

Productivity in Mexico: Trends, Drivers, and Institutional Framework

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ABSTRACT

Over the past three decades, economic growth in Mexico has been lackluster, with declining multifactor productivity as the main culprit. Mexico's growth malaise stems not only from existing barriers to the productivity of labour and capital, but also, to a large extent, from a misallocation of both inputs. This is epitomized by a large informal labour market and by a financially-underserved private sector. Factor misallocation has generated large productivity gaps between sectors and regions. In particular, a process of structural transformation that mobilizes resources toward high-productivity activities has unfolded slowly. To spur economic growth, the Mexican Government has placed productivity at the center of the policy agenda, not only by enacting a wide array of productivity-enhancing structural reforms, but also by establishing an institutional framework conducive to the design and implementation of public policies that address existing bottlenecks.

ONE OF THE CURRENT conundrums in the economic situation in Latin America is the apparent paradox posed by the lackluster economic growth in Mexico (McMillan, 2011 and Hanson, 2010). In particular, this lackluster growth has occurred despite the fact that Mexico is a poster child for the implementation of economic policies that should in principle foster strong and stable economic growth in developing nations.

Since the early 1990s, the Mexican government has taken important steps to pursue a

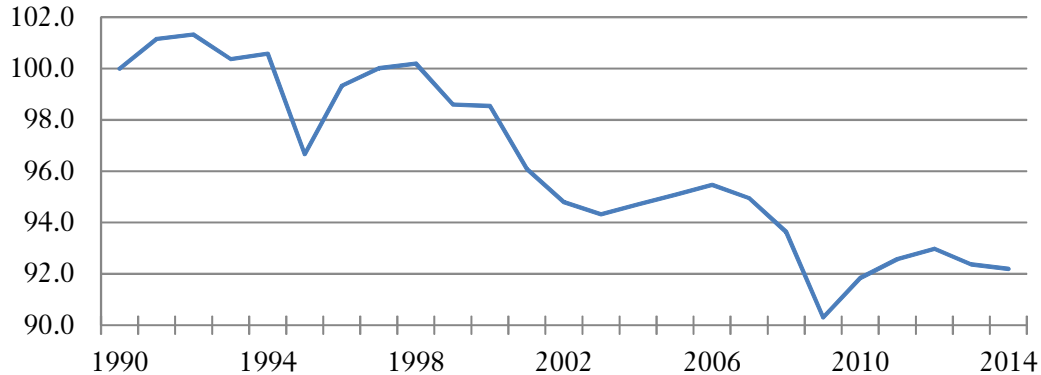
sound macroeconomic environment. In April 1994, the Mexican Central Bank became autonomous, with its main objective to preserve the purchasing power of the Mexican peso. Starting in 1995, the government implemented aggressive measures to reduce the public deficit. Among these measures were quarterly internal leverage controls, longer maturity profiles on loan instruments, and rules to guarantee a responsible management of public finances.

A gradual transition to a flexible exchange rate regime was supported by the autonomy of the

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Chart 1: KLEMS Multifactor Productivity, Total Economy, Gross Output, Mexico, 1990-2014

1990=100



Source: National Geography and Statistics Institute of Mexico (INEGI).

Central Bank, an inflation targeting policy and transparency and accountability on the part of government bodies. Measures to promote economic stability were coupled with constitutional reforms to guarantee the rule of law, starting with the Supreme Court's independence.

The resulting macroeconomic stability has provided certainty to economic agents, reduced the cost of credit, and stimulated investment, especially after Mexico's entry into the North American Free Trade Agreement (NAFTA) in 1994.

By 2000, Mexico had become a democracy² and had opened its economy to free trade, eliminated numerous subsidies and privatized state enterprises that were generating distortions in the economy.³ Sound fiscal policy reigned in

public finances, an independent Central Bank guaranteed a solid and credible monetary policy,⁴ and the Supreme Court oversaw the rule of law.

Despite these important steps, economic growth was insufficient: between 1980 and 2014, Mexico's real GDP grew at an annual average rate of only 2.4 per cent, only about half of the average growth observed in emerging and developing economies (4.6 per cent). The main reason for the mediocre economic growth performance over the last thirty years has been weak multifactor productivity (MFP) growth.⁵

Between 1990 and 2014, multifactor productivity (MFP) for the total economy in Mexico decreased by 7.8 per cent, the equivalent of an annual decrease of 0.3 per cent (Chart 1). Since

2 The PRI ruled in Mexico from 1929 to 2000, when the PAN won the Presidency. A gradual transition towards democracy had been on its way for years: in 1994 the major political parties negotiated an electoral reform, and in 1997 the PRI lost its majority in Congress.

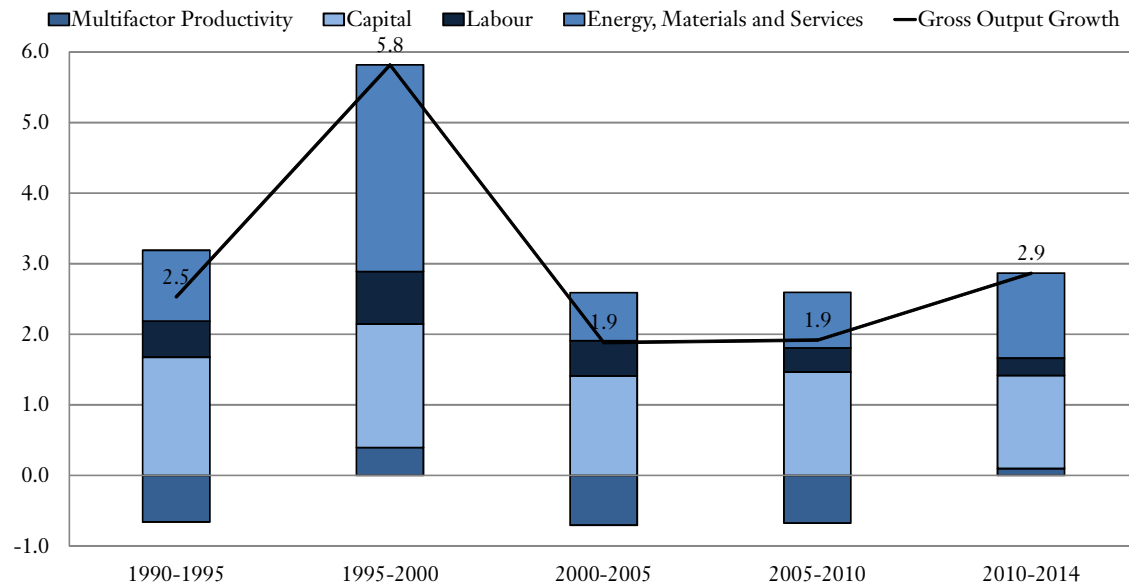
3 In some cases, however, privatization resulted in private monopolies, as in the case of the telecommunications sector.

4 The Central Bank's success in preserving the purchasing power of the peso is demonstrated by the three following facts: (1) in the 22-year period before its autonomy (1972-1994), the average annual inflation rate was 37.2 per cent, while in the 22-year period after its autonomy, the average inflation rate was 8.7 per cent; (2) in 1993, a year before it became autonomous, the annual inflation rate was 9.8 per cent, while in 2015, the annual inflation rate was 2.7 per cent; and (3) every single month since January 2015, the annual inflation rate has been within the Central Bank target of 3 per cent plus or minus 1 percentage point.

5 In terms of trends for the components of expenditure, private consumption (about 55 per cent of total demand) grew at an annual rate of about 2.5 per cent between 1980 and 2014, much less than exports (6.2 per cent). Total demand grew at an average annual growth rate of 2.9 per cent over the same period.

Chart 2: Multifactor Productivity, Capital, Labour and Intermediate Goods Contributions to Gross Output Growth, Total Economy, 1990-2014

Average Annual Percentage Point Contribution



Source: National Geography and Statistics Institute of Mexico (INEGI).

1995, the economic stabilization measures outlined above reduced the rate of decline in multifactor productivity, though not to the point of reversing the fall.

The objective of this article is to examine the policy and institutional responses of the Government of Mexico to the two decades of insufficient economic growth and lagging MFP. Hopefully, the Mexican experience will serve as an example to the other countries facing similar challenges. It is interesting to note that other studies, such as by the McKinsey Global Institute (2014), concur in their assessment of the main causes of lagging labour productivity in Mexico and the policies needed to address this situation.

What are then the causes behind the declining MFP levels in Mexico? What have been the consequences of factor misallocation? What are the public policy implications of large differences in productivity levels between sectors and regions of the economy?

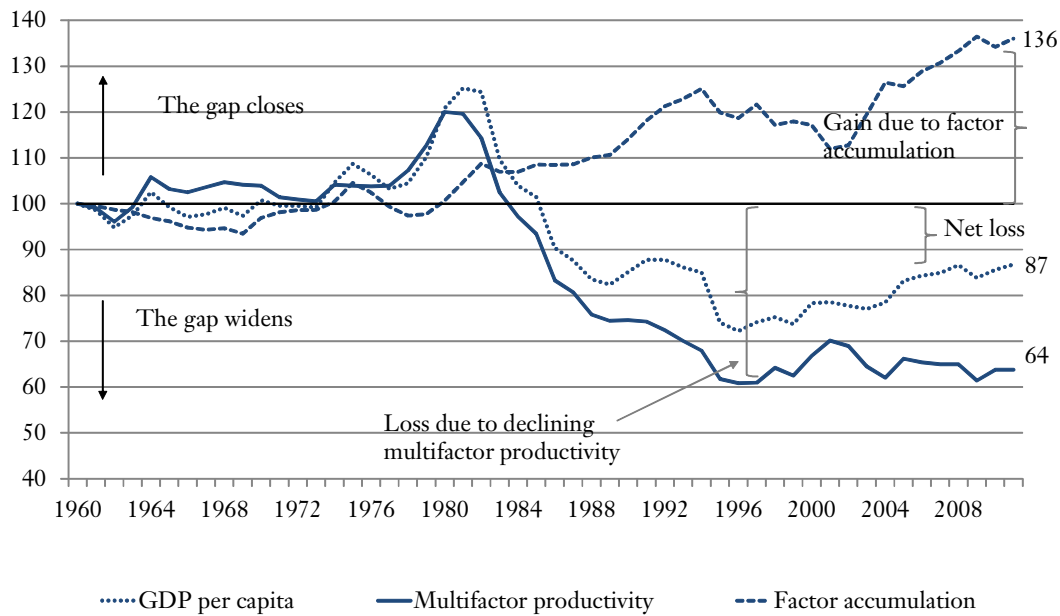
In the first major section of the article, we will focus on productivity trends, positing that factor misallocation is the main cause of the declining level of multifactor productivity since 1990. In section two, we examine the different realities of development at the regional and industry levels in Mexico. In section three we describe the productivity policy agenda of the Mexican government. Section four discusses the horizontal, vertical, and regional productivity strategies. Section five concludes.

Trends in Productivity Growth in Mexico

Multifactor Productivity

With the exception of the period between 1995 and 2000 and the period between 2010 and 2014, multifactor productivity has had a negative contribution to growth in Mexico since 1990, while factor accumulation, that is growth of all factors of production (labour, capital,

Chart 3: GDP Per Capita Gap: Mexico With Respect to the United States, 1960=100



Note: Factor accumulation includes the growth of physical capital intensity, human capital intensity, and the ratio of the labour force to the total population.

Source: Mexican Ministry of Finance and Public Credit from Daude and Fernández-Arias (2010), with data from Feenstra, Inklaar and Timmer (2013).

energy, raw materials, and services) has accounted for most of the economic growth registered in the period (Chart 2).⁶ Over the past three decades, capital stock and labour input growth in Mexico have been faster than the United States, but the income gap between the two countries has widened (Chart 3). This gap is explained by declining multifactor productivity level in Mexico.

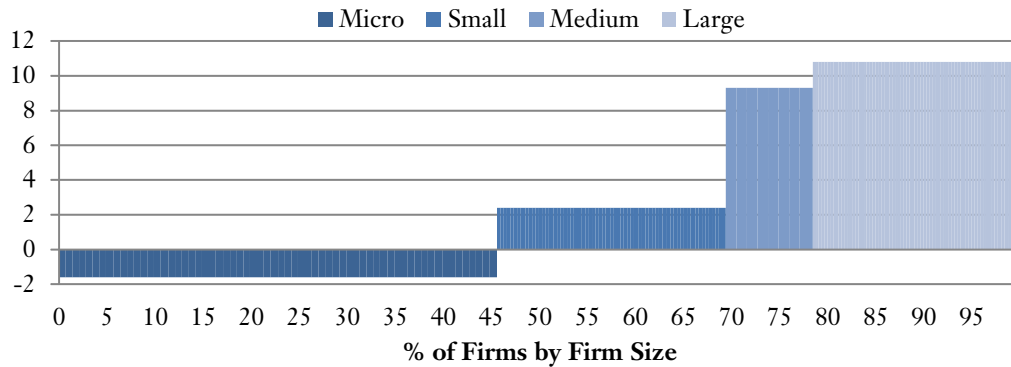
Even though Mexico has been affected by external shocks, such as the 2001 recession in the United States and the 2008-2009 global recession, the main causes of lagging MFP are internal. In particular, the disappointing productivity levels stem from a misallocation of productive resources, mainly labour and capital.

Estimations show that aggregate MFP in Mexico would increase by 220 per cent if factors of production were allocated efficiently and all distortions were eliminated (Busso, Fazio, and Levy, 2012).

In Mexico, 6 out of 10 workers work in the informal sector (National Geography and Statistics Institute, 2005-2015). Barriers that impede the integration of workers into the formal economy include: low levels of educational attainment of the labour force; a mismatch between the skills demanded by the productive sector and workers' abilities; social security schemes that may reduce demand for workers in the formal sector; and a real or perceived mismatch between the costs and the benefits for a

⁶ The growth accounting approach used includes inputs of energy, raw materials, and services in addition to capital and labour. Specifically, gross output is defined as $f(x) = A(K, L, E, M, S)$. Hence, the growth accounting equation is expressed as $\Delta Y = \alpha \Delta K + \beta \Delta L + \gamma \Delta E + \epsilon \Delta M + \theta \Delta S + \Delta A$. With capital (K), labour (L), energy (E), raw materials (M), and services (S). Each factor is weighted with its current price share in total gross output ($(\alpha, \beta, \gamma, \epsilon, \theta)$). Being a residual measure, multifactor productivity growth is estimated as follows: $\Delta A = \Delta Y - \alpha \Delta K - \beta \Delta L - \gamma \Delta E - \epsilon \Delta M - \theta \Delta S$.

Chart 4: Labour Productivity Growth by Firm Size, Annual Growth Rate, Per Cent, 2003-2008



Source: Ministry of Finance and Public Credit (2013) with data from OECD (2012).

firm to operate in the formal sector (taxes and costly regulations over access to credit and government programs).⁷ Thus, the informal economy is absorbing resources that could be used more effectively in formal companies, which enjoy double the MFP of their informal sector counterparts. The entry of workers into the formal economy becomes even more pressing as the demographic dividend wanes (today the working-age population is around 65 per cent of total population).⁸

In addition to a patent misallocation of labour, capital is also not reaching the companies where it could be used most productively. Credit channeled through the financial sector represents 31.4 per cent of GDP in Mexico, well below the average for Latin America (53.3 per cent) and OECD member countries (145.4 per cent) (World Bank, 2015). The same goes for investment in the form of seed capital, business accelerators and entrepreneur funds. In Mexico,

investment in these forms of private capital represents 0.06 per cent of GDP, less than one-third of the corresponding share in Chile or Brazil.⁹

Even though internal levels of credit to the private sector are still low, the Financial Reform¹⁰ approved in January 2014 has had positive results in terms of both credit and savings figures. Between 2012 and 2015, internal credit to the private sector increased by almost five percentage points of GDP (from 25.7 per cent in 2012 to 30.6 per cent in 2015), while financial domestic savings increased from 55.8 per cent to 64.2 per cent of GDP.¹¹ According to data from the Ministry of Finance and Public Credit, interest rates for personal credits went down 8.5 percentage points and credit channeled through development banks increased 20.1 per cent in real terms (August 2014 versus August 2015). This evidence of a stronger financial system is encouraging, but there is still a long way to go

7 For discussion on this topic, see Levy (2008) and Arias *et al.* (2010).

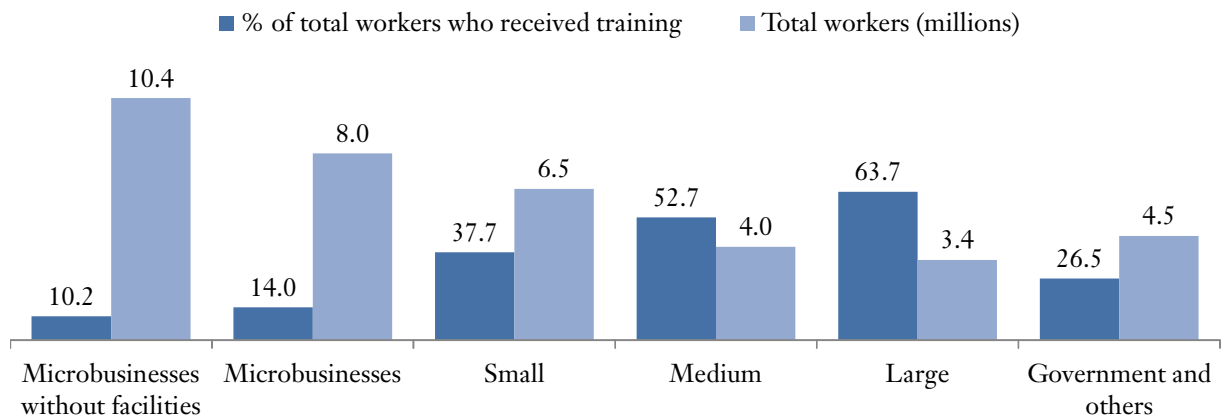
8 The “demographic dividend” refers to the window of opportunity for strong economic growth resulting from the rapid growth of the working-age population relative to the dependent population.

9 Mexican Ministry of Economics with data from Latin American Venture Capital Association and the Economic Commission for Latin America and the Caribbean (CEPAL).

10 The Reform entailed amendments to over 34 legal instruments and the enactment of the Law to Regulate Financial Groups.

11 Financial domestic savings should not be misconstrued as domestic savings.

Chart 5: Total Employment and the Share of Workers that Received Employer-Financed Training by Employer Category, Mexico, 2009



Source: Mexican Ministry of Finance and Public Credit with National Geography and Statistics Institute of Mexico (INEGI).

before the Mexican credit market can reach its full potential.

Labour Productivity

Overall, labour productivity growth has showed a positive trend, advancing 0.7 per cent per year between 2005 and 2014. But there has been considerable variation in labour productivity growth by firm size. During the 2003-2008 period, the productivity of the smallest companies in Mexico plunged 1.6 per cent per year. In contrast, medium and large enterprises showed an annual per cent growth of more than three times that of small production units (Chart 4).¹²

One of the causes behind weak labour productivity growth is a deficient school system that has failed to provide the quality education required by the labour market. According to the OECD, 51 per cent of Mexican students do not have the necessary knowledge and skills to perform well in a contemporary society, well above the OECD average of 22 per cent (OECD, 2010). Only 36 per cent of the working age population

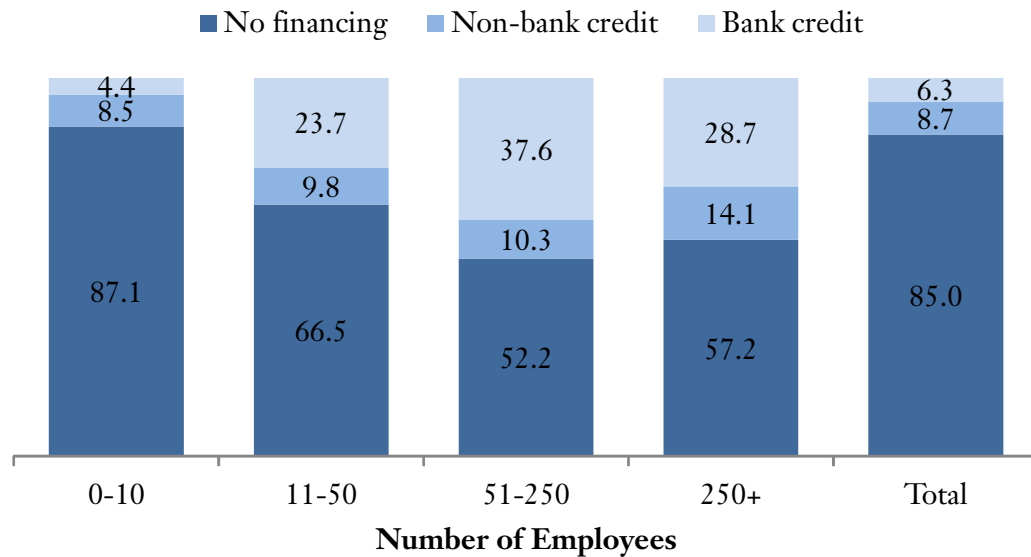
has a secondary school diploma (approximately 9 years of formal education), compared to 74 per cent for OECD countries.¹³

Only 40 per cent of the workers receive training funded by their employer with the incidence of workplace training rising with firm size (Chart 5) (IADB, 2014). The low quality of education and the low levels of educational attainment and workplace training directly affect the ability of workers to adopt new technologies and production methods and hinder their overall capacity to perform well in a knowledge-based society. Since evidence points to a positive relationship between the number of high performing students and the number of patent applications both across countries and across Mexican states, we should reinforce our educational system, so that it is capable of generating a critical number of high-skilled workers that can contribute to insert firms in the knowledge-based society. We need, thus, not only to increase the quality of education, but also the number of relevant fields of studies as well. Evi-

¹² Firm size is determined through the weighted sum of the number of workers (10 per cent) and yearly profits (90 per cent).

¹³ In Mexico, secondary school ends after 9 years, unlike in Canada and the United States, where it ends after 12 years.

Chart 6: Credit Access for Manufacturing Companies by Firm Size (% of Total)



Source: Mexican Ministry of Finance and Public Credit based on information from the National Geography and Statistics Institute of Mexico (INEGI).

dence points to a positive relationship between relevant fields of study and the number of patent applications both across countries and across the Mexican states. Training should also reach those groups and sectors where it is more needed.

As we have seen, much of the growth that Mexico experienced has been based on rising labour supply. The demographic bonus, due to a sustained increase in working age population, has offset the decrease in multifactor productivity. However, as the demographic bonus fades by 2025, growth will necessarily rely more on labour productivity growth or on higher female labour force participation.

Capital Productivity

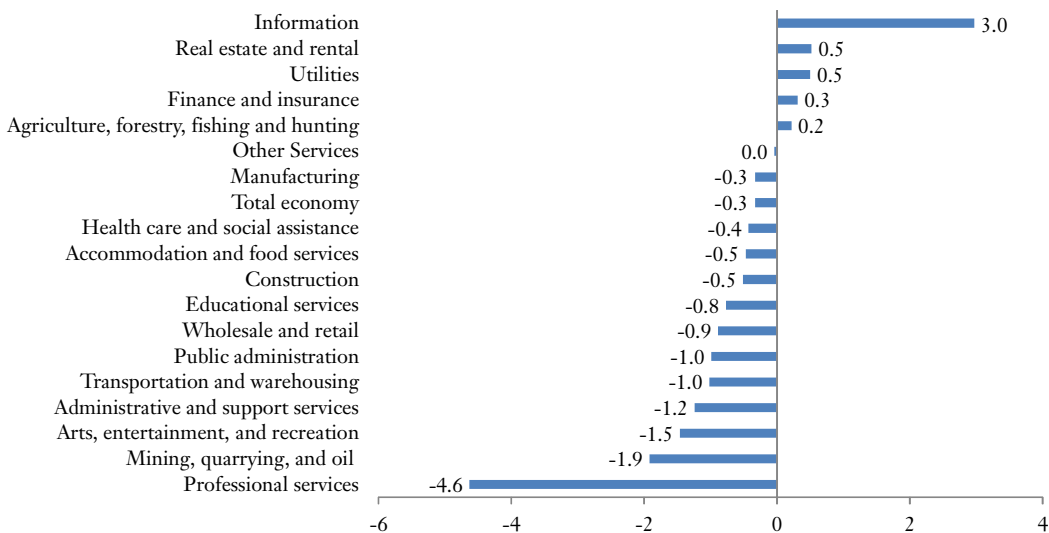
The availability of credit varies greatly by firm size. Credit goes primarily to large firms, while small and medium size enterprises suffer from an endemic lack of access to credit (Chart 6), especially when they most need it – during their first years of operation.

Low innovation activity within firms is another factor holding back capital productivity

in Mexico. While advanced economy expenditure (both public and private) on R&D represents about 2 per cent of GDP, R&D expenditure in Mexico represented about 0.5 per cent of GDP in 2012. A goal of 1 per cent R&D expenditures as a per cent of GDP has been set for 2018. Furthermore, while in advanced economies about two-thirds of R&D expenditure is financed by the private sector and only one third is publicly funded, in Mexico, only one third of R&D expenditure is financed by the private sector and two-thirds is funded by the public sector. This is relevant because the private expenditure for R&D is more likely to have positive and significant impacts on productivity and is more likely to lead to patents. Thus, it is not surprising that patenting activity in Mexico is rather low: only 8.4 per cent of total patent applications in Mexico are by national individuals or firms. The rest are patents registered by foreigners.

The use of land for agricultural or urbanization purposes is also problematic. Nearly 70 per cent of arable land is comprised of small parcels

Chart 7: Multifactor Productivity by Sector, Annual Growth Rate, 1990-2014



Source: Mexican Ministry of Finance and Public Credit based on information from the National Geography and Statistics Institute of Mexico (INEGI).

(5 hectares or less) devoted to subsistence agriculture. These small parcels, in turn, produce 39 per cent of total agricultural production in the country. The inability of small producers to enjoy the benefits of economies of scale, to access better credit conditions, and to employ better cultivation techniques affects their overall productivity.

On the other hand, the process of urbanization in Mexico has been characterized by a disproportionate growth of the urban territory: while the urban population doubled over the last thirty years, urban territory grew six fold (Gobierno Federal, 2014). The unproductive use of urban territory which led to the expansion of low-income housing in the periphery of cities has had important negative consequences in terms of social cohesion, connectivity, and environmental impacts (Gobierno Federal, 2014).

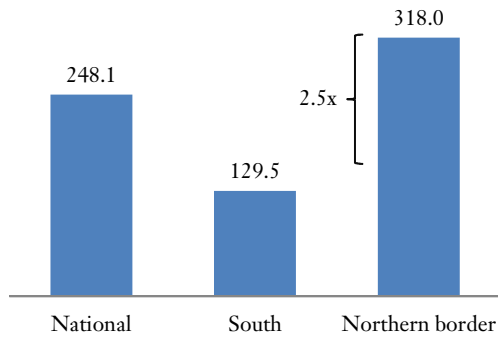
Uneven Development: Sectoral and Regional

Latin America is home to 10 of the 15 most unequal countries in the world, including Mexico (United Nations Development Programme, 2016). The country's industrial base is com-

prised of global and national companies producing cars, parts for the aerospace industry, electronics, and other sophisticated equipment that requires state of the art technology for its production. Next to these highly developed industries lies a reality of subsistence agriculture, informal businesses and poverty. States such as Nuevo León are as productive as South Korea, while other states have productive capacities similar to Honduras (*The Economist*, 2015). Over 46.2 per cent of the population live in poverty and 33.4 per cent (8.5 million people) live in vulnerable conditions (Consejo Nacional para la Evaluación de la Política de Desarrollo Social, 2015).¹⁴ These stark differences in living conditions and complexity of economic activities match the differences in terms of MFP of economic sectors and regions (Chart 7).

The least productive sectors (tourism, retail, and agriculture) represent nearly 51 per cent of the labour force, while the most productive sectors (manufacturing, professional and financial services, transport, and electricity, among others) only account for 28.2 per cent. This patent misallocation of labour and other factors of production calls for a structural change, i.e. the

Chart 8: Productivity Levels by Region in Constant Thousands Pesos Per Employed Person, Mexico, 2014



Note: Southern states include Guerrero, Chiapas and Oaxaca. Output excludes mining activities.

Source: Mexican Ministry of Finance and Public Credit based on information from the National Geography and Statistics Institute of Mexico (INEGI).

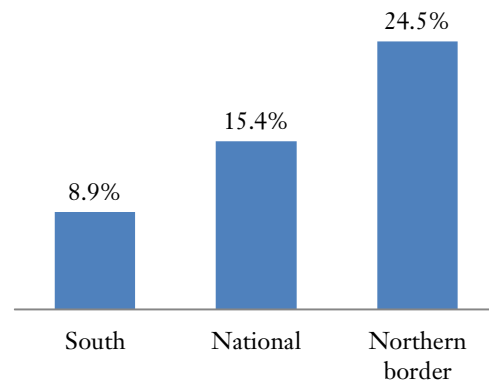
movement of productive resources to activities where they can be used more efficiently. Although the process of structural transformation that reallocates resources toward high-productivity activities has taken place, it has done so rather slowly.

There is also significant variation in regional labour productivity levels. This gap is particularly salient between the northern and southern states (Chart 8). In the south, fewer people are employed in manufacturing (Chart 9), while informality and poverty are higher. However, disparities in per capita output and productivity between the northern and southern states of Mexico have not always been persistent. A number of studies (e.g. Esquivel and Messmacher, 2002) have found that Mexico's measures of regional income and labour productivity in-

quality experienced a steady decrease between 1970 and 1985. This trend was reversed during the 1990s, when Mexico opened up its borders to trade and integrated with the North American market (Esquivel and Messmacher, 2002).

The widening gap in labour productivity levels between Mexico's north and south has been associated with better infrastructure and human capital in the former (Esquivel and Messmacher, 2002). These two factors were critical during Mexico's economic transformation in the 1990s, allowing businesses in the north to attract investment and industrialize faster, while the south remained trapped in a downward spiral of low productivity, low wages and erosion of human capital.

Chart 9: Manufacturing Employment as a Share of Total Employment by Region, Per Cent, 2015



Source: Mexican Ministry of Finance and Public Credit based on information from the National Geography and Statistics Institute of Mexico (INEGI).

14 The population that lives under income vulnerability and social vulnerability is defined differently from the population living under poverty. A person is considered to live under poverty conditions if she meets two requirements: (1) she has an income level lower than the well-being threshold (calculated as the income needed to afford basic food and non-food baskets of goods and services), and (2) she is deprived in at least one of six main social dimensions: educational attainment, access to health services, social security or housing with adequate quality space, basic housing services and access to food. In contrast, the vulnerable population meets only one of the two aforementioned characteristics. 7.1 per cent of the population live under income vulnerability, which means that their income is below the well-being threshold (minimum income to cover nourishment and basic services) and 33.4 per cent of the population live under social vulnerability conditions, which means that while their income is above the well-being threshold, they do not have access to one or more basic services or proper nourishment.

Placing Productivity at the Centre of the Policy Agenda

A Comprehensive Agenda of Structural Reforms

Structural reforms have had positive impacts on the labour productivity, MFP and competitiveness of businesses. The current Administration (2012-2018) has pursued an ambitious reform agenda with three objectives: (i) to boost economic growth through labour and multifactor productivity; (ii) to guarantee the rule of law and the rights of the Mexican citizens; and (iii) to shield the roots of the democratic regime. In total, 11 reforms were approved by a coalition of the three main parties in power. Among the important reforms aimed at increasing productivity and improving the performance of markets, are those related to energy, fiscal issues, the financial sector, education, labour and competition policy.

The implementation of the reforms has already yielded positive results: the 2014 fiscal reform increased tax revenues by 4.6 per cent of GDP and decreased the government's dependence on oil revenues from 39.4 per cent to under 18 per cent of total revenues. Furthermore, since the reform was enacted, the number of taxpayers has increased by 10.2 million, and the informality rate has declined from 59.8 per cent in 2012 to 57.9 per cent in 2015. More competition in the telecommunications sector has resulted in lower telecom costs and more opportunities for investment in advanced technologies: the price of international long distance calls was been reduced by over 40 per cent and mobile rates by 34 per cent between June 2013 and March 2016. In addition, the reform has eliminated long distance charges for all calls within Mexico. The new legislation has spurred investment of over \$8 billion USD by new entrants to the market, including a \$7.4 billion USD investment from AT&T.

As to energy reform, gasoline and diesel prices have dropped 3 per cent, the first price decline in Mexico for this category since 1991. This is only the immediate impact: the energy reform allows private companies –domestic and foreign– to participate in both oil and electricity, at different stages of the production process. As a result of this major shift in energy policy, we estimate an impact on investment of \$6.9 billion USD in the oil sector in the coming years, which – of course – would lower energy prices. This reform will also strengthen national value chains and help to develop a high productivity energy sector.

Institutional Framework to Place Productivity at the Centre of the Policy Agenda

Beginning with the establishment of the cross-cutting strategy “democratizing productivity” in the National Development Plan for the period 2013-2018, the federal government has implemented a series of measures to place productivity at the center of the policy agenda. This cross-cutting strategy required that every federal government program be designed with the aim of increasing productivity in a specific sector, region or population group. Parallel to this effort, the Economic Productivity Unit was established as part of the Ministry of Finance and Public Credit, to follow the evolution of productivity indicators and oversee the implementation of the federal government's productivity strategy. The macro perspective of the Ministry of Finance and Public Credit and its close connection to all other government agencies in budgetary matters made the creation of the Productivity Unit inside this Ministry a natural choice. The Unit was tasked with devising a plan to implement the Democratizing Productivity Strategy, setting the model for a public-private productivity association (the National Productivity Commission or *Comité Nacional*

de Productividad (CNP)), and reviewing the operation of relevant federal programs with impacts on both labour and multifactor productivity, among others.

First on the Productivity Unit's agenda was the creation in May 2013 of a public-private association to promote labour and multifactor productivity-enhancing policies, the National Productivity Commission. The CNP is an advisory body to the executive and the business sector in matters related to economic growth and productivity. The Commission is chaired by the Finance Minister and the President of Mexico has acted as Honorary President since May 2015. The Ministries of Economics, Labour, and Education are also members, as well as the National Council of Science and Technology, five business associations, five labour unions, four universities and two technical training institutions.

Second on the agenda was the implementation of the cross-cutting democratizing productivity strategy. The Special Program to Democratize Productivity, a product of thorough background research into the causes of the declining multifactor productivity levels in Mexico, was published in August 2013. The program focused on five specific objectives, 19 strategies and more than 100 tasks assigned to one or more of the 20 federal government agencies. The tasks ranged from actions aimed at increasing labour market flexibility and improving the rule of law and the regulatory framework for businesses.

The program also included six indicators with specific targets: (i) informality rate (share of informal workers in total employment); (ii) labour productivity; (iii) R&D as percentage of the GDP; (iv) days to start a business; (v) labour productivity in the south-southeastern region; and (vi) multifactor productivity. Some of these

indicators are already showing improvements. For example, the informality rate, as previously mentioned, declined from 59.8 per cent in 2012 to 57.9 per cent in 2015. Investment in R&D increased from 0.49 per cent of GDP in 2012 to 0.55 per cent in 2015. Finally, labour productivity has increased 0.8 per cent per year between 2012 and 2015.

The productivity agenda in Mexico was further reinforced with key partnerships with the international community. On the initiative of the Finance Minister, Mexico hosted the OECD's Global Dialogue on the Future of Productivity in July 2015. At this event OECD member countries and experts from around the world shared their views on productivity and growth and agreed to create an OECD Productivity Network to foster collaboration on productivity research and policy issues. The 2016 OECD Conference of the Global Forum on Productivity, to be held in July in Lisbon, Portugal, will have as its core topic the role of structural reforms in enhancing productivity.

Two Key Innovations: The National Productivity Commission and the Productivity Competitiveness Law

There are varying examples of tripartite productivity-oriented institutions throughout the world.¹⁵ None have had the composition and characteristics of the Mexican National Productivity Commission (CNP). Gary Banks (2015), former Chairman of the Australian Productivity Commission, listed the necessary features that a productivity-oriented institution should possess to be effective:

- the skills to produce technically sound research and implementable advice;
- a mandate to focus on the longer-term;

15 Examples of such institutions include the Australian Economic and Advisory Council, the Economic Council of Canada from 1961 to 1992 (Banks, 2015), and the Canadian Labour Market and Productivity Centre, in operation from 1986 to 2006.

- sufficient ‘independence’ to ensure that their work is not susceptible to undue influence by special interests; and
- operating procedures that subject all their work to public input and scrutiny.

One can make the case that the CNP has these features:

- the Economic Productivity Unit’s role as the technical secretariat of the CNP ensures that all policy recommendations have technical support;
- thanks to the 2015 Productivity and Competitiveness Law, the CNP’s initiatives are now part of the federal government’s long-term planning process; and
- the CNP prioritizes consensus and, in the case that it does not exist, the agreements only will happen by majority vote. This makes its research, findings, and recommendations not susceptible to undue influence.
- in terms of transparency, and as in the case of all other bodies with governmental participation, the Commission’s processes are subject to review by the Federal Audit Organization and open to public scrutiny.

To ensure the continuation of the productivity agenda in future administrations as well as the survival of the National Productivity Commission, the Congress passed the Productivity and Competitiveness Law in 2015. This instrument provides a solid institutional framework to promote productivity in the long term. The Law included provisions in three key aspects: 1) the establishment of a long-term industrial policy with a 20-year time frame and policies for specific regions and sectors of the economy; 2) the establishment of a statutory basis for the National Productivity Commission; and 3) the alignment of budget programs and investment projects with productivity goals.

Long-Term Development Policy

After more than 20 years of free market policies, the Productivity and Competitiveness Law provided for the implementation of long-term development policy, implemented through a special economic development plan. According to the Productivity and Competitiveness Law, the plan should include strategies at three levels: 1) cross-cutting strategies related to innovation, labour productivity, technical training, credit for SMEs, investment in infrastructure, and connectivity and regulatory improvement; 2) strategies aimed at developing specific, high-productivity, capital and knowledge-intensive sectors as well as strategies to transform low labour and multifactor productivity, labour-intensive economic sectors; and 3) regional strategies to promote clusters and boost the development of the most underdeveloped regions in the country. The plan should also include actions in the short, medium and long-term as well as performance indicators. Within the framework provided by this Law, the Ministry of Finance and Public Credit is responsible for the design of the special economic development plan with the support of the Ministry of Economy and the National Productivity Commission.

Enhanced Role of the National Productivity Commission

The Productivity and Competitiveness Law named the President of Mexico the Honorary Chair of the National Productivity Commission, giving the organization a higher profile. The Commission was further strengthened with the capacity to put forward recommendations on matters related to national development policy. The recommendations are binding for the federal government.

The Commission can also issue recommendations to state and municipal governments, State Productivity Commissions, and to the social and

private sectors. Although not of a binding nature, the Commission can sign agreements with each relevant institution and private and social organization to implement the recommendations. Each recommendation is accompanied by a “commitment matrix” that lists specific actions, implementation deadlines and performance indicators.

The authority to issue recommendations is of special importance for the implementation of horizontal, vertical and regional productivity strategies, developed by the CNP, as discussed below.

Horizontal, Vertical and Regional Productivity Strategies

The CNP’s horizontal strategy pursues three main objectives, around which five working groups have been formed: 1) to increase the productivity of the labour force through skills and technical training and work incentives; 2) to increase the productivity of capital through support for SMEs and entrepreneurs in innovation and technology adoption; and 3) to improve the allocation of factors of production by increasing the formalization of the economy and the provision of credit to SMEs. To date the working groups have held more than 100 meetings. Each working group includes representatives of the relevant Commission’s constituencies, as well as special guests, depending on the agenda. Most of the Commission’s initiatives are developed by the working groups and then subjected to approval in plenary sessions.

One of the main projects in the Commission’s agenda is the preparation of a Lifelong Skills Formation Strategy for Mexico. This project will be developed in collaboration with the OECD. The Lifelong Skills Formation Strategy

will be a long-term plan focused on technical education and on-the-job training, and seeks to create a unified skills system, aligned with both the national development strategy and the CNP agenda. This ambitious project would not have been possible without the new framework provided by the Productivity and Competitiveness Law, that allows for long-term projects such as these to be embedded in the overall national development plan.

The plan also seeks to address the need for skilled labour in highly productive sectors based on labour market trends and other prospective instruments.¹⁶ A small group was formed inside the Commission to oversee the project. The experience of inter-ministerial and public-private collaboration over the two-year existence of the CNP has proved very valuable in the conduct of intergovernmental efforts.

The vertical strategy aims to generate structural change in the economy, expanding the most productive sectors and transforming traditional sectors. The Commission began by selecting eight economic sectors based on qualitative and quantitative criteria, including complexity analysis. The sectors were grouped in three categories: 1) high labour and multifactor productivity sectors with high growth potential (auto parts, aerospace procurement, electrical and electronics, and the agro-industrial sector); 2) high employment and low productivity sectors (retail trade, tourism, and gastronomy); and 3) sectors with high growth opportunity due to economic reforms (energy).

Regional Agenda

The activities related to the eight sectors selected by the CNP represent more than 50 per cent of total production in 27 out of the 32 states

¹⁶ Other prospective instruments include labour market intelligence and school-business collaboration, which allow the identification of present and future skills needs at regional, sectoral and industry levels for the provision of relevant educational and training opportunities.

in Mexico. This guarantees a greater impact of the vertical strategy.

The regional agenda, on the other hand, is oriented towards the south-southeast region of the country. As mentioned earlier, there has been a historical divergence of labour productivity levels between northern and southern Mexico. In this regard, the CNP's task is to add a productivity component to the development plans for the Special Economic Zones (SEZs), which seek to attract investment and development to these zones.

The SEZs initiative includes fiscal and labour benefits, a special customs regime, infrastructure, and other special conditions on investment. The CNP will complement this strategy with human capital development initiatives, policies to promote technology transfer and credit programs directed to the areas of influence around each zone.

The Federal Law of Special Economic Zones, approved by Congress in April 2016 and enacted by President Peña Nieto in May 2016, seeks to close the regional gap in productivity by creating Special Economic Zones in the laggard regions of the country. Up to now, four Special Economic Zones have been announced: (i) Puerto Chiapas, in the state of Chiapas; (ii) Lazaro Cardenas Port and adjacent municipalities in the states of Guerrero and Michoacán; (iii) the Interoceanic Corridor in the Tehuantepec Isthmus, Salina Cruz in Oaxaca and Coatzacoalcos in Veracruz; and, (iv) a Special Economic Zone between Tabasco and Campeche, the states most severely affected by the downturn in the oil market. There are high expectations about the success of this initiative, but at least a couple of years will pass before results are visible.

Ensuring the Accountability and Alignment of Budget Programs with Productivity Goals

In 2014, the Economic Productivity Unit designed a productivity evaluation for 36 Budget Programs aligned with the objectives of the Special Program to Democratize Productivity. This evaluation resulted in the adjustment of the performance indicators, operation rules and other normative documents of the 36 programs to better address productivity objectives.

The Productivity and Competitiveness Law reinforced the productivity evaluation and extended it to all budget programs related to the objectives of the long-term development policy. From the enactment of the law, more than 88 programs, which represent 13.9 per cent of the budget for administrative units in 2016, have been evaluated and modified to increase their alignment with the productivity agenda.

Conclusion

Mexico's low economic growth stems from the misallocation of labour and capital, reflected in large labour and multifactor productivity gaps among sectors and regions. Beginning with a set of productivity-enhancing structural reforms, the Mexican Government has enacted a series of measures to place productivity at the center of the policy agenda. Not only is the goal of increasing productivity present in the government's plans and programs, but it is also at the core of an entire institutional framework. This institutional framework includes an administrative unit, the Productivity Unit in the Ministry of Finance and Public Credit, that oversees the implementation of the government's productivity strategy and a public-private organization – the National Productivity Commission – that brings together the public sector, workers, businesses and academia and has the authority to issue binding recommendations. The institutional framework is supported by a legal instru-

ment, the Productivity and Competitiveness Law, that provides for the implementation of a long-term economic development plan.

Even though the results of both the structural reforms and of the productivity-enhancing policies will only be fully visible in the long-term, there are already early signs that the actions are working well, as reflected by increased competition in several sectors and by lower costs of basic inputs.

References

- Arias, J., O. Azuara, P. Bernal, J. J. Heckman and C. Villarreal (2010) "Policies To Promote Growth and Economic Efficiency in Mexico," NBER Working Papers 16554, National Bureau of Economic Research.
- Banks, G. (2015) "Institutions to Promote Pro-Productivity Policies: Logic and Lessons," Background paper prepared for the *Global Dialogue on the Future of Productivity Growth: Towards an OECD Productivity Network*, Mexico City, Mexico, July.
- Busso, M., M. V. Fazio, and S. A. Levy (2012) "(In)Formal and (Un)Productive: The Productivity Costs of Excessive Informality in Mexico," Research Department Publications 4789, Inter-American Development Bank.
- Consejo Nacional para la Evaluación de la Política de Desarrollo Social (2015) "Medición de la pobreza en México y en las Entidades Federativas 2014."
- Daude, C. and E. Fernandez-Arias (2010) "On the Role of Productivity and Factor Accumulation in Economic Development in Latin America and the Caribbean," Inter-American Development Bank Working Paper A Series #IDB-WP-155.
- Esquivel, G. and M. Messmacher (2002) "Sources of Regional (non) Convergence in Mexico," World Bank: Washington, D.C. <http://web.worldbank.org/archive/website00955A/WEB/PDF/ESQUIVEL.PDF>.
- Feenstra, Robert C., Robert Inklaar and Marcel P. Timmer (2013) "The Next Generation of the Penn World Table," *American Economic Review*, Vol. 105, pp. 3150-3182.
- Gobierno Federal (2014) Programa Nacional de Desarrollo Urbano 2013-2018.
- Hanson, Gordon (2010) "Why Isn't Mexico Rich?" *Journal of Economic Literature*, Vol. 48, pp. 987-1004, December.
- Inter-American Development Bank (2014) *Toward a National Framework of Lifelong Learning in Mexico*. <https://publications.iadb.org/bitstream/handle/11319/6756/Toward-a-National-Framework-of-Lifelong-Learning-in-Mexico.pdf?sequence=1>
- Levy, Santiago (2008) *Good Intentions, Bad Outcomes: Social Policy, Informality and Economic Growth in Mexico* (Washington: Brookings Institution Press).
- Magaloni, B. (2006) *Voting for Autocracy Hegemonic Party Survival and its Demise in Mexico* (New York, NY: Cambridge University Press).
- McKinsey Global Institute (2014) "A Tale of Two Mexicos: Growth and Prosperity in a Two-Speed Economy," March. <http://www.mckinsey.com/global-themes/americas/a-tale-of-two-mexicos>
- McMillan, M. A. (2011) "Globalization, Structural Change and Productivity Growth," NBER Working Paper No. 17143.
- National Geography and Statistics Institute (2005-2015) National Occupation and Employment Survey.
- OECD (2010) "Strong Performers and Successful Reformers in Education: Lessons from PISA for Mexico." <https://www.oecd.org/pisa/46638969.pdf>
- OECD (2012) "Getting It Right Strategic Agenda for Reforms in Mexico: Strategic Agenda for Reforms in Mexico," OECD Publishing, Paris.
- Ministry of Finance and Public Credit (2013) *Programa Especial para Democratizar la Productividad*.
- The Economist* (2015) "Development in Mexico: Of Cars and Carts," September 19.
- World Bank (2015) World Development Indicators: Domestic Credit to Private Sector (per cent of GDP).