of tax incentives which, as they stand today, are not accessible by start-ups. Furthermore, the calls for innovation are industry-driven, focusing the programme on real-life challenges.

SEBRAE & EMBRAPII collaboration constitutes a good example of a triple-helix model of innovation

In 2017 SEBRAE also signed an innovation contract with EMBRAPII, the Brazilian Agency for Industrial Research and Innovation. The partnership focuses on micro and small companies on a standalone basis or, alternatively, on micro and small businesses working jointly with medium and large companies. One-third of the funding comes directly from EMBRAPII, another third from technology institutes accredited by EMBRAPII, and a final third by participating companies. SEBRAE covers up to 80% of the costs endured by participating micro and small businesses.

Until October 2018, the partnership between SEBRAE and EMBRAPII had committed BRL 12 million to 74 projects. The programme allows participating companies to access over 40 EMBRAPII-accredited technology centres in Brazil, fostering open innovation and knowledge transfer to small companies from technology institutes and larger companies. This type of collaboration between SEBRAE and EMBRAPII constitutes a good example of a triple-helix model of innovation. By including EMBRAPII, such collaboration is more comprehensive than a typical open innovation programme between small and larger firms. Moreover, by allowing small and larger companies to partner up, the programme enhances the commercial viability of innovation produced by start-ups.

ABDI Industry Start-up Connection Programme

ABDI Industry Start-up Connection Programme works through an open innovation model with start-ups

Programa Nacional Conexão Start-up Indústria (Industry Start-up Connection Programme) was first launched by ABDI in 2017 to foster industrial growth through the adoption of Industry 4.0 technologies. The programme operates in two stages: in the first, medium and large industrial companies apply to the programme by specifying up to eight technological challenges they would like to address; in the second, start-ups apply to provide potential solutions to the challenges identified in the first phase. Medium and large industrial companies can then choose up to four start-ups to co-develop technology solutions.

The 2017 edition of the programme resulted in the development of 32 proofs of concept (PoC), 12 of which moved on to the commercialisation phase. All selected start-ups received a grant worth BRL 80 000 to finance their PoC, while an additional BRL 200 000 was awarded to the best 10 PoCs that moved to the stage of product development. As of mid-2019, a second edition of the programme was underway in which ABDI had selected 30 industrial companies submitting more than 150 innovation challenges.[7]

An evaluation of the 2017 edition of the programme has allowed ABDI to establish a profile of large industrial players in different economic sectors and their degree of innovativeness, including the profile of large corporations that do not seem to be aware of the benefits of innovation. Such market intelligence is expected to allow ABDI to better target industries and regions in the future. According to the study (ABDI, 2017), out of 408 large-sized

industrial companies, only 22% had ever carried out business with start-ups, 21% were in the midst of preparing to do so, 23% said they had no clue on how to do business with start-ups, and 21% showed no interest in doing so. As to participating companies, out of 46 registered companies, only 10 found start-ups matching their challenges.

FINEP programmes

FINEP Centelha targets university start-ups

FINEP *Centelha* is a new flagship initiative started in 2018 by MCTIC and FINEP to promote university start-ups. The immediate goal is to incubate 28 start-ups from an initial 1 000 applications. In the long run, the goal is to incubate 28 start-ups per each adhering state. FINEP *Centelha* is meant to provide training and coaching for 18 months and will involve a network of mostly public institutions active in innovation and technology research.

The programme is decentralised and managed at the state level by local research foundations, universities, and *Fundação Certi*. Intellectual property generated within the programme will be managed by IP offices – i.e. the abovementioned NITs, *Núcleos de Interacção Tecnológica* – established in higher education and research institutions. Funding is available through FINEP and state-level partners. Out of the initial 21 projects approved in 2018 a total BRL 34 million had been granted: BRL 21 million from FINEP and BRL 13 million from state-level entities.[8]

Critically, FINEP *Centelha*'s success will largely depend on bridging the gap between academia and the business world. In this regard, it may be advisable to involve private sector companies early on, by introducing some elements of real-world open innovation; for example, by making mandatory experimental testing, conducted in private sector companies, part of the programme.

Another challenge will be the real effectiveness of the NIT arrangement. Investors are often wary of funding university start-ups because ownership of related intellectual property is not always clearly structured. The ownership issue may also be further entangled whenever there are multiple universities and researchers involved, since different researchers may own autonomous segments of intellectual property. Confronted with such uncertainty investors frequently walk away. Finally, academic entrepreneurship may be stimulated by public programmes, such as FINEP *Centelha*, to the point of first venture formation efforts, but not to the point of operating effectiveness (Bergmann et al., 2016).

FINEP Tecnova addresses Brazil's industrial policy priorities

FINEP *Tecnova* was launched in 2012 to support innovation projects nationwide. Its first edition was completed in 2017, while a second edition was launched in 2018. In this programme, state-level public institutions and/or not-for-profit organisations apply for *Tecnova* funds to finance innovation projects in selected sectors. These institutions manage the programme and select eligible companies. FINEP provides funding, but state-level institutions must match the FINEP funding.

In the first edition (2012-17), which was only dedicated to micro and small companies complying with *Lei Complementar* 123/2006, FINEP awarded grants worth BRL 173 million, whereas state-level institutions provided matching funds of BRL 90 million. The number of funded projects was 572. In the second edition, a total of BRL 150 million is earmarked for the programme, 60 million of which from FINEP and

the remaining from state-level institutions. The second edition will also cater to larger businesses with annual revenues up to BRL 16 million.[9]

FINEP *Tecnova* targets economic sectors considered strategic at the national level as well as sectors chosen at the state level. In the first edition, 40% of the funds were earmarked for projects in oil and gas, renewable energy and ICT, whereas 60% could be spent at the discretion of the states. In doing so, FINEP *Tecnova* addresses Brazil's industrial policy priorities. Given this objective, policymakers could build on Brazilian specialised research and market intelligence agencies, such as EMBRAPA and EMPRAPII, to make well-informed choices in the selection of strategic sectors for investment. In addition, research agencies could also assist in defining the innovation criteria based on which start-ups would be short-listed for investment.

FINEP is also a main source of equity finance

FINEP is also an active player in equity finance, mostly at the seed stage.[10] Since 2000, it has invested in a total of 33 investment funds, with total commitments in the range of BRL 656 million and more than 220 supported innovative companies.

In 2000, FINEP launched *Inovar* to introduce an equity finance culture in nascent technology-based companies and to help fund managers to raise and manage funds. The programme counted with collaboration from the Inter-American Development Bank (IDB), SEBRAE, *Petros* (A Petrobras Foundation) and other Brazilian institutional investors. In 2005, FINEP launched *Inovar Semente* to leverage venture capital resources for micro and small technology-based companies. This programme had ten approved seed capital funds.

More recently, in 2015, FINEP established the Primatec Fund, a partnership between investors and a group of incubators and technology parks known as Rede Primatec. The Primatec Fund focuses on investments in start-ups incubated in the Primatec network and is expected to complete its first round of investments by 2020. It is externally managed and has a capital commitment of BRL 92 million. Priority sectors are ICT, energy, creative industries, and socially responsible start-ups. As of December 2018, it had invested in 8 companies out of the targeted 20.

The most recent FINEP initiative in equity finance is FINEP Start-up, which was launched in 2017 to support venture capital (VC) investments in technology-based micro and small companies, as defined by *Lei Complementar* 123/2006 (annual turnover up to BRL 4.8 million). Calls for equity investments are opened in specific sectors and underlying technologies.[11] Candidates applying for funds are subject to a two-stage evaluation and selection process. A first panel of three specialists, two from FINEP and one business angel, pre-assesses each company. After the initial assessment, business cases are taken before an investment board led by FINEP officials. Since the inception of the programme, three calls have been conducted.

Under the programme, initial investments in individual start-ups are capped at BRL 1 million. However, subject to contractual terms, another BRL 1 million may be allocated to each company. In each call, 75 companies are pre-selected and 30 are pre-approved for a final due diligence process which, if successful, results in equity investment. In this case, the government co-invests on an equal basis with the business angel, which is a clear strength of the programme.

Launched in 2017, the programme has conducted so far three rounds of investments in which 1 191 businesses have applied and 51 have been approved for investment. Of these, 14 have already received investments for a total of BRL 13.86 million, while 19 are "under

investments", i.e. the contract is still to be signed or resources are to be delivered subject to delivery of some documentation. On the whole, the programme plans to invest BRL 60 million per year of equity finance in micro and small businesses.[12]

FINEP Start-up aims at bridging the funding gap at companies that are between the stages of prototyping and market traction. In financial terms, it aims at series B and C round of funding. At this stage, initial screening will depend on both technological feasibility and commercial viability. Most likely, eligible candidates will not have yet complete evidence of technological feasibility, nor any specific assurances about commercial viability. Thus, candidacy procedures must be streamlined through digital channels, and the same must happen between expert panels and the ultimate decision-maker at FINEP. Otherwise, companies selected for investment may run out of financial resources, with the managerial fixed costs of the programme which could outweigh its possible benefits. This is especially true for a programme such as FINEP Start-up since there will be very few micro and small companies ready for external investment and few angel investors interested in investing at such an early and risky stage of the enterprise life cycle.

The interaction of the government with other entrepreneurial ecosystem players

While the previous section delved into government programmes aimed at innovative start-ups, this section looks at the way the government interacts through specific initiatives with other major players in the national entrepreneurial ecosystem, notably business incubators and business accelerators and large corporations running open innovation schemes.

Business incubators and business accelerators

Brazil has a large number of incubators, technology parks and accelerators

ANPROTEC, the Brazilian Association of Science Parks and Business Incubators, estimates that there are 369 incubators, about 90 technology parks and 35 accelerators in Brazil. According to 2016 data from the MCTIC, the impact of business incubators on the Brazilian economy over the period 2009-16 corresponded to BRL 15.2 billion in sales and 53 280 jobs, which originated from the about 5 000 companies that had gone through an incubation process.

Incubators in Brazil do not only support technological innovation but also social innovation. For example, ANPROTEC co-ordinates an incubation programme dedicated to start-ups with a social impact. Under this new initiative, up to 25 incubators will be selected for capacity-building in socially-related fields. Priority will be given to incubators established in the North, Northeast and West of Brazil. Following an initial training period, incubators will submit action plans for social impact incubation and 5 out of the original 25 will be selected for further support.

The National Programme of Incubators and Technology Parks (PNI) has achieved good outcomes

The PNI (*Programa Nacional de Incubadoras e Parques Tecnológicos*) was originally created in 1998 and later redesigned in 2009. It is managed by a committee that includes, among others, the Ministry of Economy, MCTIC, SEBRAE, FINEP, BNDES, CNI and ANPROTEC. The programme supports technology-based small businesses through a network of technology parks and incubators. Between 2002 and 2012, PNI provided grants worth BRL 255 million and BRL 58 million to 44 parks and 90 incubators respectively. During the same period, SEBRAE provided BRL 68 million in additional funds to incubators investing in micro and small businesses (MCTIC, 2015).

According to a 2015 assessment report (MCTIC, 2015), businesses located in PNI-supported technology parks tend to be larger and have larger revenues than similar companies located in parks not supported by the PNI. Similar results have been found for the impact of PNI on companies in incubators. Both tenant and graduated enterprises in PNI-backed incubators are larger and have greater revenues than similar companies located in incubators that are not supported by the PNI.

MCTIC's Startup Brasil is specifically geared towards IT start-ups

The MCTIC created Startup Brasil in 2012 in the framework of the National Strategy of Science, Technology, and Innovation. The programme involves a partnership between MCTIC, the National Council for Scientific and Technological Development (CNPq), and private sector business accelerators to support IT start-ups. Under this programme, managed by SOFTEX (an association dedicated to the promotion of software developed in Brazil), selected IT companies benefit from grants and access to private sector accelerators. Roughly 200 start-ups have been accelerated since 2012, with the programme receiving a cumulative budget of BRL 350 million. Selected start-ups are awarded BRL 200 000 for R&D support and go through a one-year acceleration programme. Accelerators provide financial support, mentorship, project management, market validity tests, and access to other investors. Apex-Brasil and the Ministry of Foreign Affairs may also be involved when start-ups try to enter international markets.

BNDES Garagem accelerates innovative start-ups through closer relationships with larger companies

BNDES launched BNDES *Garagem* at the end of 2018 in Rio de Janeiro. The programme is executed by accelerators Wayra (part of Telefonica Group) and Liga Ventures and works as an innovation hub hosting under the same roof start-ups, larger companies, investors, universities and research organisations. The accelerator programme has an annual budget of BRL 10 million and includes two different modules: a first 4-month pre-acceleration (or incubation) module that aims to create 30 start-ups and a second 6-month acceleration module focused on 30 existing start-ups with revenues up to BRL 16 million. Priority industries include education, health, security, financial services, creative industries, smart cities and block-chain related technologies.

Apex-Brasil encourages local venture capital investments by MNEs

Since 2015, Apex-Brasil operates "Corporate Venture in Brazil", an initiative that aims to stimulate the innovation and venture capital activities of multinational enterprises (MNEs) in Brazil. The programme facilitates the meeting of Brazil-based MNEs with the domestic entrepreneurial ecosystem, including venture capital managers, business angels, business accelerators and incubators and technology parks. Between 2015 and 2018, the programme has helped almost 60 global corporate venture capital leaders to connect with the Brazilian ecosystem, leading to investments in the range of USD 300 million through open innovation and corporate acceleration programmes.

Private sector open innovation initiatives

Brazil's entrepreneurial ecosystem also includes privately-owned open innovation initiatives

Brazil's entrepreneurial ecosystem also includes interesting open innovation initiatives run by private sector companies with little, if any, involvement of the government.

The Korean conglomerate Samsung launched its open innovation programme in 2015 (Samsung Creative Start-ups) in partnership with Korea's Centre for Creative Economy and Innovation and ANPROTEC. Samsung has committed USD 5 million to the

programme leveraging existing tax benefits purveyed under *Lei da Informática*. The programme follows an innovative approach, through which start-ups use the host company's resources and technologies to build new products. Between 2016 and 2017, 18 companies completed the programme.[13]

Inovabra is an open innovation programme created in 2017 by Bradesco, a Brazilian commercial bank.[14] It focuses on fin-tech start-ups, in line with the bank's development strategy, but also delves in unrelated fields such as healthcare. The programme, which is based in São Paulo, looks for innovative ideas using artificial intelligence, big data, cognitive computing, and machine learning. These ideas are then incubated and accelerated to leverage Brasdesco's strategy in digital banking, cybersecurity and other related banking activities. Inovabra is currently in its fourth edition. About 3 000 start-ups have signed up for the programme and 8 investments worth BRL 6 million have been made.

Votorantim Cimentos, the world's 5th largest producer of cement, set up its open innovation programme in 2017, which specifically addresses cement production and related technologies. Under its first edition, the company focused on seven Industry 4.0 challenges. Back then, 107 start-ups applied for the programme, 12 were pre-selected and 7 went through the programme.[15]

Conclusions and policy recommendations

This chapter has shown that there are many aspects to the innovative start-up ecosystem of Brazil that work well, although there is also room for improvements in some areas. For example, publicly supported incubator programmes are widely available, entrepreneurial attitudes are high on the priority list, and open innovation programmes look promising. On the downside, there are some weaknesses in the digital infrastructure, IP protection, and R&D tax benefits.

Risk sharing and matching funds between public and private players are generally good practices. However, public-private partnerships also pose challenges, with many of them related to typical agency costs: Are resources adequately allocated between and within programmes? Are outcomes clearly defined and really achieved? Are risks properly shared? These are issues that need to be addressed whenever the government interacts with the private sector, especially when there are monetary incentives involved. In turn, this calls for audit oversight and transparent reporting.

Sectorial ministries could be more closely involved at the stage of start-up policy design, which at the moment is mostly led by the Ministry of Economy and MCTIC. A good example is EMBRAPA, which operates under the Ministry of Agriculture and is a leading force in agricultural innovation in Brazil (De Negri, 2018). Brazil could also build on international examples such as the US Small Business Innovation Research programme or the UK's Small Business Research Initiative, both of which supports public procurement for innovation with a focus on small firms.

Finally, screening and selection of innovative start-ups could become faster and less burdensome if it were made more digital. Programmes could also be scaled up if digital technologies were employed, especially at the initial screening phase. Expected outcomes should also be more clearly defined, measured and evaluated. This includes producing impact assessment reports and benchmarking some of the programmes against each other, especially when there are redundancies.

Policy recommendations on the innovative start-up ecosystem

- Focus policies for innovative start-ups on observable data on intellectual property, R&D spending and revenue growth rates, rather than strictly enforced administrative definitions.
- Strengthen the role of research agencies operating under sectorial ministries, such as EMBRAPA and EMPRAPII, in policy design to leverage ministerial priorities and sector-specific know-how.
- Strengthen SEBRAE's partnerships with research and innovation institutions at the local level to combine SEBRAE's geographical outreach with local technological knowledge and expertise.
- Focus part of a future pilot project on public procurement for innovation on newly born companies to encourage the emergence of innovative start-ups.
- Introduce carry-forward or cash-refund provisions in existing R&D tax credits to make them more appealing to innovative start-ups operating under the real-profit corporate income tax regime.
- Address the patent backlog at INPI by modernising and digitalising the patent application and review process, in line with the recently launched restructuring plan. As part of this plan, consider contracting out the first stages of the patent review process to external accredited institutions (as done in Japan).
- Monitor the effectiveness of the Technological Innovation Nuclei (*Núcleos de Inovação Tecnológica*, NIT) in boosting university start-ups and increasing the supply and marketability of intellectual property.

Notes

[1] In 2018, there were 208 341 patents waiting for approval by the national industrial property office (INPI), a 14.6% drop compared to the historic high of 2016.

[2] However, as of mid-2019, applications submitted during Phase III were still being processed. Out of a total 107 applications, 71 had gone through an initial analysis, 24 of these had been considered eligible to join the programme, 8 decisions had been issued, and 4 patents had been granted. Additional information on *Patentes MPEs* is available at the following website: www.inpi.gov.br/menu-servicos/patente/exame-prioritario-me-epp.

[3] SEBRAE presentation, *Actuação do Sistema Sebrae na promoção da inovação para os pequenos negócios*, p. 35.

[4] SEBRAE presentation, *Actuação do Sistema Sebrae na promoção da inovação para os pequenos negócios*, p. 28.

[5] SEBRAE presentation, *Actuação do Sistema Sebrae na promoção da inovação para os pequenos negócios*, p. 23.

[6] Further information on the NEXOS programme is available at the following webpage: www.sebrae.com.br/sites/PortalSebrae/artigos/programmea-nexos-conexoes-corporativas,ea81f631e24e6610VgnVCM1000004c00210aRCRD.

[7] For further information on ABDI's Start-up Connection Programme, please see: https://www.abdi.com.br/postagem/abdi-seleciona-30-empresas-de-grande-porte-para-conexao-com-startups.

[8] For further information on FINEP *Centelha*, please see: www.mctic.gov.br/mctic/opencms/inovacao/paginas/empreendedorismo_inovador/projeto_centelha.html and www.anprotec.org.br/site/2018/12/mctic-lanca-programmea-centelha-para-estimular-a-inovacao-e-o-empreendedorismo/.

[9] For further information on FINEP *Tecnova*, please see: www.finep.gov.br/apoio-e-financiamento-externa/programmeas-e-linhas/descentralizacao/tecnova.

[10] As seen in chapter 5, BNDESPAR is the main source of equity finance in Brazil.

[11] Priority sectors in FINEP Start-up include: agro-tech, sustainable and smart cities, construction technologies, circular economy, defence, education, energy, fin-tech, health-tech, mining, oil and gas, chemicals, and biomaterials. Priority technologies include: biotechnology, block-chain, artificial intelligence, Internet of Things, advanced manufacturing, microelectronics, nanotechnology, and augmented and virtual reality technologies.

[12] For further information on FINEP Start-up, please see the following webpage: www.finep.gov.br/apoio-e-financiamento-externa/programmeas-e-linhas/finep-startup.

[13] Further information on the Samsung's initiative is available at the following webpage: http://anprotec.org.br/samsung/.

[14] Further information on the *Bradesco*'s initiative is available at the following webpage: www.inovabra.com.br (accessed on 08/02/2019).

[15] Further information on the *Votorantim Cimentos*'s open innovation programme is available at the following webpages: https://www.votorantimcimentos.com.br/open-innovation/ and https://startupi.com.br/2018/07/open-innovation-brasil-muito-mais-que-eventos-um-verdadeiro-movimento-em-prol-da-inovacao-por-todo-pais/.

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Chapter 8. The local dimension of SME and entrepreneurship policy in Brazil

This chapter looks at the local dimension of small- and medium-sized enterprise (SME) and entrepreneurship policy in Brazil. It shows that employment by firm size follows broad regional patterns, with employment in SMEs proportionally more common in the South and Southeast, Brazil's industrial heartland. These two regions also host the largest number of innovative SMEs and exporting micro and small enterprises. Business environment conditions also tend to vary at the local level, although an important effort of regulatory harmonisation has been ongoing since 2007 through the REDESIM programme. Cluster development has been the main local development policy of Brazil for over two decades. Overall, there is evidence that participation in clusters improves the performance of Brazilian SMEs in terms of employment generation, innovation and productivity growth.

Business demography at the local level

The South and Southeast regions of Brazil are the main drivers of the national economy

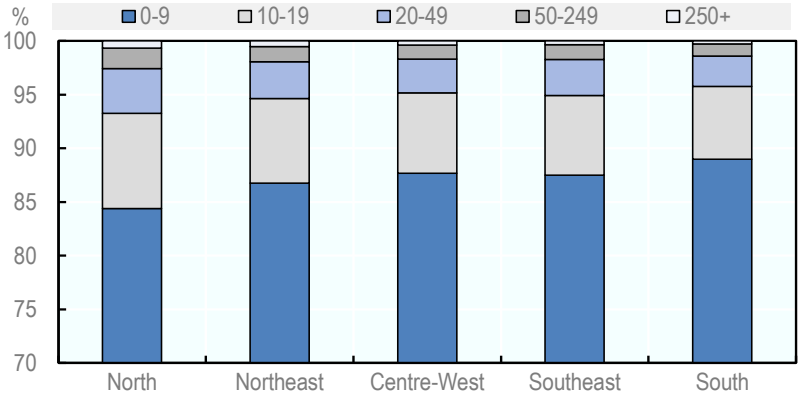
Brazil covers an area of above 8.5 million square kilometres, roughly twice the territory of the European Union. Worldwide, it is exceeded in size only by Canada, China, the Russian Federation and the United States. Because of its size, Brazil features important differences in terms of population density and economic activity across its 26 states (plus the Federal District), 5 regions and 5 570 municipalities.

A few major cities account for a large share of the national gross domestic product (GDP). In 2016 the 3 municipalities of São Paulo (11%), Rio de Janeiro (5.3%) and Brasília (3.8%) accounted for more than 20% of Brazilian GDP. However, the contribution of the 12 Brazilian metropolitan areas (177 municipalities) to GDP fell from 47.3% in 2002 to 44.6% in 2016, whereas the contribution of smaller centres (4 479 small municipalities) rose from 15.8% to 17.1%, which is a diverging pattern from the one observed worldwide (OECD, 2018a).[1]

Geographically, most economic activity takes place in the southern part of the country and along the north-eastern Atlantic coast. Of the total 5 million formal companies, 51% (2.6 million) operate in the Southeast, followed by 22% (1.1 million) in the South, 15% (0.7 million) in the Northeast, 8% (0.4 million) in the Centre-West and 3% (0.2 million) in the North. Data from the national statistical office of Brazil (IBGE) also show that the North has the lowest share (84%) of micro-enterprises (1-9 people employed) and the highest share (0.6%) of large companies (250+ people employed), something which is related to the specialisation of the North's economy on agriculture and mining. Conversely, more diversified regional economies such as those in Southeast and the South show a lower proportion of large companies and a higher proportion of micro and small enterprises (Figure 8.1). It follows that business density (i.e. number of enterprises per thousand people) is highest in the South and the Southeast and lowest in the North (Figure 8.2).

Figure 8.1. Business distribution by firm size (employment) across Brazil's regions, 2016

Percentage values

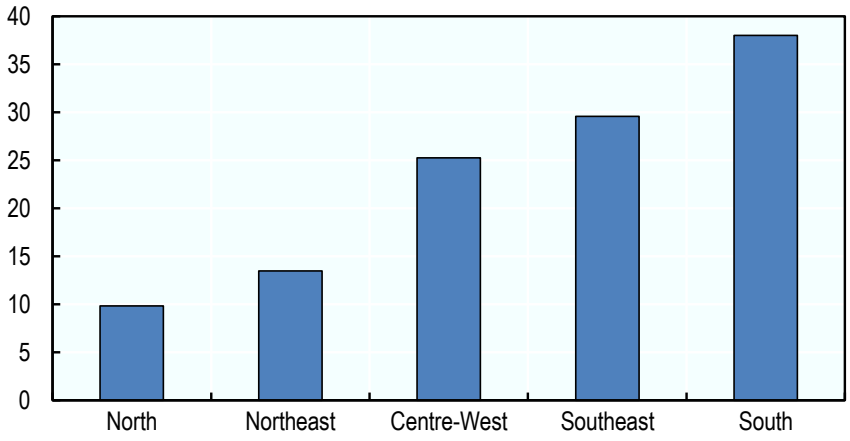


Source: IBGE Database.

StatLink http://dx.doi.org/10.1787/888934088674

Figure 8.2. Business density across Brazil's regions, 2017

Number of enterprises per thousand people



Note: Number of enterprises refer to 2016, population estimates refer to 2017.
Sources: OECD calculations based on IBGE Database and IBGE (2017), *Estimativas da População Residente no Brasil e Unidades da Federação*, ftp://ftp.ibge.gov.br/Estimativas_de_Populacao/Estimativas_2017/estimativa_dou_2017.pdf.

StatLink http://dx.doi.org/10.1787/888934088693

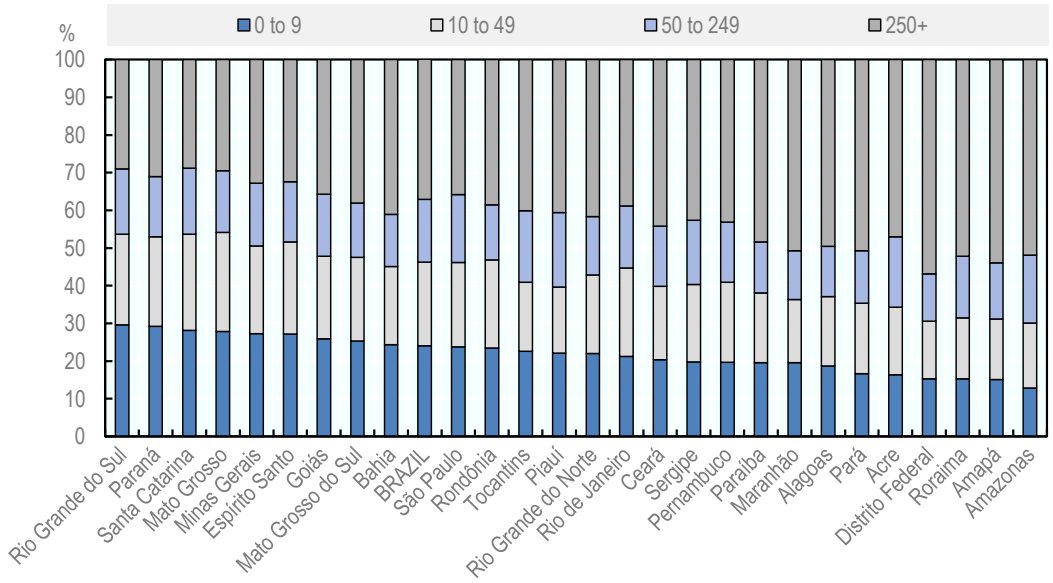
Employment by firm size follows broad regional patterns affected by regional industry specialisations

At the national level, micro (1-9 people employed), small (10-49 people employed), medium (50-249 people employed) and large (250+ people employed) enterprises account respectively for 23%, 23%, 16% and 38% of national employment. Figure 8.3 shows how each Brazilian state compares with the national average. For example, the Federal District has a lower proportion of employment in micro, small and medium enterprises and, conversely, a higher proportion in large companies, which is clearly a result of many government organisations having their headquarters in Brasília. On the other hand, Santa Catarina, an industrial and diversified state in the South, has the lowest percentage of large-enterprise employment (28.8%) among all Brazilian states and above-average proportions of employment in micro, small and medium enterprises (respectively 28.2%, 25.5% and 17.6%).

While there are strong differences across individual states, different states in the same region tend to show a similar pattern. For example, all states in the South (Rio Grande do Sul, Paraná and Santa Catarina) show above-average employment in micro and small enterprises and below-average employment in large enterprises. By the same token, all states in the Northeast (except Bahia) are below the national average with respect to employment in micro and small firms and above the national average with respect to employment in large enterprises. Figure 8.4 shows the distribution of employment by firm size across the five regions of Brazil.

Figure 8.3. Distribution of employment by state and firm size, 2016

Percentage of employment by state in the indicated class of firms

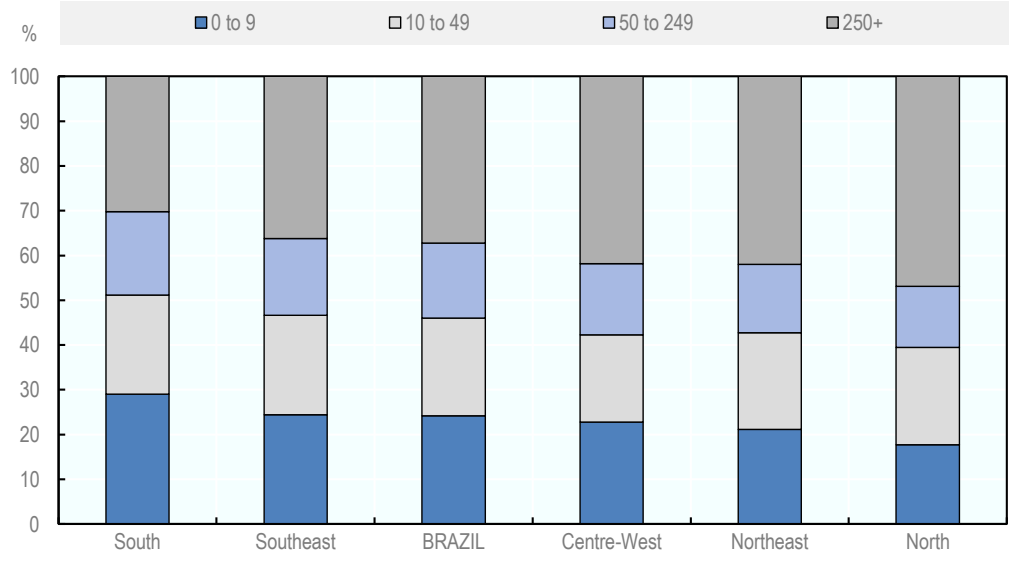


Note: Data refer to employment in local establishments of active enterprises.
Source: IBGE Database.

StatLink http://dx.doi.org/10.1787/888934088712

Figure 8.4. Employment by firm size across the five macro-regions of Brazil, 2016

Percentage of total employment



Note: Data refer to employment in local establishments of active enterprises.
Source: IBGE Database.

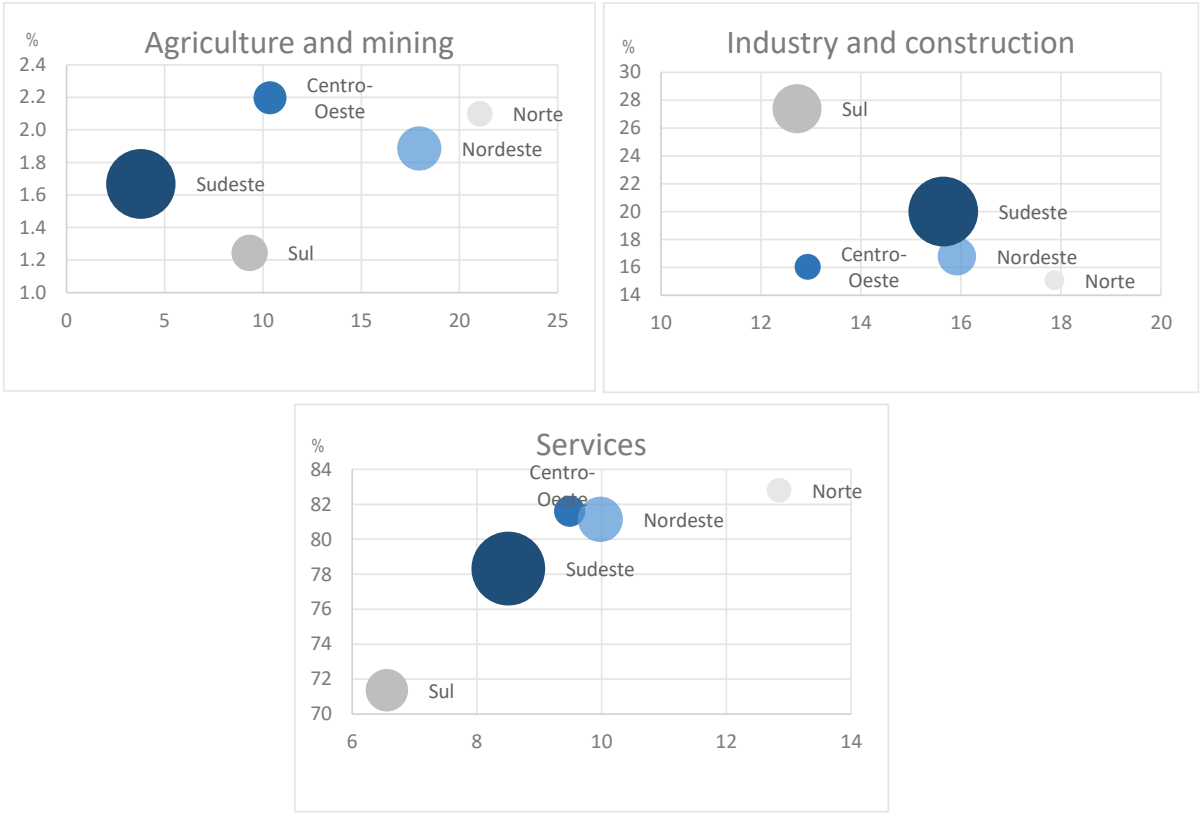
StatLink http://dx.doi.org/10.1787/888934088731

Regional industry specialisation offers a possible explanation of employment distribution by firm size. Figure 8.5 charts the average firm size (X-axis) against the sector employment specialisation (Y-axis) across the five macro-regions of Brazil, with the size of the bubbles indicating the total number of people in the selected sector and region.

The regions of Centre-West, North and Northeast are the most specialised in agriculture, respectively employing 2.2%, 2.1% and 1.9% of the total labour force. These regions also have a larger-than-average firm size in agriculture (respectively 10.4, 21.0 and 18.0). On the other hand, the South is the most specialised in industry, with 27.4% of the workforce in this sector. Interestingly, the average firm size of industrial companies in the South is also the lowest (12.7 employees). Finally, the proportion of employment in the services sector ranges from 71.4% in the South to 82.8% in the North. Average firm size is smaller in services than in industry and agriculture (see also Chapter 2), with the average size ranging from 6.6 employees in the South to 12.8 employees in the North. This further corroborates the view that the economy of the North is more driven by larger companies than the one in the South.

Figure 8.5. Sector specialisation and firm size by region, 2016

Y-axis: Percent of employment; X-axis: average firm size; Bubble size: total number of employees



Note: Average firm size is given by the total number of people employed in the specific sector and region divided by the number of local establishments active in the same region and sector.
Source: OECD calculations based on IBGE Database.

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SME performance at the local level

SME innovation at the state level

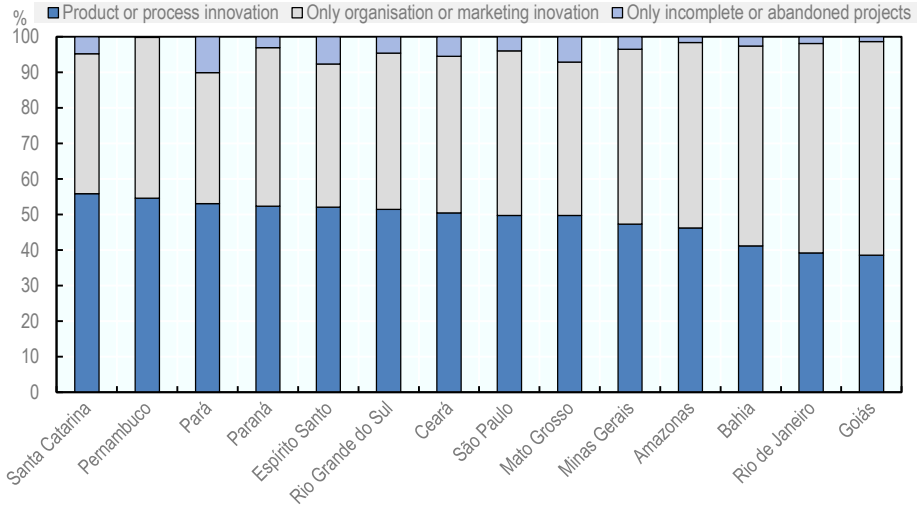
The South and Southeast host the largest number of innovative companies

Chapter 2 has presented data on innovation and export performance at the federal level. This section, based on the same data sources (i.e. national innovation survey and SEBRAE data), focuses on disaggregated data at the state level. Data from the national innovation survey, which covers only 14 states, show that the six states with the largest absolute number of innovative companies are all in the South or Southeast, the industrial powerhouse of Brazil. Pernambuco, in the Northeast, is the first state in the national ranking that is not located in the South or Southeast.

The share of innovative companies (product/process innovation) – the proportion of innovative companies over the total (with 10 or more employees) – ranges between 45% and 55%, although there are some outliers such as Santa Catarina at the top of the distribution (56%) and Bahia (41%), Rio de Janeiro (39%) and Goiás (39%) at the bottom of the distribution. Similar values are observed in the case of marketing/organisational innovation (Figure 8.6).

Figure 8.6. Proportion of innovative companies at the state level, 2012-14

Percentage values



Note: Only firms in the manufacturing and extractive sectors are included in the national innovation survey (PINTEC survey).

Source: IBGE National Innovation Survey.

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Suppliers and customers are the main partners in collaborative innovation across all states

Chapter 2 has already shown, at the national level, how innovative companies mostly collaborate with clients and suppliers in their innovative endeavours, whereas collaboration with universities and research centres is far less common. Table 8.1 details this finding at

the state level, with innovative companies in virtually almost all states reporting clients and suppliers as the main counterparts in collaborative innovative projects, whereas universities/research organisations play a less important role across all states. Interestingly, however, certification labs and technical assistance centres in rural states such as Mato Grosso do Sul and Goiás also play an important task in SME innovation.

Table 8.1. Importance of types of collaboration in Brazilian innovative firms, 2012-14

Most frequent response by innovative businesses in the state.

Dark blue = high importance; Medium blue = medium importance; light blue = low importance or irrelevant

	Clients	Suppliers	Competitors	Other companies in the group	Consultancies	University or research institutions	Centre for technical assistance	Test-centres, certification labs
Amazonas								
Pará								
Ceará								
Pernambuco								
Bahia								
Minas Gerais								
Espírito Santo								
Rio de Janeiro								
São Paulo								
Paraná								
Santa Catarina								
Rio Grande do South								
Mato Grosso								
Goiás								

Source: IBGE National Innovation Survey.

International collaboration in innovation is most common in the South

International collaboration in innovation is also relatively rare in Brazil: for example, only 9% of innovative companies nationwide collaborate in innovation with international suppliers. However, the proportions are much higher in Rio de Janeiro (43%), Espírito Santo (21%) and Pará (15%). Similarly, only 7% of innovative companies in Brazil undertake innovation as part of larger international groups, with much higher values in the two states of São Paulo (13%) and Rio de Janeiro (12%) where most affiliates of multinational enterprises are located.

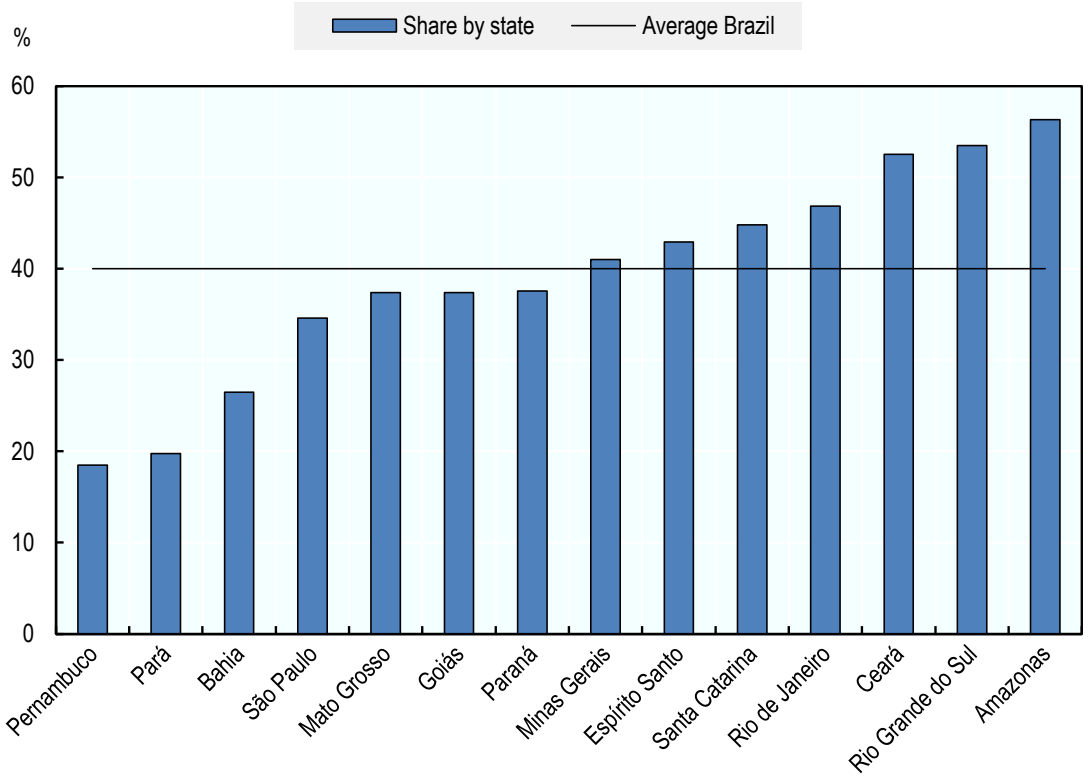
Government innovation support goes both to leading and lagging states

Based on the same survey, about 40% of respondents have received government innovation support. The states which received above-average support include both leading (Rio Grande do Sul and Santa Catarina) and lagging states (Amazonas and Ceará), suggesting

that the government has used innovation policy both to back frontier firms in leading states and to reduce regional inequalities (Figure 8.7). Preferential financing (i.e. grants and subsidised loans) to acquire equipment for innovation purposes was the most common form of support across all states.

Figure 8.7. Share of innovative manufacturing companies receiving government support by state, 2012-14

Proportion of firms introducing product/process innovation



Source: IBGE, Diretoria de Pesquisas, Coordenação de Indústria, Pesquisa de Inovação 2014.

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Besides the government, state-level public foundations also play an important role in supporting research and development (R&D) and innovation in Brazil, as shown by Box 8.1 detailing the case of the São Paulo Research Foundation (*Fundação de Amparo à Pesquisa do Estado de São Paulo*, FAPESP).

Box 8.1. The São Paulo Research Foundation (FAPESP)

Different institutions fund R&D and innovation at the state level in Brazil. One of the most prominent examples is FAPESP in the state of São Paulo, which supports research projects across all fields of knowledge. In 2017 FAPESP disbursed about BRL 1 billion, more than half of which (57%) was spent on applied research undertaken by SMEs either alone or in collaboration with universities, 38% was allocated to research projects carried out by research organisations, and 5% to supporting research infrastructure. In 2014, FAPESP accounted for about 5% of the total budget of innovation agencies across the whole country (excluding public development bank BNDES).

Sources: Limoeiro, D. and B. Schneider (2017), "State-led Innovation: SOEs, institutional fragmentation, and policy making in Brazil", https://ipc.mit.edu/sites/default/files/documents/17-004.pdf; FAPESP website, http://www.fapesp.br/en/about.

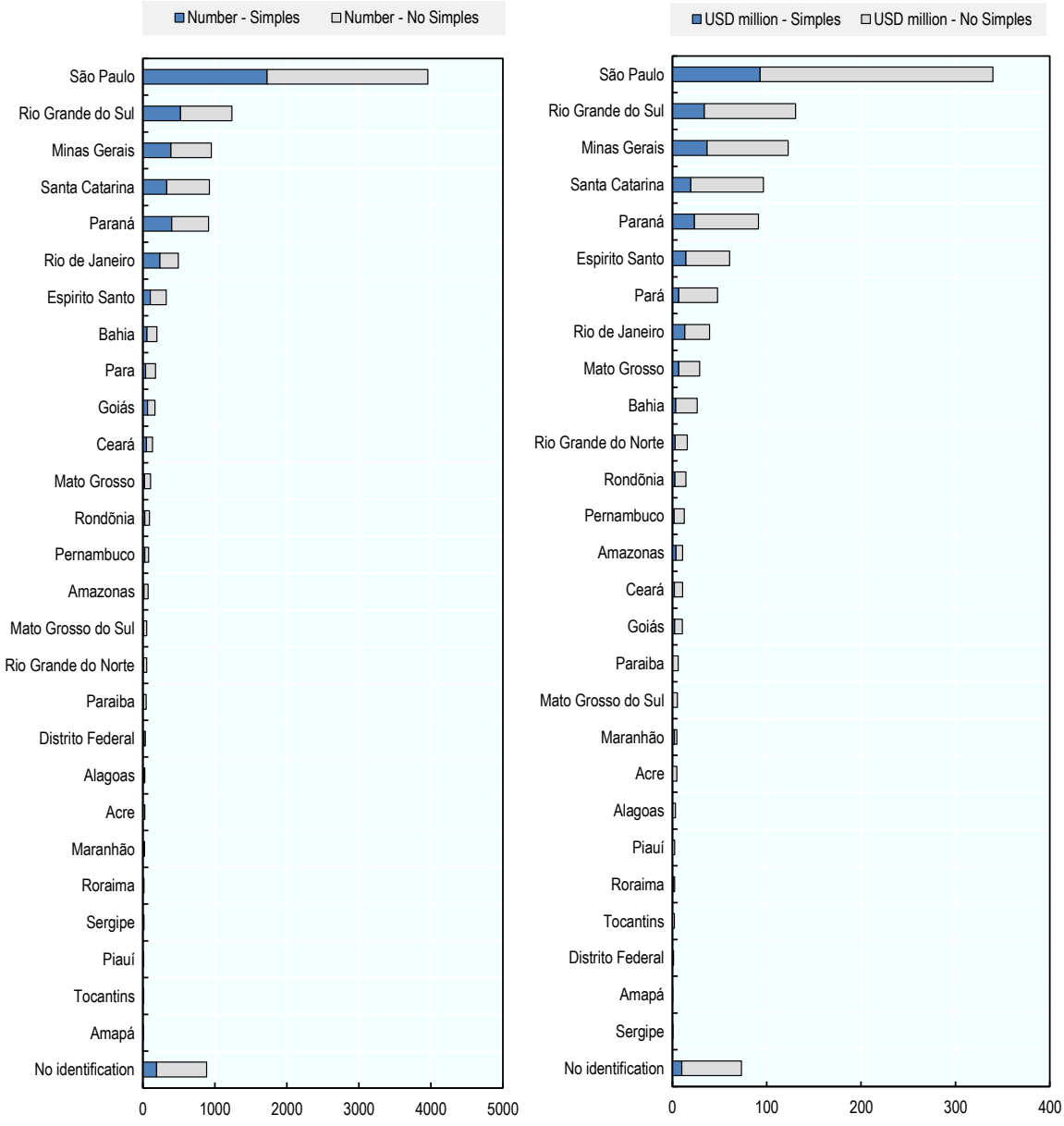
SME export at the state level

Micro and small companies from the South and Southeast are the most engaged in exports

Micro and small enterprises, as defined by *Lei Complementar* 123/2006 (*micro e pequenas empresas*, MPE), account for 27% of national GDP, but for only 0.5% of export volumes (SEBRAE, 2018). Exporting MPEs are mostly concentrated in the more industrial regions of the South and Southeast. In 2017 São Paulo, Rio Grande do Sul and Minas Gerais were the three states with the largest number of exporting MPEs (respectively 35%, 11% and 9% of the total) and with the highest volumes of MPE export (respectively USD 340 million, USD 131 million and USD 123 million). In these three states, the number of exporting MPEs also grew considerably in the period 2009-17, respectively by 23%, 19% and 13%, with a parallel growth in export volumes by 28%, 14% and 41% (SEBRAE, 2018). Figure 8.8 shows the full distribution of exporting MPEs by state and by whether they operate under the Simples Nacional regime. It clearly shows that most Brazilian states are basically absent in the MPE export landscape.

Figure 8.8. Number of exporting MPEs and MPE export volume by Brazilian state, 2017

LHS (left-hand side): Number of exporting SMEs; RHS (right-hand side): value of export



Note: MPEs (*Micro and Pequena Empresas*) follow the definition of the *Lei Complementar* 123/2006, i.e. annual gross revenues up to BRL 4.8 million. MPEs are further divided based on whether they opt for the preferential tax and regulatory regime, *Simples Nacional*.
Source: SEBRAE (2018), *As Micro e Pequenas Empresas na Exportação Brasileira. Brasil: 2009-2017*, Brasília, https://datasebrae.com.br/wp-content/uploads/2018/11/As-Micro-e-Pequenas-Empresas-nas-Exporta%C3%A7%C3%B5es-Brasileiras-2009-2017-Brasil-VF.pdf.

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Business environment conditions at the local level

Business environment conditions vary across states

Business environment conditions (see Chapter 3 for the national assessment) also tend to change at the local level. State-level information on Brazil's business environment is only available for 2006, when the World Bank undertook a state-level exercise of its Doing Business survey. This survey showed that the time to start a business varied from 19 days in Minas Gerais to 152 days in São Paulo (compared with 29 to 58 across Mexican states) and the time to enforce a contract varied from 546 days to 1 473 days (compared with 184 to 671 in Mexico). The analysis also brought out how the interaction of federal, state and municipal legislation posed a challenge on entrepreneurs (World Bank, 2007). Since the time of this analysis, Brazil has made important strides towards the harmonisation of state-level business regulations, mostly through the REDESIM initiative, an effort which is still ongoing (see Chapter 4 for more details).

In 2019, the World Bank Doing Business offered updated information on the cities of São Paulo and Rio de Janeiro. The analysis of these two cities across the multiple dimensions of the Doing Business survey gave a score of 60 to Brazil, slightly above the Latin America and the Caribbean (LAC) average of 59, but still below other emerging economies such as Chile (71.8), Mexico (72.1) and China (73.6).

Trade barriers have different regional impacts depending on state-level industry specialisations

There is a large literature showing that trade shocks (e.g. the introduction or abolition of major tariff barriers) have a disproportionate impact on tradable sectors such as manufacturing and, accordingly, on states that have higher-than-average industrial employment (Rusticelli et al., 2017; Castilho et al., 2012).

The last OECD Economic Survey of Brazil (OECD, 2018b) has calculated a regional measure of effective trade protection in Brazil based on the weighted average of national industry-level tariffs, with weights corresponding to the industry share of employment and value added in each state. The analysis identified wide regional variations, with the highest effective tariffs in Rio Grande do Norte (18.7%), Ceará (18.5%) and Santa Catarina (16.7%) and the lowest in Alagoas (10.6%), Roraima and Mato Grosso do Sul (11%). The analysis also showed that states with higher effective trade protection would be more exposed to trade-induced job reallocation if tariffs were to be dropped.

Cluster policy

Business clusters have been the mainstay of Brazil's local economic development policy

The benefits of industrial agglomerations for local economic development have been recognised for over a century. Industry clusters are associated with positive economic externalities such as vertical integration of the production process through stronger specialisation at the firm level, knowledge spill-overs among firms and between firms and research organisations, the sharing of resources in the production process, and the development and attraction of skilled workers within the cluster.

Industry clusters (*Arranjos Produtivos Locais*, APLs) have been supported in Brazil since 2004 through the creation of an APL Permanent Working Group (*Grupo de Trabalho Permanente para Arranjos Produtivos Locais*, GTP-APL) and can effectively be considered the main federal and state-level policy for local business development. References to the APL policy are, for example, found in the National Plan of Science, Technology and Innovation 2007-10 (*Plano Nacional de Ciência, Tecnologia e Inovação*), in the National Productive Development Policy 2008-13 (*Política de Desenvolvimento Produtivo*) and in the *Programa Brazil Maior* 2013-15, among others (Lastres et al., 2014). The long-term objective of the federal government has been to improve the synergy between federal and state-level actions to increase the overall effectiveness of the APL policy (MDIC, 2004).

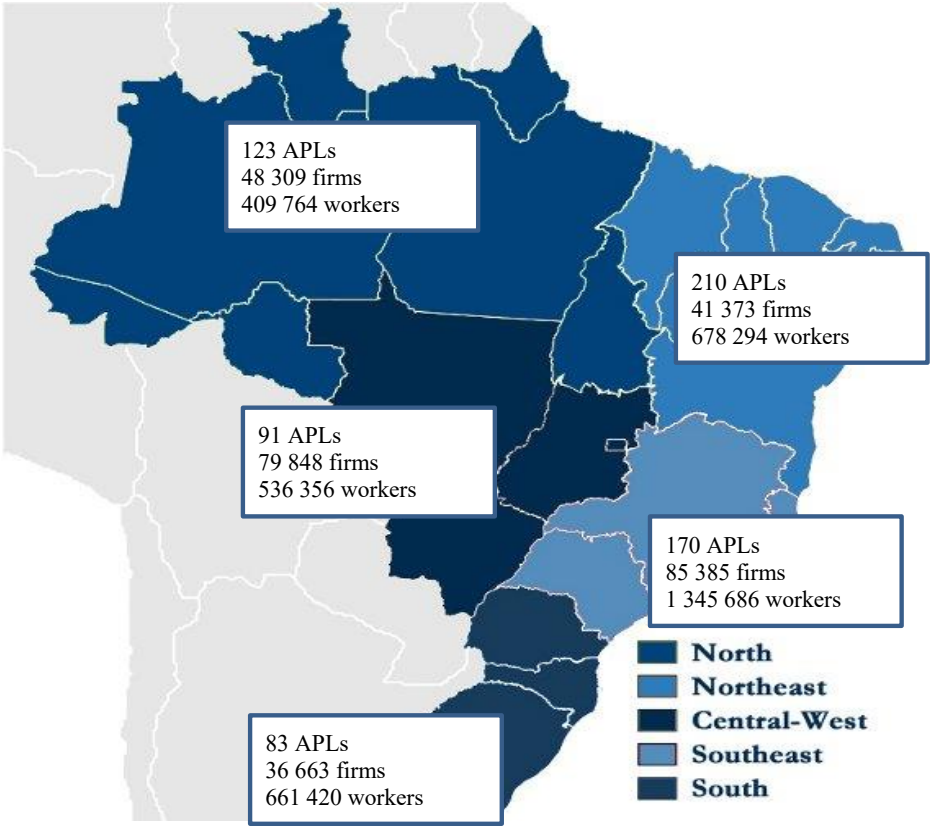
APLs are today an important component of the Brazilian economy. In the last census of 2015, there were 677 APLs, which encompassed 291 498 firms employing over 3 million workers. Almost half (2 175, corresponding to 40% of the total) of Brazilian municipalities are involved in an APL. APLs operate in 59 different sectors, with the five most represented being ceramic, furniture, textile, engineering and food processing.

Figure 8.9 shows the distribution of APLs across Brazil. The number of APLs range from 83 in the South to 210 in the Northeast, suggesting that this policy has also been used to promote inclusive growth in lagging regions such as the Northeast (Lustosa et al., 2018). There is also strong regional variation in the average number of firms in each APL, ranging from 197 in the Northeast to 877 in the Centre-West. As to the average firm size in APLs, this can be lumped into two groups: in the Northeast, South and Southeast the average firm size was 16-18 employees, whereas in the more rural North and Centre-West the average firm size was 7-8 employees.

APLs differ widely in terms of development. In this respect, researchers have identified three different stages of development – i.e. beginner, developing and consolidated – noting a positive correlation between the level of development of the cluster and its geographical proximity to large municipalities (Leite Filho and Antonialli, 2011; SEBRAE, 2014). Table 8.2 shows the typical actions undertaken to support the growth of an APL at different stages of development.

The APL policy has evolved over the years, expanding its scope from initial training, workshops and technical assistance to supporting SME exports and technology transfer between SMEs and research organisations. Funds are typically transferred from state governments to local institutions such as municipalities, trade unions or business associations, depending on the initiative. Organisations part of *Sistema S* play an important role in APL development, especially when it comes to managerial and workforce training initiatives. The role of local institutions has also proved key to the success of an APL. For example, southern states (Santa Catarina, Paraná, Rio Grande do Sul) have dedicated sizeable financial resources to APLs over the last decade, mostly to support the integration of APLs into national and global value chains (Corrêa Neto et al., 2018).

Figure 8.9. Distribution of APLs across Brazil, 2015



Source: OECD based on last census of APLs: http://www.mdic.gov.br/index.php/competitividade-industrial/arranjos-produtivos-locais.

StatLink http://dx.doi.org/10.1787/888934088826

Table 8.2. Policy instruments and actions to develop APLs

Stages	Characteristics	Instruments/actions
Institutional strengthening	Awareness, mobilisation, and articulations of actions to trigger the involvement of and co-operation between different local actors (firms, support institutions, and government agencies).	• Training to encourage the formation and/or consolidation of local leaders and co-ordinators. • Building and diffusing supporting institutional networks. • Supporting the development of a common vision and agenda. • Conferences, meetings, and workshops on business co-operation and on environmental and social issues.
Competitive diagnostic assessment	Diagnostic assessment to characterise the dynamics of firm networks, actual and potential connections with domestic and international markets, and business management.	• Data and information collection and surveys. • Market research and studies on production chains. • Support for pilot tests. • Promoting the extension of business and consulting services.

Stages	Characteristics	Instruments/actions
Design of the APL development plan	Development of a public-private model with strategic lines of action and prioritisation of activities to boost firm competitiveness and employment.	• Technical support to elaborate plans • Promote technical visits. • Workshops to discuss opportunities and challenges for the APLs.
Implementation of the APL development plan	Co-ordination of the implementation of eligible activities in the APL development plan.	• Financial support to create common activities and common goods (e.g. technology, business and distribution centres, and export platforms). • Promotion of trade shows. • Organisation of missions to incorporate new markets and technologies.
Monitoring, evaluating and disseminating learned lessons	Monitoring and evaluating goals and expected outcomes of the different activities implemented. Identify lessons learned.	• Technical training to develop monitoring and evaluation systems. • Support the dissemination of results and lessons learned.

Source: Figal-Garone, L. et al. (2012), "Assessing the impact of cluster policies: The case of the Arranjos Productivos Locais in Brazil", http://idbdocs.iadb.org/wsdocs/getdocument.aspx?docnum=37273326.

The governance of clusters involves both the federal government and state-level governments

The governance of the APL policy sees both the federal government and state-level governments involved. At the federal level, the main co-ordinating body is the GTP-APL, which is chaired by the Ministry of Economy and brings together federal ministries and state agencies, banks and financial institutions, research institutes and business associations. The work of the GTP-APL is also supported by technical committees, mostly based on industry specialisations.

Each of the 26 federal states (plus the Federal District) also hosts a *Núcleo Estadual de Apoio* (State-level Support Hub) which serves as the connecting institution between the GTP-APL at the federal level and the individual APLs at the state level. Each *Núcleo* includes at least one representative from each of the following areas: business sector, state government, *Sistema S*, financial institutions, science and technology system, and labour organisations. The *Núcleos Estaduais* support the preparation of the Production Development Plan of the APL, monitor and evaluate the results of this plan, and bring to the attention of the GTP-APL problems that should be solved at the federal level concerning the governance of APLs.[2]

Participation in clusters has had a positive impact on local SME performance

A number of empirical studies have been conducted to assess the impact of APL participation on enterprise performance, typically finding positive results. For example, in 2012, a large-scale study covering a sample of 110 000 SMEs from São Paolo and Minas Gerais found positive direct effects (and very modest indirect effects) of participation in APL on the levels of employment (+17% with respect to the control group), export volumes (+90%) and likelihood to export (+8%) (Figal-Garone et al., 2012).

APLs have also had positive impacts on local incomes. For example, data from 2006-14 in Rio Grande do Sul show that out of the 20 APLs analysed, 12 presented a significant and positive effect on the average wage, while only two APLs showed a positive impact on employment (Savaris Linhares and Carraro, 2018).

The impact on productivity and competitiveness is typically more difficult to assess. However, in some cases, it has been shown that the introduction of a new technology in the APL has had a positive effect on productivity. For example, in a textile APL in Paraná,

58% of the companies noted an increase in output and 72% an increase in competitiveness thanks to the introduction of new machinery (Freitas et al., 2015).

The identification of priority sectors and the promotion of inter-firm collaboration are important cornerstones of a successful APL policy. Box 8.2 presents an interesting example of how the Chilean government has identified priority sectors in its cluster policy and how collaboration within the cluster has been encouraged.

Box 8.2. Chile's Strategic Programme for Smart Specialisation

Chile's Strategic Programme for Smart Specialisation is supported by the business development agency of Chile, CORFO (*Corporación de Fomento de la Producción*); it has the main objective of raising the productivity of the Chilean economy through the support of firm-level innovation and collaboration among firms. Some of the policy instruments used by the programme include investments in workforce training and human capital development, the creation of R&D and technology centres, and the development of standards and large-scale R&D consortia. Ten regional clusters are supported as part of this programme, in as different sectors as mining, biological products, and culture and tourism.

The programme focuses on sectors considered key to the development of the national economy. To identify such priority sectors, CORFO used five dimensions: the need for additional co-ordination; the level of sophistication and qualified human capital; external economic and political conditions impacting the market; growth potential; and comparative advantages. Through this methodology, CORFO identified six priority sectors: sustainable mining; sustainable tourism; healthy agri-food; sustainable construction; creative economy; and sustainable fishery and aquaculture. In addition, public support is also given to additional "enabling platforms" that are cross-sectorial and are expected to have an impact on the economy as a whole: logistics, smart industries, solar energy and water management, and biotechnologies for industry and health.

Within this programme CORFO, together with representatives from academia and industry, analysed the challenges and opportunities in the various sectors in order to identify the most important areas for development. This process was articulated in five different stages, involving independent experts and stakeholders: i) shared vision and animation; ii) identification of opportunities and challenges; iii) preparation of a Roadmap; iv) external validation; v) final execution. The programme also includes an ongoing impact analysis of the different initiatives.

Sources: CORFO (2014), *Programas Estratégicos de Especialización Inteligente, Gobierno de Chile*, http://www.aprimin.cl/site/wp-content/uploads/2015/03/Corfo-Innova.pdf;
CORFO (2015), *Programas Estratégicos de Especialización Inteligente: Desafios y Oportunidades*, http://conferencias.sofofa.cl/eventos/9.10.2015/EduardoBitran.pdf.

However, there are also challenges related to cluster development

However, there are also some challenges related to cluster development in Brazil. For example, interview-based studies in the states of Sergipe and Minas Gerais found that many SMEs in APLs complained about unfair competition and lack of decision-making power within the APLs, and stressed how these two factors restrained the willingness of companies to share information and collaborate with each other (de Aragão Zambrana and Teixeira, 2013; da Silva Antero et al., 2016).

In some cases, as for example in the state of Paraná, the involvement of municipalities and public bodies was considered too small to have an impact on the development of the APL (Marini et al., 2016). In other opposite cases, when public support was too entrenched in the APL business development model, the APL was unable to survive when public support was phased out.

Lack of managerial skills and lack of finance have also been commonly reported problems, although there have been improvements in access to finance in the last decade thanks to the fact that firms within APLs have had access to an increasing number of public and private credit lines. Nonetheless, there are still challenges in terms of financial inclusion, especially in rural areas.

Finally, the respect of environmental standards has become an increasingly compelling issue. A fitting example is the APL of *turismo ecologico* (ecological tourism) in Bonito, Mato Grosso do Sul, where local authorities and firms have co-operated to create an integrated system of services to guarantee the respect of higher environmental standards (Pessoa de Matos et al., 2015).

The role of municipalities in SME policy

Municipalities are actively involved in regulatory simplification efforts

The main role of municipalities in SME policy is through REDESIM, a federal network established in 2007 which has been quite successful in harmonising business registration and business licensing rules across the states and municipalities of Brazil (see also Chapter 4). As of mid-2019, 3 040 municipalities out of the existing 5 570 were involved in the activities of REDESIM.

In addition, a project called *Município Amigo do Empreendedor* aims to identify, support and disseminate business-friendly good practices at the local level. To be defined as municipality "friend of the entrepreneur", cities need to comply with the following requirements:

- To regulate and implement the "Statute of Micro and Small Enterprises" at the municipal level.
- To allocate government contracts up to BRL 80 000 only to micro and small enterprises and to encourage subcontracting to these companies for contracts above the BRL 80 000 threshold (in compliance with national legislation on public procurement).
- To have a network of local development agents supporting local business development.
- To be part of REDESIM to simplify business registration procedures at the local level.

- To introduce entrepreneurial education in municipal schools.
- To have an information office for local entrepreneurs.

There is a number of local policy good practices that can inspire other places

Brazil also hosts a number of local good practices in SME policy that can be of inspiration for other places. The federal Permanent Forum on Micro and Small Businesses, as well as the equivalent ones at the state level, would be the right places to disseminate information about these practices. A few examples are presented as follows:

- In the municipality of *São José dos Campos* in the state of São Paulo, entrepreneurship education has been included in the local school curricula since 2001. Pupils start learning about entrepreneurship from primary school, thus raising awareness about entrepreneurship in the family environment.[3]
- *Empreenda Fácil* is an initiative launched in 2017 by the municipality of São Paulo to shorten the business registration process. By making business registration mostly digital, the city allows entrepreneurs to open their business in only 5 days on average.[4]
- The *Portosol* initiative started in 1996 as a joint initiative of the state government of Rio Grande do Sul and the City of Porto Alegre. It gives affordable credit to micro-entrepreneurs, whether they are registered or not. During its activity, it has provided around BRL 172 million in microcredit to micro and small enterprises that would not have had access to credit otherwise.[5]
- *Crediamigo* from the *Banco do Nordeste* is one of the largest microcredit programmes in Latin America. In 2017, the programme supported more than 2 million clients, with more than BRL 8 billion distributed through 4 million credit operations. Together with credit, the programme also offers consulting and entrepreneurship support.[6]
- The state of Minas Gerais, through the Start-up and Entrepreneurship Ecosystem Development programme, has offered seed funding to over 100 start-up innovative projects. As part of this initiative, a co-working space was created in 2016 (*Espaço CentoeQuatro*) in Belo Horizonte, the capital city, to support local innovative entrepreneurs through the offer of physical facilities, counselling and training.

Conclusions and policy recommendations

This chapter has looked at the local dimension of SME and entrepreneurship policy in Brazil. It has started by showing regional variations in business demography, SME performance and business environment conditions. The chapter has shown, for example, that employment by firm size follows broad regional patterns, with employment in SMEs most common in the South and Southeast. The South and Southeast, which are the industrial heartland of Brazil, also host the largest majority of innovative SMEs and micro and small businesses involved in exports. Similarly to other countries, business environment conditions also tend to vary at the local level, although an important process of harmonisation of state-level regulations has taken place in the last years through the REDESIM policy.

Cluster policy has received a great deal of attention in Brazil over the last 20 years and can, indeed, be considered the main local business development policy at the national level.

There is evidence that companies in Brazilian clusters (*arranjos produtivos locais*) do better than those in control groups located outside the cluster when it comes to employment growth, wages and productivity. Nonetheless, there are still challenges in areas such as effective cluster management, access to finance and managerial skills at the firm level.

Finally, municipalities play an important role in the regulatory simplification process through the REDESIM policy, since they are typically responsible for business registration procedures and business licenses. At the moment, not all Brazilian municipalities have joined REDESIM, which is the final objective of the federal government.

Policy recommendations on the local dimension of SME and entrepreneurship policy

- Move forward in the harmonisation of state-level regulations through the REDESIM policy, including by reaching out to municipalities which have not yet joined the programme.
- Set-up a web platform and organise a large annual event to favour the exchange of information and good practices on regulatory simplification at state and municipal levels.
- Encourage the offer of entrepreneurship education in primary schools at the municipal level, following the example of the municipality of São José dos Campos.
- Undertake a more rigorous and frequent evaluation on the impact of the national cluster policy (*arranjos produtivos locais*) on the employment and innovation performance of local SMEs.
- Consider focusing the national cluster policy on priority sectors at the state level, to be identified through an appropriate methodology applied nationwide.
- Give priority to export-oriented sectors in the national cluster policy with a view to supporting SME internationalisation.

Notes

[1] Data on GDP by municipality in Brazil are taken from the following web-link: https://agenciadenoticias.ibge.gov.br/en/agencia-press-room/2185-news-agency/releases-en/23431-gdp-of-municipalities-2016-semi-arid-region-accounts-for-5-1-of-the-country-s-gdp.

[2] Further information on the governance of the APL policy is available at the following presentation: https://www.clustercollaboration.eu/sites/default/files/event_calendar/brazilian_policy_for_apl_gmf.pdf.

[3] Further information on entrepreneurship education in *São José dos Campos* is available at the following website: https://www.forbes.com/sites/babson/2013/04/10/entrepreneurship-in-brazil-unlimited-potential/#1e2f32ea6684.

[4] Further information on *Empreenda Fácil* is available at the following website: https://www.prefeitura.sp.gov.br/cidade/secretarias/inovacao/inclusao_digital/index.php?p=246628.

[5] Further information on *Portosol* is available at the following website: http://www.portosol.com/site/index.php/quemsomos/apresentacao.

[6] Further information on *Banco do Nordeste*'s *Crediamigo* is available at the following website: https://www.bnb.gov.br/crediamigo.

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Brazil's SME policy is enshrined in the 1988 Federal Constitution, which grants to micro and small enterprises a preferential treatment in different policy areas (e.g. tax and labour law). Brazilian SME policies are, therefore, mostly aimed at this constituency, whereas mid-sized firms are largely missing in the national policy debate. *Simples Nacional*, a preferential tax and regulatory regime, is the main federal SME policy, but Brazil also operates a large number of targeted programmes for SMEs. This report provides policy recommendations to enhance Brazil's SME and entrepreneurship performance, covering, among others, innovation policy, export support, access to finance, and women's entrepreneurship.

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