OECD Economic Surveys

MEXICO

OECD

OECD Economic Surveys:
Mexico
2017

OECD

BETTER POLICIES FOR BETTER LIVES

This document and any map included herein are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

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

Photo credits: Cover © iStockphoto.com/M.

Corrigenda to OECD publications may be found on line at: *www.oecd.org/about/publishing/corrigenda.htm*.

© OECD 2017

Table of contents

Thematic chapters

Follow OECD Publications on:

http://twitter.com/OECD_Pubs

http://www.facebook.com/OECDPublications

http://www.linkedin.com/groups/OECD-Publications-4645871

http://www.youtube.com/oecdilibrary

http://www.oecd.org/oecddirect/

This book has... *StatLinks*

A service that delivers Excel® files from the printed page!

Look for the *StatLinks* at the bottom of the tables or graphs in this book. To download the matching Excel® spreadsheet, just type the link into your Internet browser, starting with the *http://dx.doi.org* prefix, or click on the link from the e-book edition.

BASIC STATISTICS OF MEXICO, 2015
(Numbers in parentheses refer to the OECD average)*

LAND, PEOPLE AND ELECTORAL CYCLE

Population (million)	121.0		Population density per km²	61.6	(35.1)
Under 15 (%)	27.6	(18.0)	Life expectancy (years)	74.8	(80.4)
Over 65 (%)	6.8	(16.3)	Men	72.1	(77.8)
Foreign-born (%)	0.8		Women	77.5	(83.0)
Latest 5-year average growth (%)	1.2	(0.6)	Latest general election	July	2012

ECONOMY

Gross domestic product (GDP)			Value added shares (%)		
In current prices (billion USD)	1 148.1		Primary sector	3.3	(2.5)
In current prices (billion MXN)	18 194.8		Industry including construction	32.8	(26.5)
Latest 5-year average real growth (%)	2.8	(1.7)	Services	63.9	(71.1)
Per capita (000 USD PPP)	18.1	(40.2)			

GENERAL GOVERNMENT
Per cent of GDP

Expenditures	27.4	(42.3)	General government gross debt	54.0	(116.0)
Revenues	23.2	(38.5)	General government net debt	47.6	(71.6)

EXTERNAL ACCOUNTS

Exchange rate (MXN per USD)	15.8		Main exports (% of total merchandise exports)		
PPP exchange rate (USA = 1)	8.3		Machinery and transport equipment	58.3	
In per cent of GDP			Mineral fuels, lubricants and related materials	10.5	
Exports of goods and services	35.3	(54.1)	Miscellaneous manufactured articles	9.5	
Imports of goods and services	37.4	(49.7)	Main imports (% of total merchandise imports)		
Current account balance	-2.9	(0.15)	Machinery and transport equipment	47.1	
Net international investment position	-35.8		Miscellaneous manufactured articles	13.7	
			Chemicals and related products, n.e.s.	11.4	

LABOUR MARKET, SKILLS AND INNOVATION

Employment rate for 15-64 year-olds (%)	60.7	(66.2)	Unemployment rate, Labour Force Survey (age 15 and over) (%)	4.3	(6.8)
Men	78.3	(74.1)	Youth (age 15-24, %)	8.6	(13.9)
Women	44.7	(58.5)	Long-term unemployed (1 year and over, %)	0.1	(2.5)
Participation rate for 15-64 year-olds (%, 2014)	63.7	(71.2)	Tertiary educational attainment 25-64 year-olds (%)	18.6	(34.0)
Average hours worked per year (2013)[a]	2 228	(1 770)	Gross domestic expenditure on R&D (% of GDP)	0.5	(2.4)

ENVIRONMENT

Total primary energy supply per capita (toe, 2014)	1.6	(4.1)	CO_2 emissions from fuel combustion per capita (tonnes)	3.8	(9.6)
Renewables (%)	9.1	(9.1)	Water abstractions per capita (1 000 m³)	0.7	
Fine particulate matter concentration (PM2.5, μg/m³, 2013)	11.9	(13.8)	Municipal waste per capita (tonnes)	0.4	(0.5)

SOCIETY

Income inequality (Gini coefficient, 2012)	0.457	(0.308)	Education outcomes (PISA score, 2015)		
Relative poverty rate (%, 2012)	18.9	(10.9)	Reading	423	(493)
Median disposable household income (000 USD PPP, 2012)	4.9	(22.1)	Mathematics	408	(490)
Public and private spending (% of GDP)			Science	416	(493)
Health care (2013)	6.2	(8.9)	Share of women in parliament (%)	40.6	(27.9)
Pensions (2013)[b]	1.8	(8.7)	Net official development assistance (% of GNI)	N/A	(0.39)
Education (primary, secondary, post sec. non tertiary, 2015)	3.9	(3.7)			

Better life index: *www.oecdbetterlifeindex.org*

a) 2014 for the OECD aggregate.
b) 2013 for the OECD aggregate.
* Where the OECD aggregate is not provided in the source database, a simple OECD average of latest available data is calculated where data exist for at least 29 member countries.

Source: Calculations based on data extracted from the databases of the following organisations: OECD, International Energy Agency, World Bank, International Monetary Fund and Inter-Parliamentary Union.

Executive summary

- *Growth is strong, but disparities persist across Mexico*
- *Productivity is picking up thanks to ambitious structural reforms*
- *Income inequality and gender gaps remain high*

Growth is strong, but disparities persist across Mexico

Growth disparities across Mexican states are increasing
(GDP per capita, 2005 = 100)
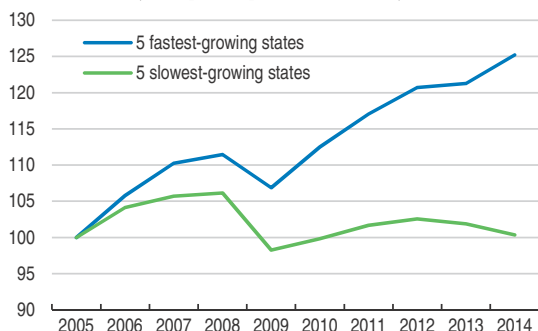
Source: INEGI.

StatLink http://dx.doi.org/10.1787/888933444350

Ambitious structural reforms and sound macroeconomic policies have ensured the resilience of the highly-open Mexican economy in the face of challenging global conditions. Yet, growth has not been inclusive enough to achieve better living conditions for many Mexican families. Disparities between a highly productive modern economy in the North and in the Centre and a lower-productivity traditional economy in the South, have increased. Mexico can reignite growth by reprioritising its public spending towards infrastructure, training, health, and poverty reduction.

Productivity is picking up thanks to ambitious structural reforms

Total factor productivity is recovering
(contribution to potential GDP per capita growth, %)
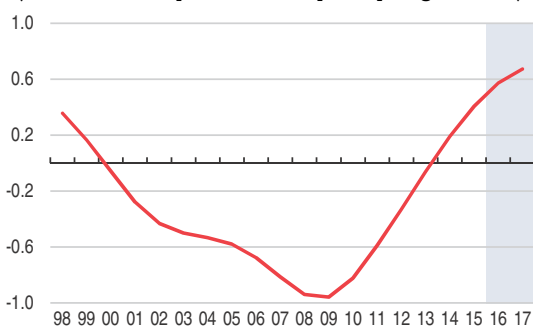
Source: OECD (2016a), Economic Outlook database.

StatLink http://dx.doi.org/10.1787/888933444368

Mexico's productivity growth has recently picked up in sectors that benefitted from structural reforms – energy (electricity, oil and gas), financial, and telecom sectors. Trade openness, foreign direct investment, integration into global value chains, and innovation incentives have boosted exports, notably of autos. Yet other sectors lag behind, suffering from overly stringent local regulations, weak legal institutions, rooted informality, corruption and insufficient financial development. Further reform is essential to address these problems.

Income inequality and gender gaps remain high

Income inequality is high and female labour force participation is lagging
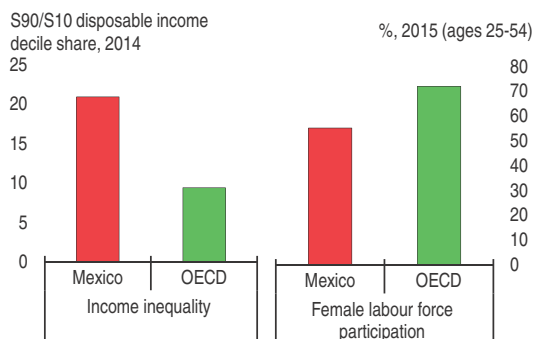
Source: OECD Income Distribution and Poverty Database and OECD Labour Force Statistics Database.

StatLink http://dx.doi.org/10.1787/888933444377

Income remains highly concentrated, many families live in poverty, insecurity is high and children's opportunities to do better than their parents could be improved. Past policies have begun to correct these trends. But more needs to be done, especially for women, who suffer from many types of discrimination. For mothers of young children, participating in the labour market is a challenge, reflecting insufficient provision of affordable and quality childcare. Business practices could also foster inclusiveness and be more responsible towards women, the disabled and other groups that suffer discrimination.

MAIN FINDINGS	KEY RECOMMENDATIONS
Make fiscal policy more inclusive, sustainable, and transparent	
Social expenditure is too low to eliminate poverty and make society more inclusive	Strengthen social expenditure on programmes to eradicate extreme poverty, such as *Prospera*. Raise and broaden the minimum pension to expand the old-age safety net.
Tax evasion and tax avoidance lower government revenue	Co-ordinate the collection of income taxes and social security contributions. Make greater use of property taxes. Further broaden income tax bases and remove inefficient tax expenditures.
Fiscal data are difficult to interpret on an international basis	Fully separate PEMEX from the federal budget when feasible. Present budget documents and fiscal data on both domestic and national accounts standards.
Fiscal relations with SOEs are distortive	Normalise the taxation of state-owned enterprises (SOEs) by shifting to a tax regime similar to that of the private sector.
Adopt policies towards sustainable development	
People in extreme poverty are excluded from the social safety net	Simplify the administrative procedures for accessing cash transfers. Increase the role of social workers in reaching out to marginalised families.
Teachers' performance evaluations have not been fully applied	Make transfers to Mexican states conditional on implementing the national standard-setting for primary and secondary teacher performance.
Female participation lags behind male's in the labour market and women suffer from discriminatory practices	Expand public early childcare and pre-school coverage. Extend the length of paternity and maternity leaves. Better enforce the constitutional provision on gender discrimination, particularly in the workplace, boardrooms and credit markets.
Make growth more inclusive	
High informality is closely related to poverty and gender inequalities	Strengthen awareness of in-work subsidies for formal workers. Focus enforcement on large formal firms employing informal workers.
Innovation performance is weak	Focus financing on early stages of co-operation of public research institutes and innovative private businesses. Continue to improve the business environment, including for foreign innovative firms.
Corruption and crime remain widespread	Build capacity of the sub-national level entities involved in the new anti-corruption system. Encourage more states to establish integrated state-wide police forces.
Judicial processes are unreliable	Extend oral trials to all civil and commercial cases. Boost training, resources and technology for the judiciary.

Assessment and recommendations

- *Reforms are working, but disparities persist across Mexico*
- *Despite external headwinds, growth is resilient*
- *Vulnerabilities persist*
- *Monetary policy has been successful at containing inflation*
- *Fiscal performance is improving but the credibility of the fiscal rule could be enhanced*
- *Fiscal policy needs to be more supportive of inclusive growth*
- *Mexico still needs to deliver on skills and education gaps*
- *Realising Mexican women's aspirations*
- *Reforms are boosting productivity in certain industries*
- *Openness to trade and investment is paying off in some sectors*
- *Further reforms are needed to improve governance and legal institutions*
- *The carbon emissions tax rate remains insufficient*

Reforms are working, but disparities persist across Mexico

Mexico is now the world's 11th largest economy (in terms of GDP measured at purchasing power parity). The country has gone through tremendous structural changes over the past three decades. From an oil-dependent economy up to the early 1990s to a booming manufacturing centre in the aftermath of NAFTA in the mid-1990s, Mexico is now increasingly becoming an international trade hub. The proximity to the US export market continues to be a competitive advantage, but Mexico has strategically boosted free trade, signing 12 agreements with 46 countries. Mexico is now a top global exporter of cars and flat screen TVs, among other products. Yet, Mexico's economic potential has been hindered by important challenges such as high levels of poverty, extensive informality, low female participation rates, insufficient educational achievement, financial exclusion, weak rule of law, and persistent levels of corruption and crime. To address these problems, the current government has rolled out major structural reforms since 2012 aimed at improving growth, well-being and income distribution (Table 1). The initial wave of reforms, kicked-off by the multi-partisan political commitments in the *Pacto por México*, has led to notable progress across a range of areas and has put Mexico at the forefront of reformers among OECD countries (OECD, 2015a). Key laws and constitutional amendments were approved, and secondary laws or regulations passed.

Table 1. **The government's package of structural reforms since 2012**

Structural reform (*Pacto* reforms in italics)	Purpose of the reform
Reforms with implementation well advanced	
Tax policy reform	Raise more revenue, plug tax loopholes, increase progressivity and simplify the tax system.
Financial sector liberalisation	Provide more access to credit at a lower cost and improve competition in the banking sector.
Telecom deregulation	Protect consumer interest and reduce the cost of telecom services.
Election system reform	Require re-election among all mayors and parliamentarians by 2018.
Competition policy and regulatory reform	Strengthen competition policy and improve the regulatory environment.
Energy market openness	Open the oil & gas sector to private operators; liberalise the electricity sector.
Reforms with gaps in implementation	
Labour market reform and tackling informality	Improve incentives to join the formal sector.
Education quality reform	Substantially revamp the education system, introducing teacher exams and institutional reforms.
Anti-corruption and transparency reform	Reduce corruption and improve public governance.
Judicial process reform	Improve the efficiency of the criminal justice system.
Innovation system reform	Boost R&D and infrastructure; develop more clusters and special economic zones.
Fiscal federalism	Strengthen fiscal responsibility at the sub-national level.
Reforms that have not advanced enough	
Agricultural transformation	Increase the efficiency of agriculture, relax rules on land.
Unemployment insurance, pensions and social benefits	To reduce unemployment risk and boost the incomes of the elderly poor.
Health system reform	Integrate and expand the health system.
Urban planning	Improve the coherence of urbanisation.

Source: OECD compilation.

Strong progress has been made to open sectors such as energy and telecoms to more competition. Institutional designs have been improved with a new National Productivity Commission, a strengthened competition authority, and expanded sectoral regulators. Initial progress has been made with education and social benefits, although parts of these plans have run into difficulties. The OECD estimated in the last Economic Survey that a subset of the *Pacto por México* reforms could add one percentage point to GDP growth after five years (OECD, 2015a). These estimates made a series of assumptions for reforms where sufficient information and quantitative impact assessment models were available. An additional set of selected reforms could add another percentage point to GDP (Figure 1).

Figure 1. **Reforms are expected to yield large impacts**

Expected gain in GDP growth after five years, assuming effective implementation
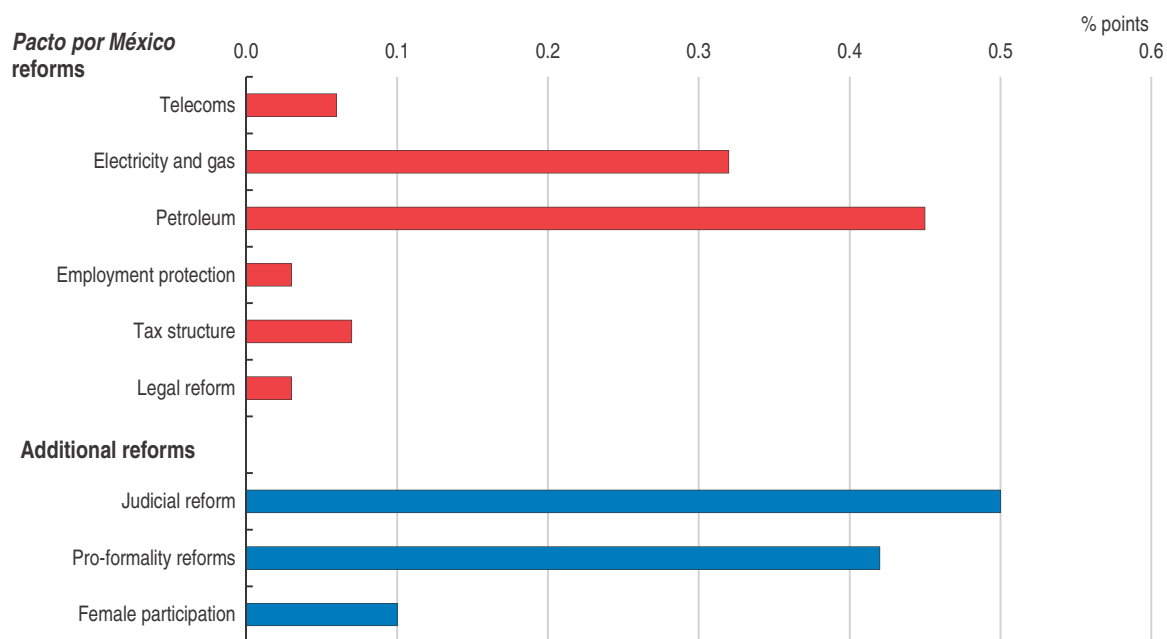
1. The reform impacts are estimated using a combination of Mexico-specific and cross-country economic models (see Annex 2 in Dougherty, 2015). Effects are envisioned to occur through accelerated total factor productivity convergence to the global technological frontier, as well as through capital deepening. These baseline estimates include only a selection of the sectors affected by the reforms.

Source: OECD Economic Survey of Mexico, 2015.

StatLink ⬛ *http://dx.doi.org/10.1787/888933444380*

Reforms have already demonstrated short-term benefits, especially on productivity growth, which has picked up recently. However, the declining trend of labour utilisation in recent years calls for more to be done to make it more worthwhile to participate in the labour market, while ensuring satisfactory work-life balance, and equip workers with the skills necessary to be productive and receive adequate wage gains. Such reforms fit well with the long-term sustainable development goals (SDGs) to be achieved in 2030, notably to eradicate extreme poverty, reduce income inequality, improve economic opportunities, lower informality, raise female participation, and encourage more responsible business practices.

In addition, inequalities continue to grow across states and sectors, emphasising the divergence of a modern Mexico – highly productive, competing globally, mostly located at the border with the United States, in the central corridor and in tourism areas; and a traditional Mexico, less productive, with small-scale informal firms, mostly located in the South.

Against this background, this report focuses on:

● How to ensure that resilient growth continues, reducing oil dependence, preparing for vulnerabilities and exogenous shocks, and supporting more social spending.

● How to reduce inequalities with policies to better fight poverty, promote women's opportunities, and foster responsible business practices.

● How to ensure inclusive productivity growth by reforming key sectors of the economy, climbing global value chains, lowering regulatory barriers, tackling informality, and reducing corruption.

Despite external headwinds, growth is resilient

Despite being hit by several external shocks, the Mexican economy is resilient and recent indicators suggest further growth ahead (Figure 2 and Box 1). The external environment is difficult, with the global economy remaining in a low-growth environment, and weak global trade, investment, productivity and wages, in addition to uncertainty about the future evolution of economic and trade policies in the United States. Headwinds specific to Mexico include collapsing oil prices, which reduced government receipts and led to cutbacks in energy sector investments, as well as the sharply depreciating Mexican peso following market expectations of US Federal Reserve tightening and rising global policy uncertainty (Box 2). Despite these shocks, performance is good, supported by domestic demand. The structural reforms are supporting a low inflation environment and strong expansion of credit, leading to gains in real wages and employment. The large depreciation of the peso further increases the competitiveness of Mexican non-oil exports, and has not pushed up inflation. It also has a positive impact on the fiscal balances, reflecting the dollar denominated oil receipts and the low exposure to foreign currency debt. Furthermore, sufficient resources have been accumulated in the oil stabilisation fund, allowing Mexico to stay on course with its fiscal consolidation trajectory without additional measures.

Figure 2. **The economy is resilient**

A. Selected contributions to GDP growth

B. Unemployment and inflation
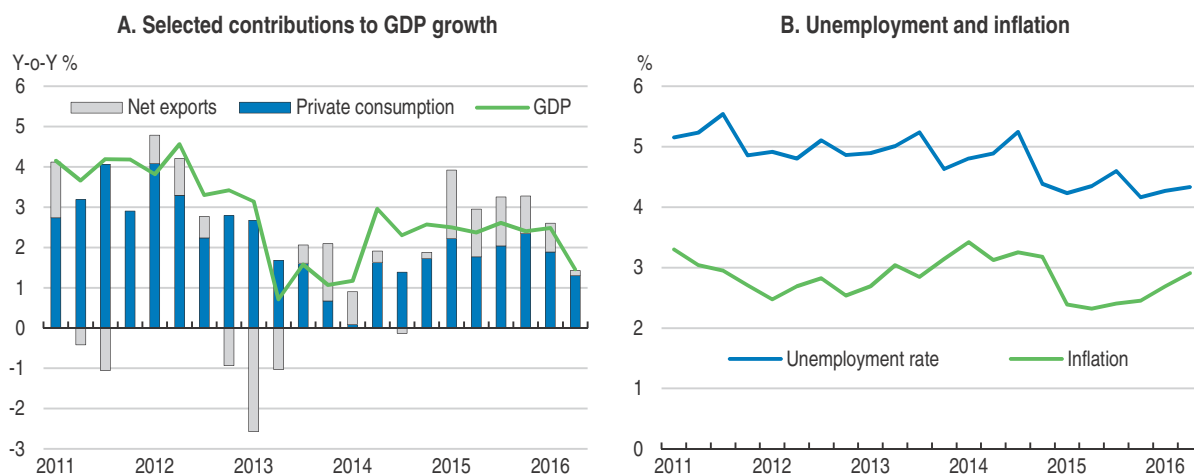
Source: OECD Economic Outlook 100, Banco of Mexico, and INEGI.

StatLink ⟶ *http://dx.doi.org/10.1787/888933444395*

Economic activity has been resilient to sharply lower oil prices, weak world trade growth and monetary policy tightening in the United States. Domestic demand remains the main driver of economic activity, supported by recent structural reforms that have cut prices to consumers, notably on electricity and telecoms services. Growth may be held back in 2017 and 2018, mostly through investment and consumer confidence, following uncertainties about

future US policy, although the economy could benefit from the expected fiscal stimulus in the United States which would bring stronger import demand (Table 2).

Private investment in the oil sector will generate activity partially offsetting cutbacks in public oil-related investment, and industrial production will remain tied to activity in the United States. The substantial depreciation of the peso during 2016 will continue to support foreign trade, with limited pass-through to domestic prices, allowing inflation to converge towards Mexico's central bank target band (3% ±1%).

Table 2. **Macroeconomic projections**

	2013	2014	2015	2016	2017	2018
	Current prices MXN billion	Percentage changes, volume (2008 prices)				
GDP	16 114.5	2.2	2.5	2.2	2.3	2.4
Private consumption	11 048.0	1.8	3.1	2.8	2.4	2.4
Government consumption	1 962.5	2.1	2.4	0.6	-0.1	0.0
Gross fixed capital formation	3 400.7	2.8	3.9	2.0	1.9	2.2
Final domestic demand	16 411.2	2.0	3.2	2.4	2.0	2.1
Stockbuilding[1]	-150.9	0.0	-0.1	0.0	0.0	0.0
Total domestic demand	16 260.3	2.1	3.1	2.4	2.1	2.1
Exports of goods and services	5 119.4	6.9	9.1	2.6	4.3	4.9
Imports of goods and services	5 265.2	5.9	5.1	3.2	3.9	4.1
Net exports[1]	-145.7	0.3	1.2	-0.3	0.1	0.2
Memorandum items						
Potential GDP	_	2.8	2.8	2.7	2.7	2.7
Output gap	_	-1.3	-1.6	-2.2	-2.6	-2.9
GDP deflator	_	4.7	2.5	3.7	3.3	3.2
Consumer price index	_	4.0	2.7	2.8	3.5	3.6
Private consumption deflator	_	4.2	4.0	3.7	3.6	3.7
Unemployment rate[2]	_	4.8	4.3	3.9	4.1	4.1
Public sector borrowing requirement[3, 4]	_	-4.6	-4.1	-3.0	-2.9	-2.5
General gross government debt[3, 4]	_	48.4	52.5	54.2	54.0	53.3
Nominal effective exchange rate[5]	_	-2.9	-11.9	-14.2	-9.3	0.0
Current account balance[4]	_	-2.0	-2.9	-3.5	-3.4	-3.1

1. Contributions to changes in real GDP, actual amount in the first column.
2. Based on National Employment Survey. Amount of individuals that are unemployed over total labour force.
3. Central government and public enterprises. The PSBR differs from the government's definition of the deficit in that it excludes non-recurrent revenues and pure financing operations, such as withdrawals from the oil revenue stabilisation fund.
4. As a percentage of GDP.
5. Constant trade weights.
Source: OECD Economic Outlook 100 database.

Box 1. **Recession risks are low**

The Mexican national statistics office (INEGI) calculates coincident and leading business cycles indicators, using a methodology in line with the OECD's (see *Sistema de indicadores cíclicos, www.inegi.org.mx*). They incorporate the following underlying components: a global activity indicator, the real bilateral exchange rate (Mexican peso to the US dollar), employment trends in manufacturing, an index of prices and quotations of the Mexican Stock Exchange, the Interbank Equilibrium Interest rate, the Standard & Poor's 500 (US stock market index), imports, remittances, and the number of workers affiliated with IMSS (Social Security). Those indicators are available at the monthly frequency starting in 1988.

Box 1. **Recession risks are low** (cont.)

Since the end of 2015, INEGI reports point to a negative opening of the leading indicator's gap relative to its long-term value (i.e. the indicator is turning negative), indicating the possibility of a deceleration of the economy. In order to provide a more systematic stance on the probability of a recession, this analysis builds on recent OECD studies (Hermansen and Röhn 2015; Röhn et al., 2015) that associate the probability of recession to indicators of potential imbalances (calculated as the deviation from historical trend, using HP-filtering methods). In order to fit more closely the case of Mexico, we use the same components as INEGI's co-incident and leading indicators. Importantly, some indicators are common to both models, but they are also more frequent (monthly instead of quarterly) and timely (the latest data point available is October 2016). Additionally, principal component analysis is used to downplay the noise from each indicator separately and focus on their collective signalling content (OECD, 2016b). Figure 3 shows estimates of the recession probability at horizons of 2, 4, 8, and 12 quarters, using models estimated with monthly data for three components that have been identified over the entire time span from January 1988 to September 2016. These models show elevated recession probabilities around the time of most downturns but are still subject to errors, notably the 1990s. Estimates from the latest months (up to October 2016) suggest that vulnerabilities have risen in the short term, due in part to the significant depreciation of the peso. Looking forward, we project monthly indicators until December 2017 using the OECD Economic Outlook forecasts. Recessions risks remain below levels typically indicating an imminent recession, even given the large depreciation of the peso, in particular the 12-quarter lead indicator that is showing the most accurate predictions over time.

Figure 3. **A recession is unlikely in the short term**
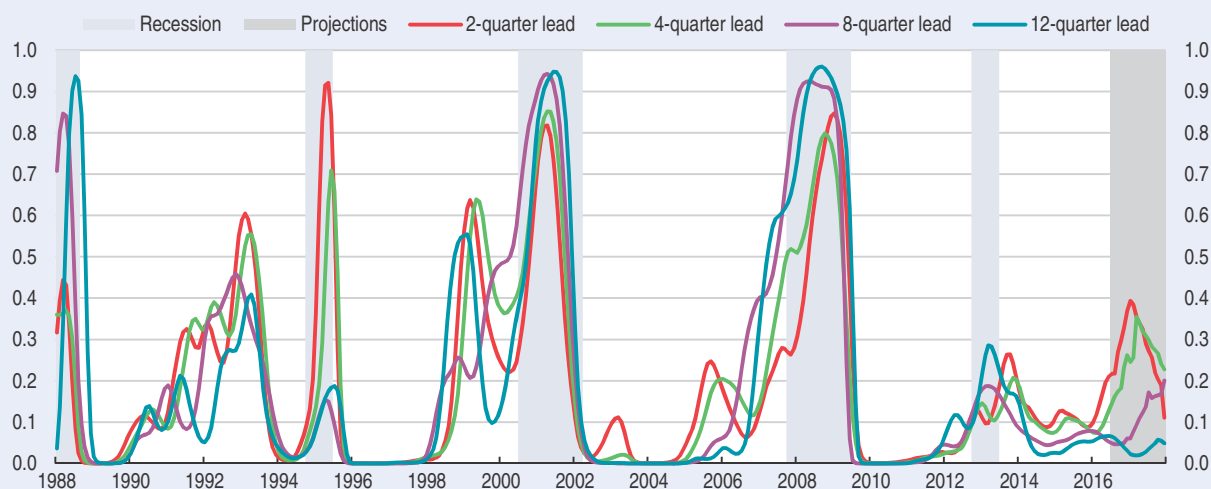
Source: OECD calculations using INEGI business cycle indicators.

StatLink ᵃˢᵖ *http://dx.doi.org/10.1787/888933444401*

Box 2. **Mexico's oil dependence has fallen, but remains elevated**

Mexico has a long legacy of oil dependence. Until the mid-2000s, oil-related activities (including petrochemicals and oil-derivative products) accounted for about 13% of GDP (Figure 4, Panel A). Over the last decade however, declining oil extraction from the national oil company (PEMEX: Pétroleos Méxicanos) has had an important effect on the oil-GDP contribution, which has fallen to about 8% in 2016. Oil-related revenues and exports were also a major source of government revenues and foreign exchange receipts but they also declined significantly in recent years due the collapse of oil prices and increase in tax revenues following the tax reform (Figure 4, Panel B). Yet, PEMEX capital spending remains high, at about 1/3 of public capital spending (Figure 4, Panel B), and the MXN/USD exchange rate has been highly correlated with oil prices (Figure 4, Panel C).

Box 2. **Mexico's oil dependence has fallen, but remains elevated** *(cont.)*

Oil dependence caused several difficulties when global energy prices collapsed (Figure 4, Panel D). Reforms implemented in 2014 to improve PEMEX's governance, to gradually open the oil sector to private and foreign participation, and to decrease the budget reliance on oil revenues have therefore been timely. Additionally, the Government has an oil hedge strategy to insure against oil price volatility (see Table 5). Nonetheless, the government needed to support PEMEX in 2016 (up to MXN 73.5 billion in capital and a bond exchange to absorb some pension liabilities) and exposed the urgent need to downsize and corporatise the company. As a complementary measure, the tax regime of PEMEX was modified to increase the cap for capital cost deductions. More broadly, the Mexican economy will benefit from opening the energy sector more widely.

Figure 4. **Oil dependence in Mexico**

A. Declining contribution of the oil sector

B. Public dependence is declining but remains high

C. The correlation between the exchange rate and oil prices has strengthened

D. Oil and non-oil output gaps
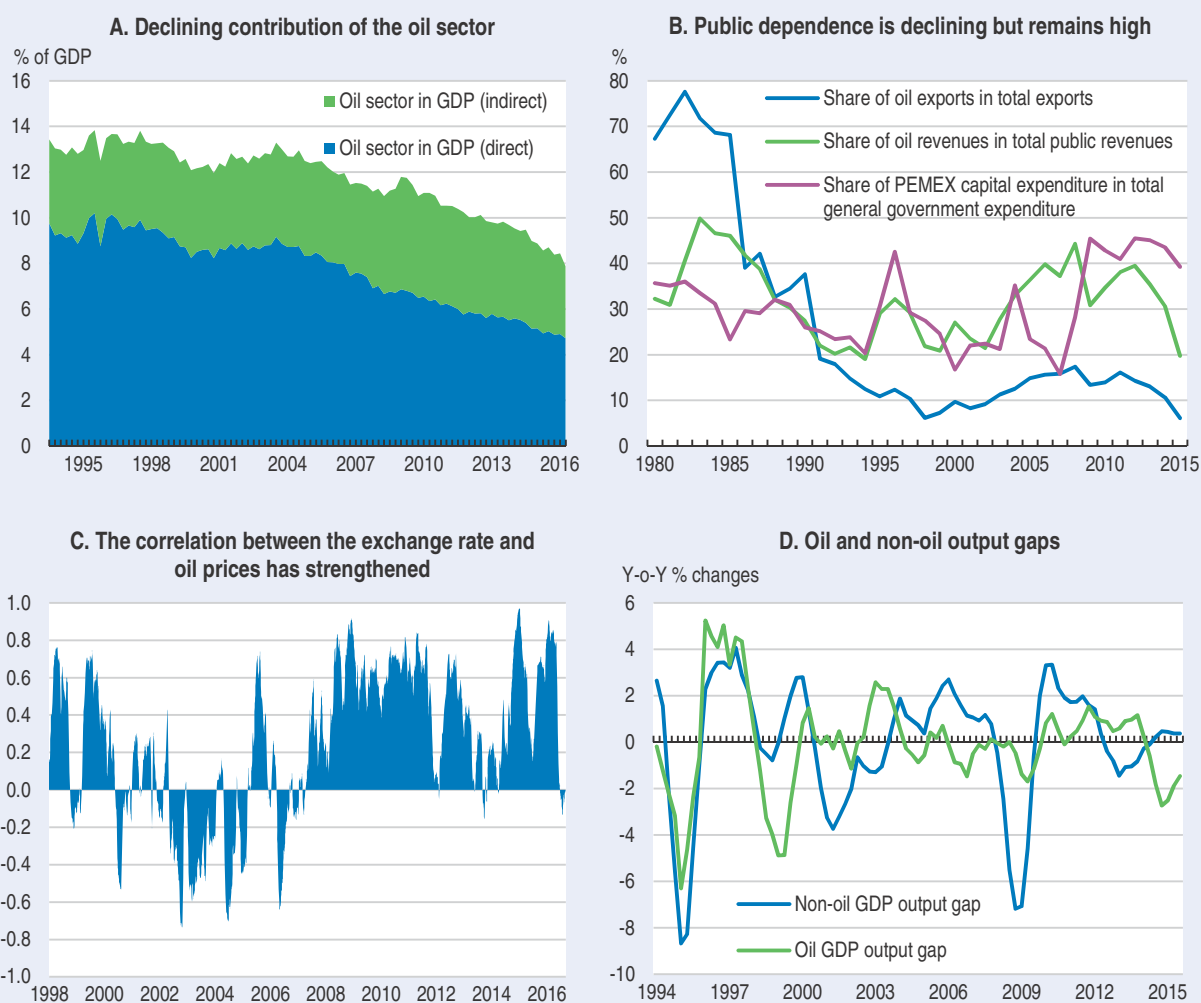
Note: Panel A: The direct oil sector share represents the Oil and Gas Extraction sector in the National Accounts. The indirect represents services related to the extraction of oil, National Accounts #211 213 237 324 3251 and 3 259. Panel C: The chart shows the average of 1 to 12 months correlation coefficients between the MXN/USD and Mezcla Mexicana (i.e. the average price of crude oil produced in Mexico). Panel D: The same definition as in Panel A is used to define non-oil GDP and a HP filter is applied to disentangle the trend from the cycle components.
Source: OECD calculations using data from INEGI, SHCP and Banxico.

StatLink ᕯᕲᔥ *http://dx.doi.org/10.1787/888933444411*

Vulnerabilities persist

Mexico faces a weak and uncertain external environment, as the global economy remains in a low-growth mode and many emerging market economies lack momentum. Low commodity prices and accommodative monetary policies offer some support, albeit punctuated by periods of financial instability, which heighten aversion to risk and discourage productive investment and employment gains. This challenging environment affects Mexico through various channels:

- Weak exports to trading partners, notably the United States and South American countries;
- Uncertainties related to US monetary policy normalisation or possible adverse developments in EMEs could increase global financial volatility with significant spillover effects;
- Further downward pressures on oil prices and difficulties in implementing PEMEX's reform could delay reaching the budget deficit target and erode market confidence;
- Second-round effects could raise the pass-through of past depreciations, in particular if they feed into wage growth, and increase inflation above the target.

More extreme vulnerabilities could also materialise (Box 3).

Box 3. **Key vulnerabilities**

Vulnerability	Possible outcome
Sudden stop of capital flows to emerging market economies (EMEs)	Increase in risk sentiment across EMEs leading to further depreciation of the peso, capital outflows, and increases in the Government's CDS spread and bond yields. A further tightening of monetary and fiscal policy.
Global recession	A global recession would push down manufacturing production, with negative feedback to wages and consumption. This would result in a sharp increase in public debt, since policy buffers are already stretched.
Natural disaster (e.g. storm activity, earthquake)	Depending on the size of the natural disaster, the fall in output from agriculture and other productive sectors could be regional or national. Infrastructure would likely be damaged. Financial support from Mexico's Fund for Natural Disasters (FONDEN) would be triggered as well as the Catastrophic Bond instrument.
An escalation of drug-related violence	Negative impacts on business, tourism and investment, leading to a deceleration of economic growth. Potential growth could be also affected negatively, depending on the length of the surge in violence.
Trade partners' retreat from trade agreements	Negative impacts on export businesses and investments given Mexico's trade openness. Remittances and market confidence will be negatively affected. Mexico could lose substantial market share with trading partners, triggering a significant deceleration in output, depending on the size of the trade flows affected.

Monetary policy has been successful at containing inflation

Banco de Mexico (Banxico) has contained inflation within its target band despite significant depreciation of the peso (Figure 5, Panel A). The policy interest rate was raised 275 basis points since December 2015 to 5.75% in December 2016, to stem inflationary pressures resulting from the significant depreciation of the peso, and considering the relative monetary stance vis-à-vis the US Federal Reserve, and the output gap (Banxico 2016a, 2016b). Foreign exchange interventions requested by the Exchange Commission to provide liquidity to the peso market and preserve its orderly functioning stopped in February 2016. Mexico renewed and increased its access under the IMF Flexible Credit Line (FCL) in May 2016. Those policy actions allowed the central bank to keep inflation expectations anchored (Figure 5, Panel B).

The economic environment has been complex. The country has been facing significant external headwinds with the collapse of oil prices in 2014/15, the significant depreciation of the peso, the tightening stance of the US Federal Reserve, increased

Figure 5. **Monetary policy has successfully anchored inflation expectations**
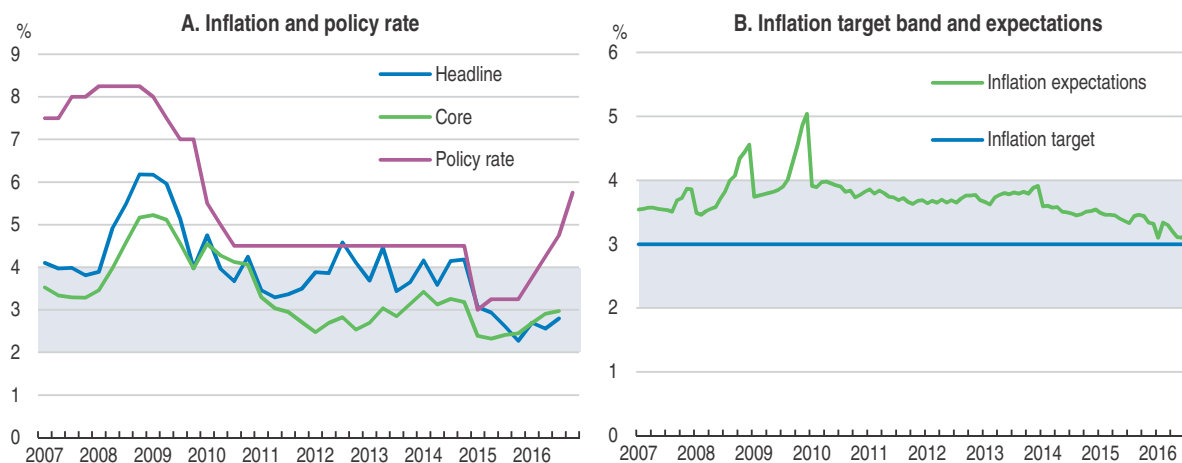
Note: The blue shaded area represents Banxico's inflation target band of 3% ±1%.
Source: Banco de México.

StatLink ⟨≡≣⟩ *http://dx.doi.org/10.1787/888933444425*

volatility in financial markets, and the slowdown of the US economy. Banxico has therefore enhanced its communication, focusing on the possible pass-through from the depreciation of the peso. To continue building its credibility, the bank should carry on acting timely and flexibly in order to ensure the efficient convergence of inflation to its target.

Financial stability risks appear to be generally well contained (Table 3). Hedging strategies have contained much of the risk, and regulatory reforms to comply with Basel III, as well as supervision helped to protect the banking sector. Expanded lending by development banks, following the financial reform, has reduced the cost of credit for small and medium enterprises, but could pose a risk of non-performing loans in the event of an adverse downturn scenario.

Table 3. **Banking system financial indicators**

(per cent)

	2013	2014	2015				2016		
			Q1	Q2	Q3	Q4	Q1	Q2	Q3[p]
Return on Assets (ROA)	2.1	1.7	1.7	1.8	1.9	1.7	1.6	1.7	1.7
Return on Equity (ROE)	19.3	15.9	15.9	16.6	17.6	15.8	16.1	16.5	16.5
Capital adequacy[1]	15.6	15.8	15.8	15.6	15.5	15.3	14.7	14.9	14.8
Liquidity ratio (Deposits/Loans)[2]	86.8	89.3	89.6	89.0	88.4	87.9	87.9	88.0	87.2
NPL ratio (Non-performing loans/total loans)	3.2	3.0	3.0	3.0	2.9	2.8	2.5	2.4	2.3
Net Open Position in Foreign Exchange to Capital		-0.7	-0.7	-0.1	-0.2	-0.2	0.5	0.2	0.3
Foreign-Currency-Denominated Loans to Total Loans	12.3	15.7	15.5	16.8	16.2	16.8	19.4	15.8	18.5

1. Capital adequacy is computed as the ratio of regulatory capital over risk-weighted assets.
2. The liquidity ratio is computed as the customer deposits to total loans. It therefore excludes interbank deposits. Figures for 2016Q3 are provisional.
Source: IMF Financial Soudness Indicators (FSI) database, Comisión Nacional Bancaría y de Valores (CNBV).

Given recent episodes of heightened volatility, Mexico could consider expanding its macro-prudential tools to support financial stability. While Mexico has developed a wide range of macro-prudential tools following the Tequila crisis in the mid-1990s, recent studies indicate that Mexico has scope to increase its existing macro and micro-prudential

toolbox (Cerutti et al., 2015). Mexico has some appropriate regulations in place regarding foreign exchange (FX) exposure, such as limits to FX net open position of banks. However, given the recent significant depreciation of the peso, and despite the common use of derivative hedges, currency mismatches and balance sheet risk should continue to be monitored closely.

Table 4. **Past OECD recommendations on financial stability**

Recommendations	Actions taken since the 2015 Survey
Further strengthen competition in the banking sector to support healthy development of capital markets, but with special consideration of financial stability issues (2013).	Significant action taken through the approval and implementation of the 2014 financial reform. These include measures to strengthen creditors' property rights, rules for the resolution of banks, and requirements that promote competition for bank accounts and financial services.
Strengthen autonomy on budget and staffing matters of the key financial sector agencies, give legal status to the Financial Stability Council and widen the toolkit for macroprudential intervention to ensure effective and efficient achievement of macroprudential objectives (2013).	Action taken, by giving the Banking and Securities Commission new supervisory powers and the Financial Stability Council legal status. Basel III capital requirements were made mandatory by law but work on widening the macroprudential toolkit is still on-going.

Fiscal performance is improving but the credibility of the fiscal rule could be enhanced

The timely tax reform introduced by the government in 2014 has raised non-oil tax revenue collection in 2015 and 2016 by about 3 percentage points of GDP (Figure 6, Panel A) and compensated for the fall in oil-related revenues over the period. Overall public spending grew in 2016 (Figure 6, Panel B) due to the government financial support to PEMEX, growing debt service payments, and pension costs. With total revenue rising faster than expenditure, the public sector borrowing requirement (PSBR) has declined by 1.1 percentage points of GDP to 3% of GDP in 2016, and is expected to reach 2.9% in 2017 and 2.5% by 2018 (Figure 6, Panel C).

The 2017 budget set the path to the return to primary surplus. Additional spending cuts of about 1.0% of GDP compared to 2016 were approved (Figure 6, Panel C). Those cuts will fall mostly on current expenditures in communications, transportation, and tourism; education; as well as agriculture.

Important changes to the Fiscal Responsibility Law (FRL) were made in 2014 and 2015 (Table 5). The fiscal responsibility law initially introduced a zero-balance target on the traditional measure of the deficit back in 2006. However, the traditional balance was too narrow as it did not include state-owned enterprises capital spending and led to a pro-cyclicality bias. In 2014, amendments to the fiscal responsibility law added a broader definition of the deficit, the public sector borrowing requirement (PSBR), as a target and introduced a cap on the real growth of current spending to limit pro-cyclicality. Starting in 2015, a new sovereign wealth fund, the Mexican Oil Fund was created to manage all hydrocarbon-related wealth to better insulate public spending from transitory fluctuations in oil revenues. The previous budgetary revenue stabilization fund (FEIP) and the states' revenue stabilization fund (FEIEF) continue to operate and be the first line of defence in case of temporary and unexpected drop in revenues. Yet, those stabilisation funds had few assets over the last decade, except in 2008 and 2009 when oil prices were high, and have been drawn down invoking the exceptional circumstances clause, leaving Mexico with limited capacity to face future shocks. In 2015, the FRL was amended regarding the use of Banco de Mexico's operating surplus to ensure that the full amount of a surplus is used to reduce the budget deficit or net government debt.

Figure 6. **The government expects to return to primary surplus and put the debt-to-GDP on a downward path**
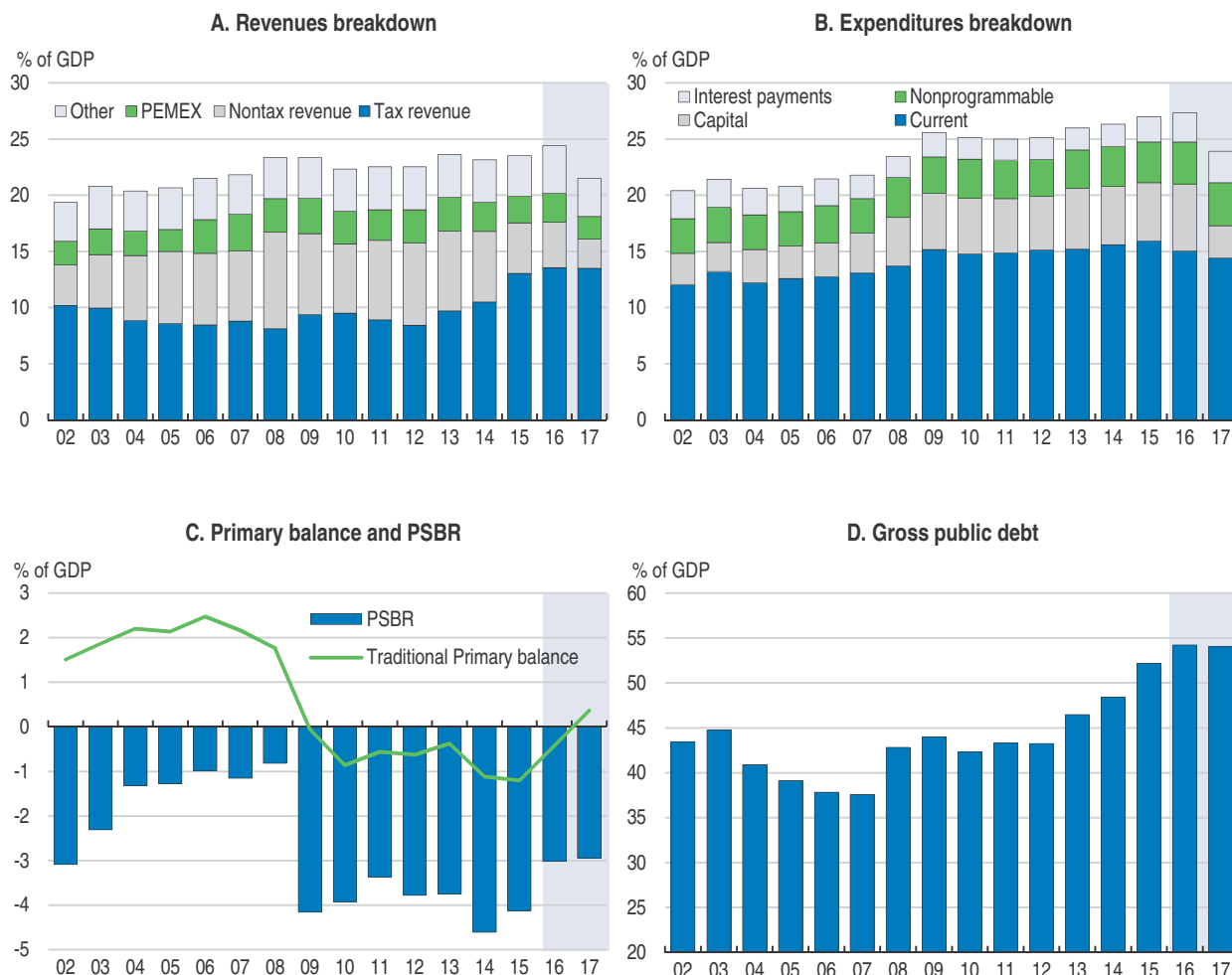
How to read this chart: Figures for 2017 are from the approved budget. Budgeted revenues and expenditures are typically lower than actual revenues and expenditures, hence the significant drop between 2016 expected actual figures and 2017 budget proposals. Panel C: the traditional balance is a measure used by the government that does not fully take into account the position of the overall public sector.
Source: SHCP and OECD Calculations using data from SHCP.

StatLink ᵃᵇᵖ *http://dx.doi.org/10.1787/888933444438*

The 2014 tax reform will help to rebuild savings once oil revenues are sufficient again, but the authorities should be more parsimonious about the triggering of the FRL's exceptional circumstances clause, limiting it to cases of large output or oil price shocks, so as to strengthen the credibility of the fiscal rule. In the long term, fiscal credibility will pay off in terms of market access and financial cost. When the clause is invoked, the fiscal framework requires the establishment of a path to return to the medium-term deficit target. As in other commodity producers and to increase transparency (OECD, 2015; IMF, 2015), budgetary documents should show more explicitly the non-oil balances.

Fiscal transparency has improved with the 2014 energy and tax reforms, and with the recent initiative of the Ministry of Finance (SHCP) to provide a wide array of fiscal indicators and to use 5-year horizon budgeting with risk analyses. To support further transparency, PEMEX's accounts should be fully separated from the budget and the taxation of state enterprises should be normalised by shifting their taxation fully to the standard tax regime applied to their private peers (Daubanes and Andrade de Sá, 2014). As

Table 5. **Implementation of recommendations to mitigate commodity-related risks**

Toolkit	Recommendations	Implementation by Mexico
Identification of risks	Produce sensitivity analysis, alternative scenarios, probabilistic fan charts	Mexico started producing GDP growth ranges and alternative scenarios in 2014, 5 year projection horizon with fiscal risks scenarios in 2016
Mitigation	Privatisation of commodity producers	The energy sector monopoly is being gradually relaxed with the possibility for the private sector to engage since the 2014 energy reform.
	Tax base diversification	The 2014 tax and energy reforms go in this direction, but the budget remains dependent on oil-related revenues
	Hedging instruments	Mexico is using two hedges: one for its oil revenues and a credit line from the IMF.
Buffers	Resource-based fiscal rule	Mexico is using a structural (business cycle only) measure of expenditures.
	Prudent commodity pricing assumptions	A methodology including average of past oil prices and also including prices from futures contract is used by the Government.
	Stabilisation funds	Mexico has an oil stabilisation fund. Resources allocated to the Fund were scarce until 2014, but have been increased since then.
Fiscal space	Fiscal headroom for residual risks	Counter-cyclical fiscal policy is limited by the small size of fiscal savings and rising government debt.

Source: OECD adapted from OECD (2009; 2010) and IMF (2016).

it stands, it is difficult to separate PEMEX and other SOEs' operations from the budget as defined by international standards. The government should ultimately corporatise PEMEX. Doing so would also require changing the way the government supports PEMEX, as this is now done through the budget. Instead, the government should consider explicitly guaranteeing PEMEX's debt temporarily and, to maintain a level playing field, charge a fee to PEMEX at a level sufficient to remunerate the risk. Additionally, the Mexican System of National Accounts should be modified to display consolidated fiscal accounts of all levels of governments (OECD, 2013).

Table 6. **Past OECD recommendations on fiscal policy**

Recommendations in previous Surveys	Actions taken
Move towards a structural fiscal rule to reduce the partial pro-cyclicality of the current framework (2013).	The 2014 reform added a current expenditure cap to the previous rules. However, the new framework only approximates a structural rule.
National accounts standards should be fully implemented in the budget (2013).	Still on-going.
The fiscal stability law should be reformed to increase the build-up of financial buffers in liquid assets available in case of contingency or adverse market sentiment (2013).	Actions taken with the Fiscal Responsibility Law in 2015 which established the Mexican Oil Fund for Stabilization and Development in 2015.
Establish a harder budget constraint on sub-national governments to improve their tax collection by limiting further increases in transfers, avoiding extraordinary transfers and promoting the implementation of limits on deficits and debt ceilings (2013).	Action taken with several modifications through the Constitutional reform on fiscal discipline for sub-national governments and the Fiscal Discipline Law for subnational governments, to address sub-national deficits, debt limits and expenditure control. The Federation grants a guarantee over the sub-national debt to those States willing to sign an agreement in which they commit to specific balance and debt limits, as well as other key financial ratios.
Improve subnational governments' spending efficiency and effectiveness by clarifying spending responsibilities for lower levels of government in health and education (2013).	Starting in 2015, a new fund for expenditure on basic education (FONE) substituted the fund that covered the wages of the basic education payroll in Mexico. A new Health General Law was published in 2014 establishing mechanisms that ensure a more efficient and transparent health sector spending for the *Seguro Popular*.
Grant more tax powers to states. Strengthen property tax revenues by updating property registries, increasing rates, removing exemptions and improving collection, by allowing the federal or state tax administrations to collect the tax (2013).	Actions taken by allowing States to charge income tax on payrolls, and since 2015 States and municipalities can fully participate in the income tax of their administrative staff. In the case of consumption taxes, the fiscal reform unified consumption (VAT) rates across States. An incentive for municipalities to transfer the administration of the property tax to the state government was established in the Fiscal Federalism law in 2014, in the form of access to special transfer funds (for municipalities and for states).

Fiscal policy needs to be more supportive of inclusive growth

Mexico has implemented major initiatives to tackle poverty. *Progresa*, introduced in 1997; *Oportunidades*, introduced in 2002; and *Prospera,* the cash transfer programme launched in 2014

aiming to cover multi-dimensional needs such as health, education, and nutrition, but also extending to financial services and access to jobs. These initiatives have proved successful to increase school attendance, fight malnutrition and extend health coverage to poor families. Additional measures include the extension of the coverage of the national seniors' pension programme to ensure that all Mexicans over 65 years old (70 years before) be eligible for a minimum pension from the federal government (OECD, 2013a). Direct outreach by social workers is underway and the Social Development Ministry is currently building a computing platform containing information of current and potential beneficiaries of social programmes. The Integrated Social Information System (SISI) will consolidate information to harmonise social programmes and build a national social protection system.

Mexico affirmed its commitment to global responsibility and took up the challenge of achieving the Sustainable Development Goals (SDGs). It has acted in several areas. First, a Specialized Technical Committee involving 25 federal agencies was established to develop open and transparent statistical information to monitor and enforce accountability. Second, a platform to offer citizens updated and georeferenced data on the degree of compliance for each of the SDGs has been developed. Third, forums and alliances with companies have been instituted to encourage society to embrace SDGs (HLPF, 2016). Going forward, the federal government intends to establish a high-level commission for the implementation of the SDGs with the participation of the federal and local government, civil society, academics and the private sector. The federal government would transversally incorporate compliance with the SDGs into the budget planning, boost diffusion and adoption of SDGs by local authorities, and form an Alliance for Sustainability with the private sector (HLPF, 2016). A clear knowledge of the starting position of Mexico in relation to the SDGs would help the government to determine national priorities for implementing the SDG agenda and decide how targets should be incorporated into national planning, policies, and strategies, as well as how to track process in their implementation plans.

Nevertheless, the average Mexican household suffers in terms of income, wealth, social connections, education and skills, safety and work-life balance (Figure 7). Mexico is

Figure 7. **Some well-being indicators are low compared to OECD peers**
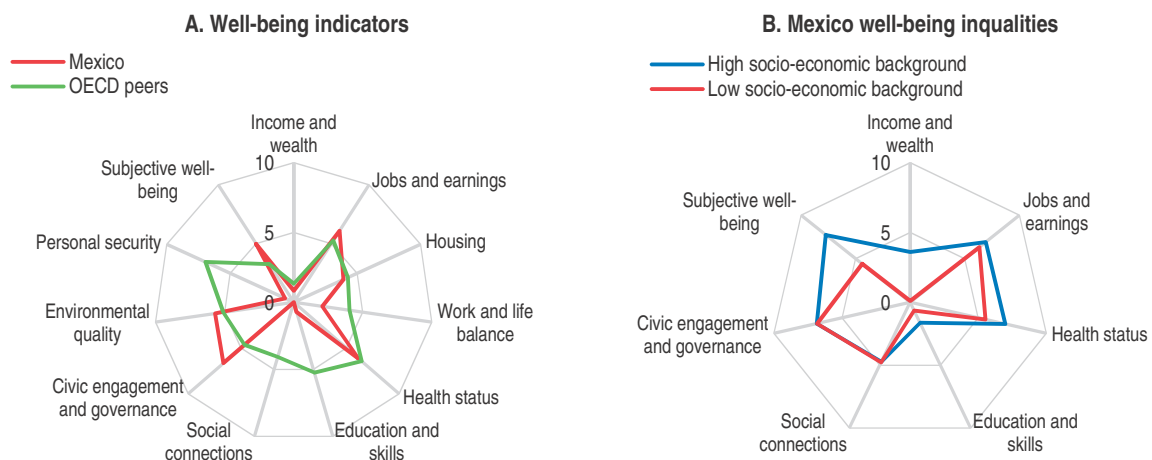
How to read this chart: Outcomes are shown as normalised scores on a scale from 0 (worst condition) to 10 (best condition) computed over OECD countries. Panel A: Shows well-being outcomes in various dimensions for Mexican people compared to OECD peers: Chile, Czech Republic, Estonia, Greece, Hungary, Poland, Portugal, Slovak Republic, Slovenia and Turkey. Panel B: Shows well-being outcomes in various dimensions for people in Mexico with different socio-economic background. For further details on the indicators included, please refer to *www.oecd.org/statistics/OECD-Better-Life-Index-2016-definitions.pdf*
Source: OECD Better Life Initiative 2016.

StatLink ᗡ᠊ᡅᡅᡚ *http://dx.doi.org/10.1787/888933444448*

one of the few countries that have instrumented a multidimensional approach to measure poverty based on income (adjusting poverty lines as prices evolved) and access to social rights. Poverty as measured by income has increased in recent years mainly due to food inflation (Figure 8, Panel A) but significant progress has been achieved in social conditions such as access to education, housing, and healthcare (Figure 8, Panel B). Overall, the multidimensional poverty rate has remained somewhat stable (46.1% in 2010 relative to 46.2 in 2014). Challenges remain in terms of measuring income through household surveys, as the gap between this measure and that of the national accounts is the largest among OECD countries (OECD, 2013d).

Income inequality remains high relative to other OECD countries. The gap between rich and poor in Mexico is the highest among the OECD countries (after taxes and transfers). The richest 10% of the population in Mexico earn 20 times more than the poorest 10%, whereas it is about 8 times on average in peer OECD countries (Figure 8, Panel F). Inequality as measured by the Gini coefficient is high and has not declined, which suggests that transfer policies could have been more effective (Figure 8, Panel E). While social spending is not low by international comparison as a share of total public expenditure, showing the priority given to the reduction of poverty in the budget, it remains at the low end among OECD countries as a share of GDP (Figure 8, Panel D), despite having increased from less than 2% of GDP in 1985 to almost 8% in 2012. Cash transfers account only for less than 3% in GDP with the lowest spending on active labour market programmes and unemployment insurance, among others (Figure 8, Panel C).

Inequalities are also growing across states and sectors (Figure 9, Panel A). Those divergences in income and informality have negative externalities on poverty and therefore inclusiveness (Figure 9, Panel B and C).

Mexico's health system has progressed and some health performance indicators have improved. Some of recent measures include a national agreement towards health service universalization with the goal to gradually ensure portability across providers and the strengthening of institutional collaboration to ensure competitive and transparent bidding and procurement procedures. IMSS has continued to expand its PREVENIMSS programme which includes preventive health actions, monitoring of nutritional status and screenings. Nevertheless, for many Mexican families, the health system fails to translate into better health. Health indicators remain worrying such as obesity, diabetes, and survival after heart attack. In addition, high out-of-pocket payments and administrative costs suggest ongoing inefficiencies and unequal access (OECD, 2016h). Comprehensive health reforms remain an urgent need (see Table 8).

Fiscal policy has a key role to ensure a fair and inclusive society through redistribution and the tackling of market failures. The needs of the Mexican society in infrastructure, poverty-reduction, education, health care and parental support are large. Across OECD countries, social spending is currently at historical highs, having increased significantly in response to the 2009 recession, while it was marginally raised in Mexico (OECD, 2014c). Those needs call for higher and better-targeted social spending, adopting a spending rule could support such policy:

● Most of the lower social spending relative to OECD countries is explained by pensions and, to a lesser extent, by health spending. In addition, Mexico is the only OECD country without a national system of unemployment insurance (Figure 8, Panel C). An ambitious unemployment insurance and universal pension reform was initially planned as part of the 2012 *Pacto* and partially approved with passage in the lower chamber, but it has been delayed in the Senate since April 2014. However, administrative steps should be taken to allow key elements of the reform to improve supervision and returns for the pension funds.

Figure 8. **With low social spending, poverty and income disparities remain high**

A. Evolution of poverty based on income

B. Evolution of social conditions

C. Public social expenditure by branch

D. Public social expenditure by type

E. Low impact of taxes & transfers on reducing inequality

F. Income disparities in Mexico are larger than in peer OECD countries
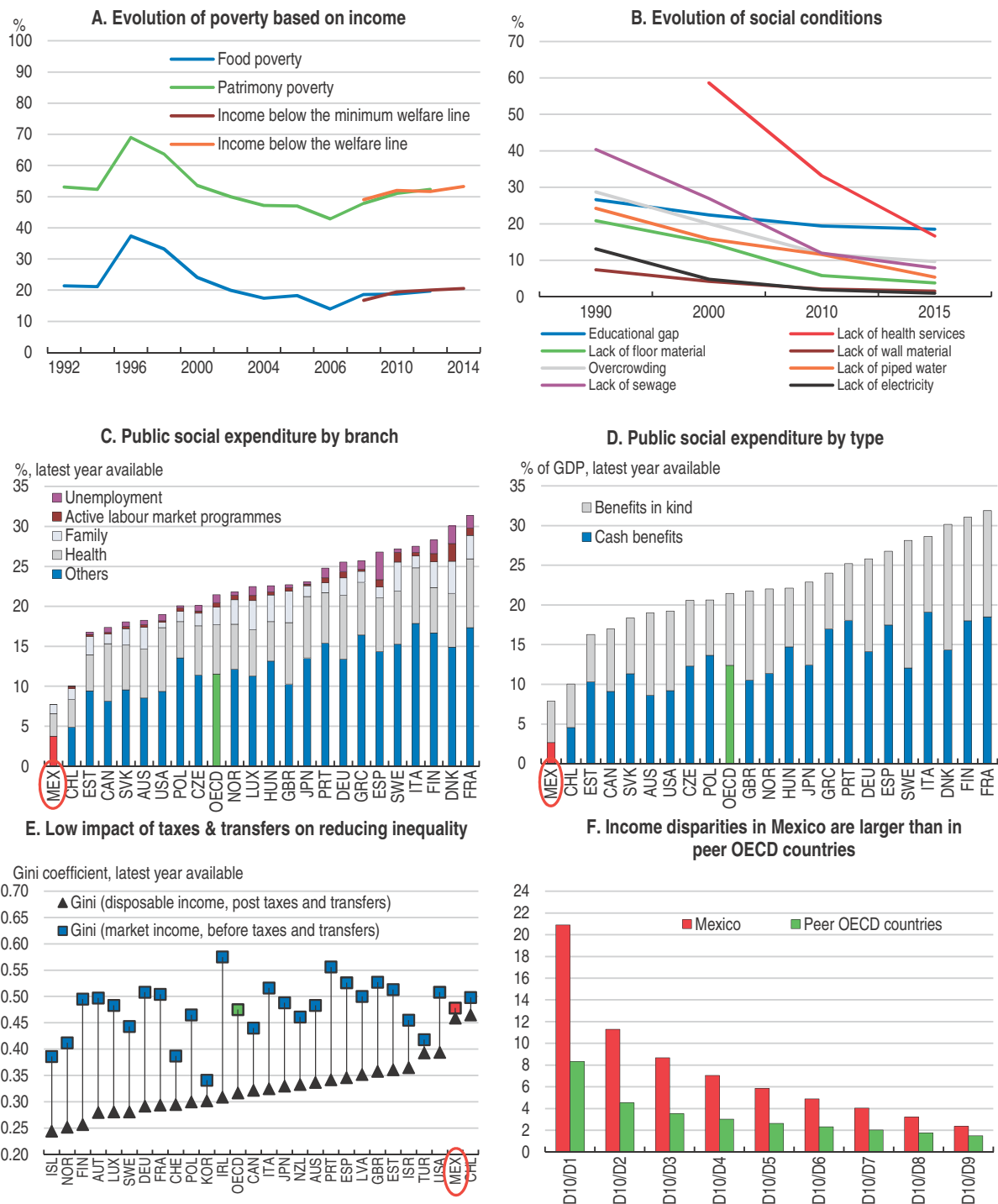
Note: Panel A: Food poverty: insufficient income to purchase the basic food basket, even if all the household disposable income is used exclusively for the acquisition of these goods. Patrimony poverty: insufficient disposable income to acquire the food basket and make the necessary expenditures on health, education, clothing, housing and transportation, even if all the household disposable income is used exclusively for the acquisition of these goods and services. Population with income below the minimum welfare line: people who cannot acquire the value of the food basket with their current income. Population with income below the well-being line: people who cannot acquire the value of the sum of a food basket plus a basket of goods and services with their current income. Panel C: Peer countries: Chile, Czech Republic, Estonia, Greece, Hungary, Poland, Portugal, Slovak Republic, Slovenia and Turkey.
Source: OECD Income Distribution Database, OECD Social Expenditure Database, CONEVAL, INEGI.

StatLink ᵃᵐˢ᾿ *http://dx.doi.org/10.1787/888933444457*

Figure 9. **Disparities across Mexico**

A. Unequal GDP growth across states
(GDP growth over 2007-2016 or latest)

B. Poverty and informality go hand in hand
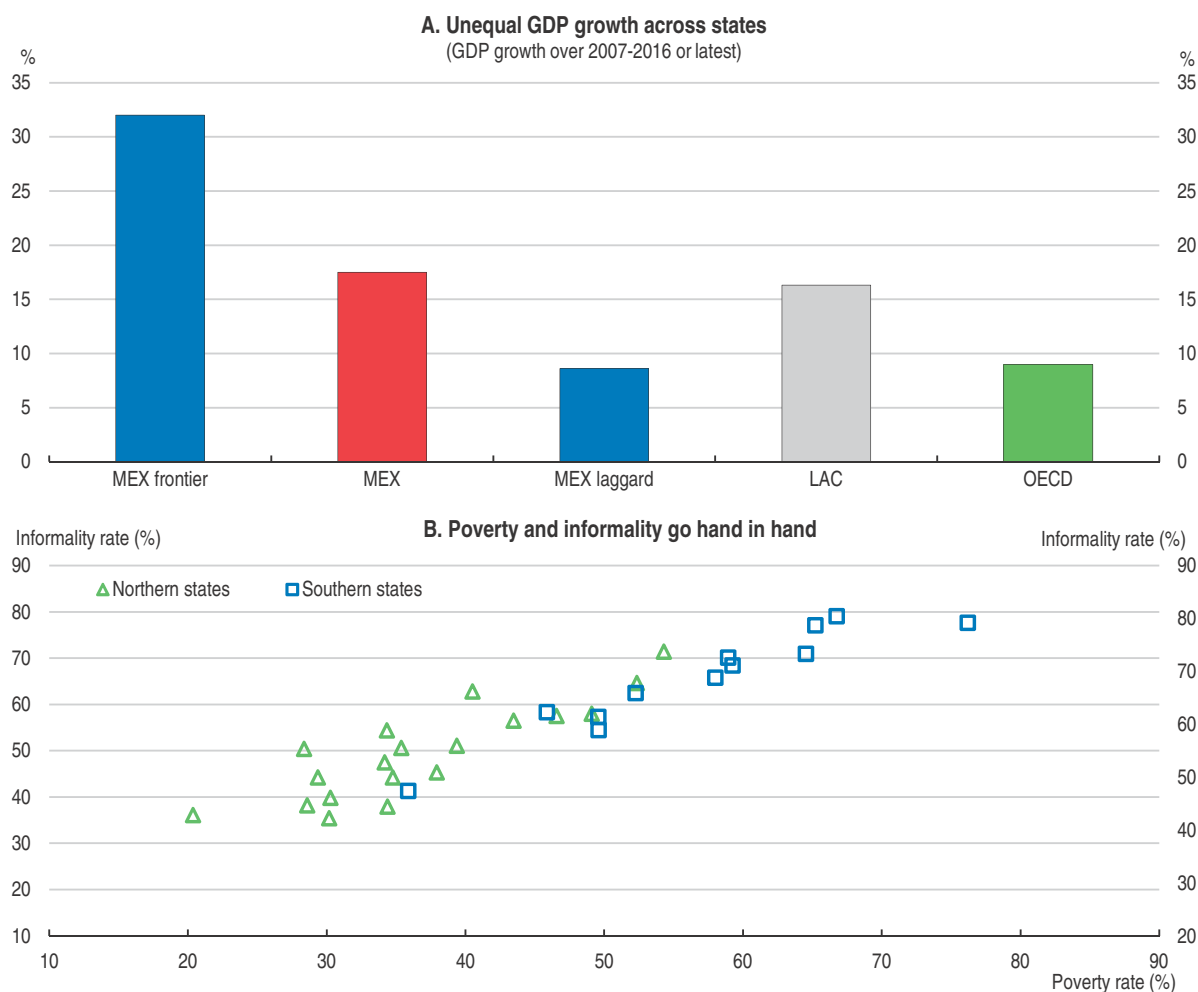
Note: Panel A: The fastest-growing states are: Ciudad Mexico, Queretaro, Nuevo Leon, Tabasco, and Aguascalientes. The slowest-growing states are: Baja California, Baja California Sur, Chiapas, Nayarit, and Tlaxcala. States mostly dependent on the oil sector (Campeche and Tamaulipas) are excluded since they suffered from both a deep recession since the collapse of oil prices and from the trend decline of oil production. GDP growth in Mexican states is for the period 2007-14.
Source: INEGI and CONEVAL.

StatLink ⟶ *http://dx.doi.org/10.1787/888933444460*

Table 7. **Past OECD social recommendations**

Recommendation	Actions taken
Increase the coverage and size of *Oportunidades* cash transfers to the poor, complete the implementation of *Seguro Popular*, and broaden the coverage of *65 y más* old-age pensions (2013). Fully roll-out the new *Prospera* cash transfer programme to help beneficiaries expand their capabilities, complete their education, join the formal sector and obtain well-paid jobs (2015).	Actions taken with a new programme, *Prospera*, replacing the old *Oportunidades*. The new programme connects social policy with economic dynamism by adding new dimensions, such as benefits in health, education, nutrition, financial inclusion, job placement and priority access to production programmes. Through training and job programmes, beneficiary families will be able to generate their own income and depend less on cash transfers from the Government. The Senior Pension Programme (*65 y más*) has achieved national coverage.
Take steps to delink the minimum wage from other prices in the broader economy; and investigate the effects on jobs and informality of raising the minimum wage in real terms (2015).	Significant action taken in November 2015 when the Chamber of Deputies approved new legislation to delink the minimum wage from any legal binding to set fees, payment of loans, services and sanctions among others.
Evaluate and streamline social benefit programmes (2013).	Ongoing as social benefit programmes are continuously evaluated and are obliged to have a matrix of indicators for results, which links such indicators with sectorial objectives.
Approve draft legislation for unemployment insurance and universal pensions to protect job seekers and old-age people against the risk of income losses, and reduce inequality (2015, 2013).	Still pending. The government proposed the introduction of unemployment insurance for formal workers and universal pensions for all retirees. The Lower Chamber has already approved the reform proposal (April 2014). However, these measures have yet to be approved by the Senate, due to fiscal pressures from the fall in oil prices and raising concerns about costs.

Table 8. **Past OECD recommendations on health policy**

Recommendations	Actions taken
Promote access to quality health care through improved co-ordination across health institutions to reduce redundancies; in particular, promote exchange of services between health care networks (2015).	In 2016, the National Agreement Towards Health Service Universalization was signed, with the goal to gradually ensure portability across providers. It was signed by the Ministry of Health, ISSSTE, IMSS, and three states. More states are expected to join in the near future. Also, the number of agreements to exchange health services between institutions had been increasing in the last years, from seven in 2014, to 11 in 2015.
To improve quality and reduce costs of services across all health care providers, standardise procedures and make health insurance mandatory (2015).	Efforts have been made to improve the efficiency and productivity across providers. IMSS has achieved important gains in efficiency by implementing consolidated drug procurement. The success of this scheme has prompted its expansion to include more states, pharmaceutical companies and drugs.
Allow free choice of health networks for new employees, and encourage competition between health care providers (2015).	IMSS has implemented a consolidated drug procurement procedure, making use of reverse auctions among potential participants and encouraging competition among providers. IMSS also has continuous collaboration with entities such as the COFECE (Federal Economic Competition Commission) to ensure transparency in all procurement procedures.
To reduce underreporting of wages to social security, improve co-ordination between social security and the tax collection agencies (2015).	A new bill (*Reforma 27 y 32 a la Ley del Seguro Social*) that amalgamates the definition of wage compensation for social security and tax purposes was approved by the Mexican Chamber of Deputies and is awaiting conclusion in the Senate. This bill would simplify the payment process of payroll taxes and harmonise tax-collection efforts across agencies.
Allocate financial resources to state health services according to need and give more flexibility to the states to determine how to spend these resources (2015).	No action taken. However, IMSS is exploring a new scheme to allocate resources for delegations at the state level to purchase drugs for primary care clinics, responding to a delegation's specific needs.
Consider converting government hospitals into corporate entities (2015).	IMSS is assessing the development of a public-private partnership scheme for four hospitals. The private provider's participation would include the maintenance of facilities, waste management, security and surveillance, among others.
Make sure that the National Strategy to Prevent and Control Overweight, Obesity and Diabetes is implemented and periodically evaluated (2015).	Still ongoing. Mexico launched a national campaign against obesity, overweight and diabetes in 2014. The administration is also exploring new policies to prevent harmful alcohol consumption.

- The cash transfer programme, *Prospera*, would benefit from being less complex and being simplified in its design and needed institutional co-ordination. Recent research shows that conditionality, although useful in some circumstances, might not be needed in others and that it could result in adverse effects on participation in the programmes for the poorest individuals (OECD, 2013a). Further supporting efforts to use social workers in order to reach out to marginalised families is essential to tackle extreme poverty, in particular to remote areas and in the South.

- Work by the OECD suggests that improving the efficiency of public services can yield significant savings (OECD, 2009). For example, adopting best practices in health care spending could save on average 0.7% of GDP in Mexico, while achieving the same health outcomes (OECD, 2012). Mexico has adopted some of those practices regarding procurement, which have saved MXN 11 billion to date. High out-of-pocket payments and administrative costs suggest ongoing inefficiencies and unequal access (OECD, 2016h). With the general government wage bill accounting for roughly one quarter of public spending, bringing public pay closer to private counterparts, such as recent reforms in Hungary and Ireland aimed to do (OECD, 2012), is another area to explore (INEGI, 2015).

To catch up with OECD average and to ensure a more inclusive society, reprioritising government spending should be envisaged in the short term, but further reforms will be needed in the medium term to tackle poverty and raise living standards. While the Government has made significant efforts in tax efficiency with the 2014 tax reform, it is

crucial to further raise revenue, by further raising taxes, tackling more aggressively tax evasion and limiting tax expenditures:

● Mexico has made significant progress with the 2014 tax reform and raised the tax-to-GDP ratio by some 3% of GDP since then. There is room to increase property tax as it stands at some 0.3% of GDP compared to about 1.5% in Latin America and 1.9% of GDP for OECD countries (Figure 10) (OECD, 2012c).

Figure 10. **Mexico's tax structure should be more diversified**

% of GDP, 2014   % of GDP, 2014

■ Others   ■ Goods and services   □ Property   ■ Payroll   □ Social security   ■ Income & profits

PER   MEX   CHL   COL   CRI   URY   ARG   BRA   OECD
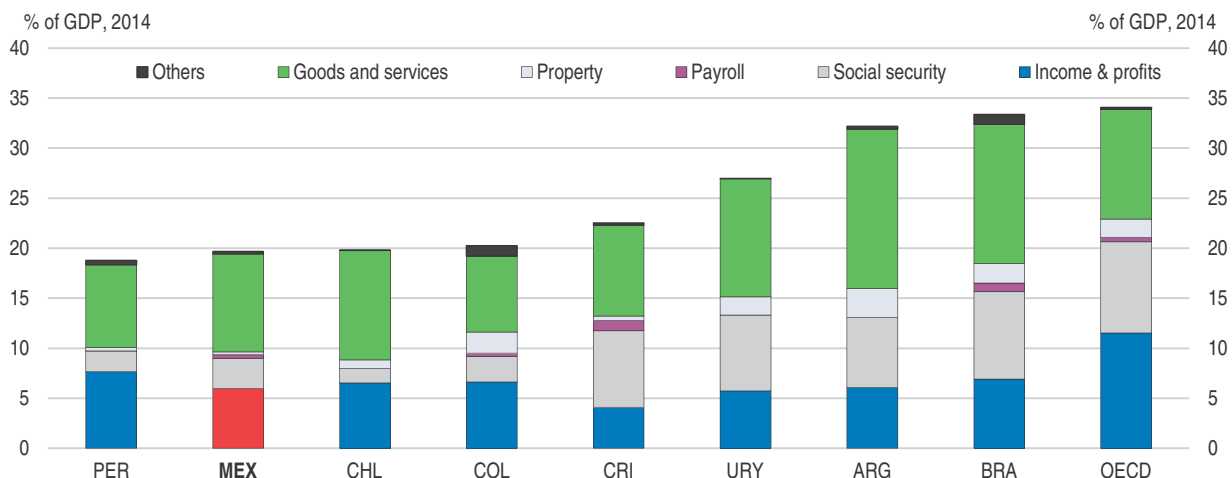
Note: For Mexico, revenues from PEMEX are included in Goods and services taxes. They represented 7.1% of GDP in 2014 according to SHCP.
Source: OECD, Revenue Statistics in Latin America and the Caribbean 2016.

StatLink ⟐ *http://dx.doi.org/10.1787/888933444479*

● Tax expenditures have been significantly reduced over time. According to the tax administration, they declined from about 6% of GDP in 2005 to about 3% in 2015 (Table 9). The reduction in corporate tax expenditures was particularly significant. However, Mexico has some margin to further raise the VAT, when compared to peer countries in Latin America (Figure 11). Reduced rates on VAT on products should be phased out while paying attention to equity concerns. Further efforts need to be done to limit exemptions on personal income which account for about 0.8% of GDP in 2015.

Table 9. **Tax expenditures have declined (% of GDP)**

	2005	2010	2015
Corporate income tax	2.3	1.1	0.2
Personal income tax	1.3	0.7	0.9
Value added tax	1.7	1.5	1.3
Specific consumption taxes	0.2	0.6	0.0
Various tax reliefs	0.2	0.1	0.2
Total	**5.7**	**3.9**	**2.7**

Source: Mexico Tax Administration (SAT).

Figure 11. **Mexico's VAT, as a share of tax revenues, is in line with OECD but lags behind peer countries, 2014**
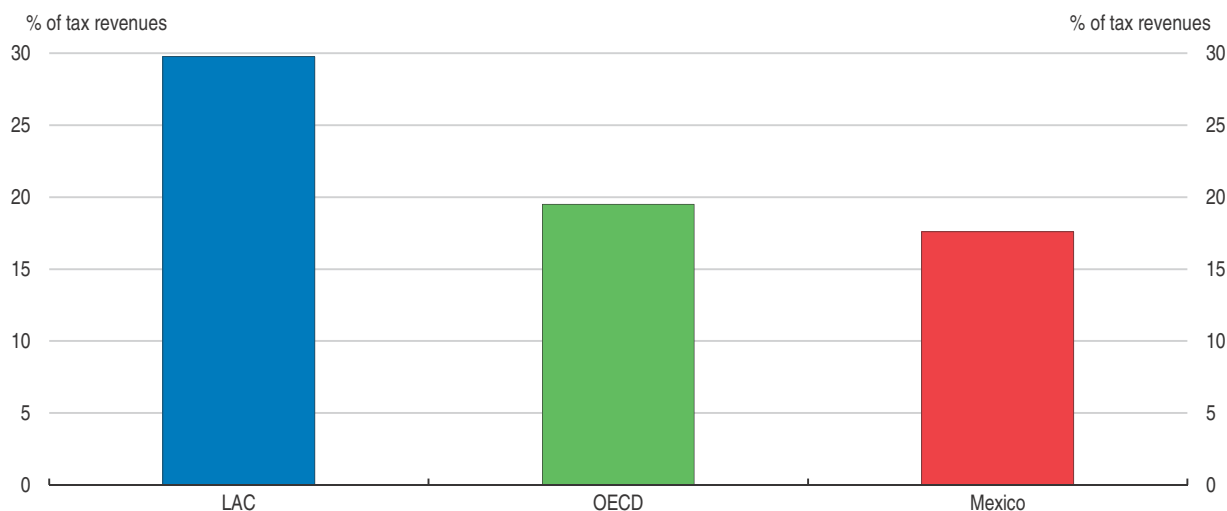
Source: OECD Revenue Statistics in Latin America and the Caribbean 2016.

StatLink ᤉᱟᱢᱰ *http://dx.doi.org/10.1787/888933444484*

● Tax evasion is relatively high in Mexico (Table 10). Mexico has started introducing reforms in line with the OECD/G20 Base Erosion and Profit Shifting (BEPS) project in the 2014 and 2015 fiscal reforms. Continuing to strengthen international tax rules in line with the OECD/G20 BEPS Actions is needed to ensure a significant reduction in corporate tax avoidance by multinational enterprises. The integration of income and social security administrations could reduce evasion as firms tend to understate labour cost to the social security system (IMSS) and overstate it to the tax administration. For example, merging administration would ensure a single tax ID number, therefore limiting auditing needs across institutions and bring the efficiencies of using a single digital system (HM Treasury, 2011, provides rationale for such integration).

Table 10. **Tax evasion estimates have been declining but remain high**

(% of potential tax collection)

	VAT	PIT	CIT	Total
2004	35.9	19.6	55.0	37.8
2008	24.3	15.9	24.1	24.3
2012	24.3	15.5	31.4	26.0

Source: ITESM, *Estudios de evasión global de impuestos*, 2013.

● Additional measures could be taken to reform the housing programme, INFONAVIT. Under this programme, workers contribute on their wages for housing purposes. The system could be more flexible and allow workers to use such contributions for other purposes, such as unemployment or retirement benefits. Requiring the self-employed to contribute to the social security system (IMSS) could also yield significant contributions and contribute to tackling informality, as the self-employed represent an important share of the labour force.

Mexico's debt-to-GDP ratio is among the lowest among OECD countries. Although it has risen by almost 10% of GDP over the past 3 years and is estimated to have reached about 54% in 2016 (Figure 12), Mexico has scope to increase social spending. Risk scenarios show how vulnerable the baseline is to shocks though. A low growth scenario in which real GDP would grow at its 2016 rate of 2.3% per year, instead of 3% in the baseline would put the debt-to-GDP ratio on an upward trend. A recession in 2017 would significantly increase the public debt, and without additional consolidation measures would raise the debt-to-GDP ratio to almost 60% of GDP in 2018. But if oil revenues rose to pre-2014 levels and were used to amortise the public debt, debt would fall below 35% of GDP before 2030. Finally, an active policy scenario in which the government increases the tax-to-GDP ratio progressively by 0.5% of GDP yearly from 2019 to 2023 and raises social spending by the same amount over the period, would leave the debt-to-GDP ratio only slightly above the baseline in 2030. The drag on growth from the increase in tax is estimated to be about 0.5 percentage points yearly but the growth gains from increasing spending are deliberately left to 0 in order to focus on the downside component of the scenario. More social and education spending will certainly have a positive effect on growth.

Figure 12. **Increase spending while ensuring fiscal sustainability**
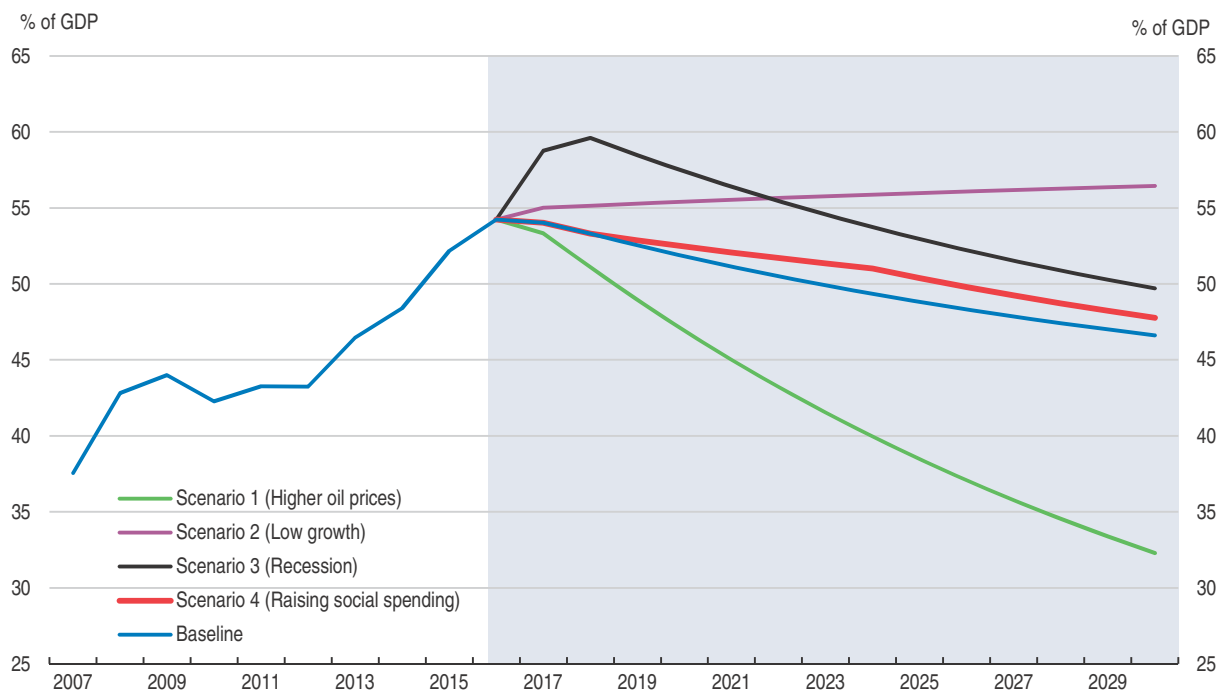
Note: The baseline projection assumes: nominal GDP growth of 6.5% year-over-year, constant exchange rates – at about 19 Mexican pesos to one US dollar, and oil prices at USD 45 a barrel, consistent with EO100).
Source: OECD calculations with data from Economic Outlook 100, INEGI and Banxico.

StatLink ᘓᗅ *http://dx.doi.org/10.1787/888933444497*

Mexico still needs to deliver on skills and education gaps

Changes to the education sector were among the first in the series of ambitious reforms introduced by the government's *Pacto*. Most recent PISA figures show improvement in mathematics and reading since the mid-2000s, although regional differences in educational outcomes are large (Figure 13) and educational challenges remain high: 56.6% of students are unable to demonstrate attainment of the baseline Level 2 of proficiency in PISA mathematics exams while the OECD average is 22.9%. This level of skills is assumed

to represent the skills necessary for participating fully in modern economies (OECD, 2016j). Reaching universal basic skills by 2030 would have a large positive impact on inclusive growth (OECD, 2015c).

Figure 13. **Education quality remains lacking in Mexico and regional differences persist**

A. Reading
Mean Score

B. Mathematics
Mean Score

C. Science
Mean Score
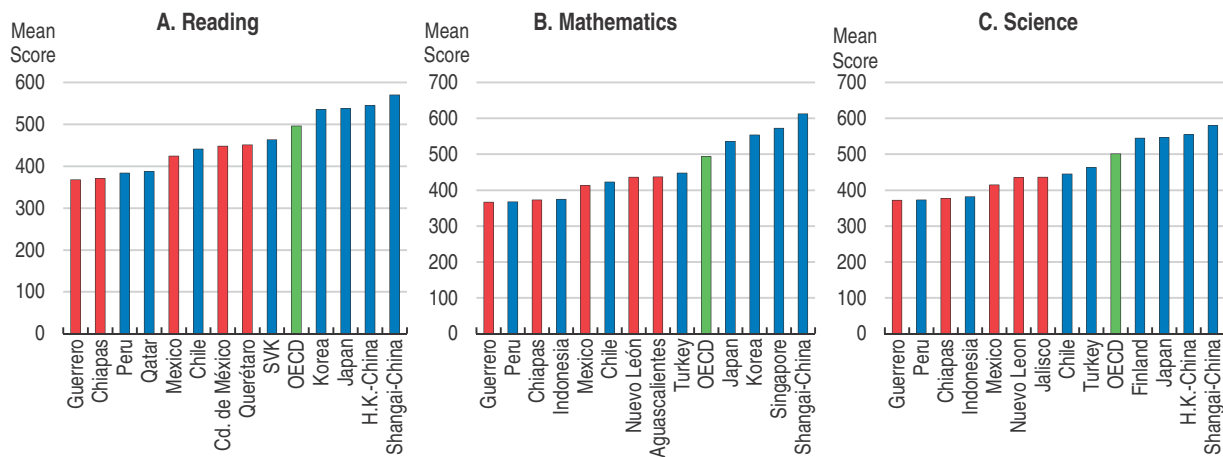
Note: Graphs show those countries from OECD and non-OECD countries with the highest and lowest scores, as well as the two Mexican states with the highest and lowest scores. The PISA scores for 2012 are shown since regions were oversampled in that round. Note that the OECD-wide PISA average for 2015 is 1 point lower than the 2012 average in all three categories.
Source: (OECD, 2014b), PISA 2012 Results: What Students Know and Can Do (Volume I, Revised edition, February 2014): Student Performance in Mathematics, Reading and Science.

StatLink ⬚⬚⬚ *http://dx.doi.org/10.1787/888933444508*

Educational outcomes also vary significantly across states, with some states failing to achieve national standards for primary and secondary teacher performance. Over half of teachers evaluated in 2015 obtained insufficient or sufficient results (as opposed to good or outstanding), meaning there is still ample room for improvement (SEP, 2016). In this context, it is very important for the government to continue with the full implementation of the reform, emphasising and rewarding the merit of teachers who do well in their job, and by providing courses and training for those requiring support, in order to guarantee the quality of education. In 2016, changes to the teachers' evaluation design were announced making the evaluation mandatory for those who previously obtained insufficient results or those who want to be certified as evaluators. Teachers willing to access economic promotions may attend voluntarily. Those not taking the evaluation will not be penalised but the gradual evaluation of all teachers would be mandatory starting in 2017. In addition, teachers from indigenous and multi-grade schools will be evaluated by 2018-19 (INEE, 2016). Finally, although in Mexico the overall public and private expenditure on educational institutions is similar to the OECD average, it is very low when looking at the level of expenditure per student. Boosting investment in education remains a significant challenge (OECD, 2016f).

A successful education system is not only one which has high levels of academic achievement, but one that provides all students, regardless of their social origin, the opportunity to obtain a performance of excellence. Between PISA 2003 and PISA 2015 equity levels improved in Mexico. While in 2003 there was a difference of 30 points in mathematics between more socio-economically advantaged students and less-advantaged students, in 2015 this gap narrowed to 18 points. This is the lowest gap across OECD countries. Yet, this positive trait is diminished considering that the performance of both groups is low in comparison with other OECD countries. Since the aim is to provide all

students the opportunity to have an excellent academic performance, it is important to continue with the implementation of the reform process aimed at improving and strengthening the support systems for teachers' capacity building (OECD, 2012a).

The knowledge and skills of the population have a strong influence on the economic potential for growth and prosperity. And Mexico has a strong demographic advantage, being one of the youngest populations among OECD countries. A higher share of high-skilled adults seems to be related with higher levels of economic output, while a higher share of low-skilled adults relates positively to greater social inequality (Damme, 2014). Fully unleashing the country's potential requires a comprehensive programme to improve the skills of all Mexicans, both at school and in the labour market, in order to better equip students with the skills demanded by employers. Mexico has a high share of firms reporting having difficulties in finding the skills they require (Manpower Group, 2015) (Figure 14). One way to tackle skill shortages is through investment in vocational education and training (VET), work-based programmes and further promoting the training of students in subjects related to science, technology and mathematics. A Skills Strategy for Mexico is currently ongoing, with the support of the OECD.

Figure 14. **Lack of skills is a major constraint on firms' operations**

A. Vocational upper secondary graduation rates

B. Firms having difficulty filling jobs
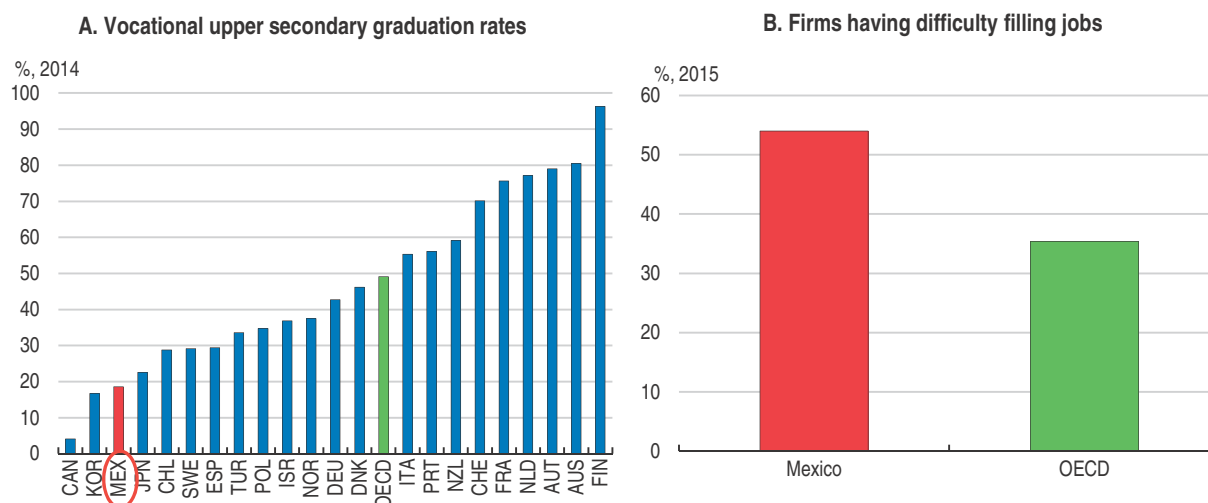
Note: Panel A: Data for Canada is 2013. Panel B: OECD refers to the average of 27 member countries with available data.
Source: OECD Education at a Glance 2016 (OECD, 2016c) and Manpower Group (2015).

StatLink ⬛⬛⬛ *http://dx.doi.org/10.1787/888933444515*

With the recent education reform, the government has taken steps to expand the supply of technical education by promoting training and vocational programmes (e.g. *CONALEP, Bécate, Modelo de Emprendedores de Educacón Media Superior*). The National Productivity Committee has led efforts to facilitate the immersion of students in the labour market and the development of skills required by productive sectors and major clusters such as the aerospace and automotive industry, among others, through technological and polytechnic institutes that provide vocational training. However, the VET sector remains among the smallest among OECD countries. Only few students are enrolled in vocational programmes in upper secondary education relative to the total students enrolled in all programmes (38% compared to 44% for OECD countries) and the graduation rate is just 19% of students (OECD average of 49%) (OECD, 2016f).

Moreover, annual expenditure per student in upper secondary vocational programmes in Mexico was USD 3 300 in 2013, lower than the USD 4 700 spent in general programmes.

In contrast, across OECD countries, expenditure per student is higher for vocational programmes than for general programmes, over three times as high as Mexico's expenditure (OECDc, 2016). The government should continue its efforts to support a consultation framework between employers, unions, and the VET system for effective co-ordination, through the implementation of the Occupational Competency Standardization and Certification Council (CONOCER), by adopting apprenticeships to expand workplace training and provide pedagogical training to VET teachers (OECD, 2015b). OECD work in this area has offered insights into how education providers can work more effectively with local businesses, employment agencies, and non-governmental organisations to better match skills supply with demand.

Table 11. **Past OECD recommendations on education and skills**

Recommendations	Actions taken
Improve education performance by continuing with the systemic reforms to teacher incentives and school leadership, system funding and curricula, as well as evaluation and assessment strategies (2013).	The education reform includes a legal framework for the professional development of teachers, principals and supervisors, and mandates a National Evaluation System, which is now in effect. Teacher evaluations have been performed and a new education model has been announced.
Improve the equity and efficiency of education spending by refocusing such spending on pre-primary, primary and secondary education. Concentrate on the quality of teaching (2015).	Actions taken to refocus education spending across levels of education. New programmes have been introduced to improve school infrastructure (e.g. *Escuelas al CIEN*), including through the introduction of Educational Infrastructure Certificates, reduce the administrative burden of schools and allow them greater management autonomy (e.g. *Escuela al Centro*).
Enhance investment in dual education and vocational education and training programmes (2015).	The National Productivity Committee has led efforts to promote training and vocational programmes to strengthen technical education for major clusters like the aerospace and car industry. Likewise, efforts to conduct a Skills Strategy in collaboration with the OECD are ongoing, aiming to ensure that all Mexicans have the necessary skills to move toward higher productivity and value added economic activities, contributing to more inclusive economic growth and development.

Realising Mexican women's aspirations

Gender inequalities are large in Mexico (Table 12). While Mexico has made progress in increasing prime-age (25- to 54-year old) women's participation in the labour force since early 1990s, it remains lower than the OECD average for women and significantly lower than Mexican men's participation rate. Likewise, Mexican women still earn on average 16.7% less than men, which is partly the result of women's career breaks, occupational and sector segregation in low-paid and informal jobs, glass ceiling effects, preferences, constraints, differences for paid and unpaid work hours, as well as discrimination in hiring and promotions (OECD, 2016f). Transparency of salary is crucial to facilitate salary negotiations which can narrow the gender pay gap (IPP, 2015).

Recent actions have been taken seeking to empower women and discourage gender discrimination. Among others, maternity leave was made more flexible; a protocol for prevention, care, and sanction of sexual harassment was published; and the requirement of marital status or pregnancy tests as criteria for hiring or dismissing workers is now forbidden. However, employers are still required to pay 100% of wages if they hire a worker who is in the early stages of pregnancy and has not contributed to social security, raising a serious risk of hiring discrimination. Therefore, the government should strengthen laws, enforcement, and implement further strategies for effectively combating all forms of discrimination in pay, recruitment, training and promotion (OECD, 2016d). In addition, measures to help retain talented women at all management levels, particularly at senior positions are needed. In Mexico, less than 10% seats on boards are held by women, a low level compared to other OECD countries (Figure 15). The negative bias in how female leaders' effectiveness is perceived provides support for the imposition of gender quotas, at least temporarily (Beaman, Chattopadhyay, Duflo, Pande, & Topalova, 2009). Gender quotas to narrow the gender gap in corporate boards have been enforced in several countries

Table 12. **Gender inequalities are large**

Indicator		Mexico		OECD	
		Men	Women	Men	Women
Jobs and earnings	Employment rate (%)	78	44	74	58
	Gender wage gap (%, latest year)		17		15
Community	People reporting good social network support (%)	71	79	87	89
Education	Upper secondary attainment (%)	37	31	77	76
Environment	People satisfied with water quality (%)	65	71	82	80
Civic engagement	Share of seats in national parliament (%, 2015)	58	42	71	29
Health status	Life expectancy (years)	72	77	77	83
	Population that report good or better health (%)	67	64	71	67
Life Satisfaction	Life satisfaction (average score, scale 0-10)	6	6	6	7
Safety	People feeling safe walking alone at night (%)	42	38	76	61
Work-Life Balance	Employees working very long hours (%)	35	17	17	8
	Hours devoted to leisure and personal care	13	12	15	15

Source: OECD Better Life Index – Edition 2016 Database and Gender Database.

(e.g. Norway, Belgium, France, Quebec, etc.) ranging mostly from 30% to 50%, varying for public and private companies. In the case of Mexico, such quotas could be set voluntarily in the first place, and implemented in the public sector to begin with. If progress in the private sector is insufficient, a mandate with fines in case of non-compliance could be introduced.

Figure 15. **Female labour force participation in Mexico has increased but leadership gaps remain**
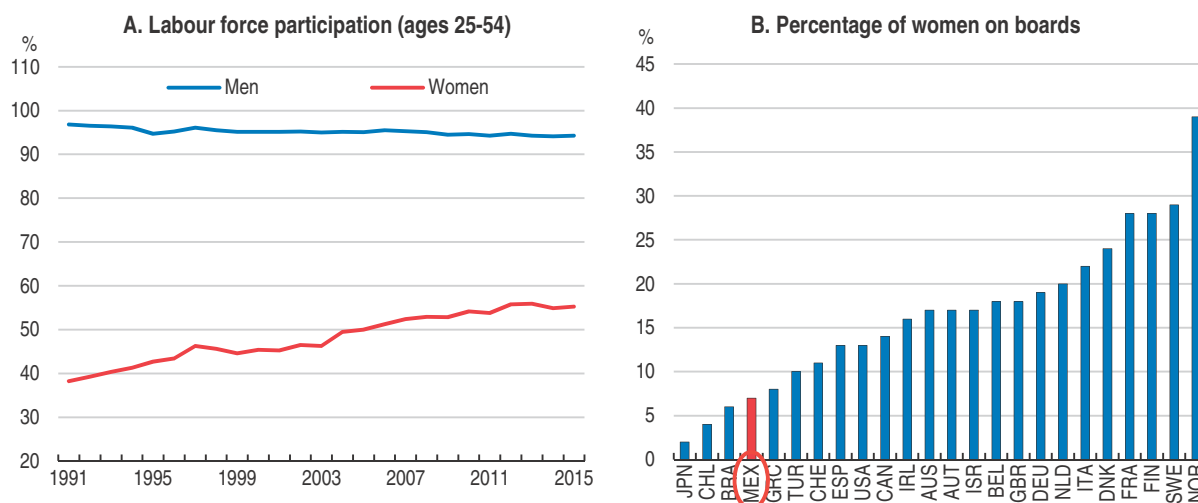
Source: OECD Labour Force Statistics Database and MSCI ESG Research 2014 Survey of Women on Boards (MSCI, 2014).

StatLink ᵐˢ˭ *http://dx.doi.org/10.1787/888933444526*

Many barriers prevent Mexican women from engaging in the labour force and one of the main challenges that women face is to combine paid and unpaid work: Mexican women spend about four hours more than men on unpaid work per day, the highest gap among OECD countries. The participation of mothers is particularly low, in part owing to the lack of quality and affordable early childhood education, especially for children less than 3 years of age. Early education and child care contribute to raising women's participation in the labour force. Efforts to expand coverage and enforce mandatory preschool in Mexico have been made by the government and evidence suggests a

significant and positive effect in maternal employment (De la Cruz Toledo, *forthcoming*). However, limited capacity, lack of geographic coverage, incompatibility of service schedules and affordability are some of the factors hindering women's participation in the labour force. Further expansion of public early childcare and preschool coverage and opening hours is needed to facilitate the entry of mothers into the labour market.

In Mexico, the maternity leave available to mothers is fully paid but short (12 weeks) relative to the OECD average. Likewise, recently legislated paid paternity leave is only one week long compared to the OECD average of seven weeks (paternity and parental leave reserved for fathers). The recent change to make maternity leave more flexible and the recent legal recognition of teleworking are advances in the right direction. However, more gender-equitable use of parental leave entitlements by extending the length of father-specific leave could also level the playing field, reduce the traditional role of women as caregivers, and increase women's working hours (Akgunduz and Plantenga, 2011; Dearing, 2015; Kotsadam and Finseraas, 2011; OECD, 2012b; OECD, ILO, IMF, and WB, 2014).

Mexico's self-employment rates (25% for women and 27% for men) are higher than the OECD averages (10% for women and 18% for men). Both men and women face challenges to growing their businesses in Mexico, including inadequate access to credit. However, self-employed men are more likely to be employers and to be formally registered in the tax and social security system. Self-employed women tend to be own-account workers (22%) more than employers (3%), more likely to work informally, have lower earnings than men, start businesses at a smaller scale and in a limited range of sectors (OECD, ILO, IMF, & WB, 2014). The fact that women are coming across complications in transitioning into the formal sector and growing their enterprises represents a source of untapped potential.

Table 13. **Past OECD recommendations on gender and labour market dynamism**

Recommendations	Actions taken
Encourage more women to join the formal labour force by improving access to quality child-care for children under three years of age, and extend active labour market policies (2015, 2013).	Actions taken with the Labour Reform, which introduced modifications to strengthen women participation in the labour force. Among others, the requirement of marital status or pregnancy tests as criteria for hiring or dismissing workers is now forbidden (although employers are still required to pay 100% of wages if they hire a worker who is in the early stages of pregnancy and has not contributed to social security for the required amount of time); maternity leave was made more flexible by allowing the transfer of up to four of the six prenatal weeks to afterbirth care; a protocol for prevention, care, and sanction of sexual harassment was published. Public preschool hours were extended from 3 to 4 hours starting next year. Moreover, based on a Supreme Court Resolution, fathers working formally and paying contributions can present their case and demand the benefit of accessing IMSS "*guarderías*". Teleworking was recognised legally.

Financial inclusion can have a positive impact on self-employment, women's empowerment and well-being (Bauchet, Marshall, Starita, Thomas, & Yalouris, 2011; Pasali, 2013; Cull, Ehrbeck, and Holle, 2014). Recent research (Fareed, Gabriel, Lenain and Reynaud, 2017) shows that access to financial services in Mexico can open up economic opportunities for women, particularly as entrepreneurs. Mexico has shown a clear focus on financial inclusion by developing a national financial inclusion body and introducing crucial financial reforms. The recently launched *Programa Integral de Inclusión Financiera* is a clear effort in this direction. (Gobierno de la República, 2014). Still, big gender gaps exist in terms of savings account, possession of assets, savings for retirement, insurance and credit for housing (Figure 16).

Many of the issues faced by women entrepreneurs are similar to those faced by men and are largely related to access to finance and market. However, many characteristics of women entrepreneurs and of their enterprises differ from those of men, and therefore

Figure 16. **Gender gaps in financial inclusion are large**
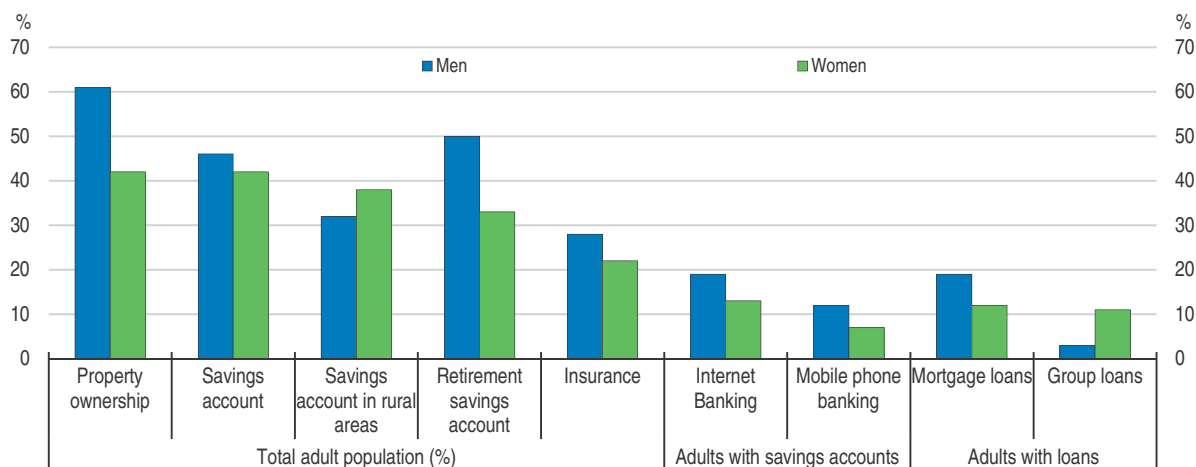
require specific policy interventions. Programmes such as *Mujeres PYME,* which seeks the development of micro-, small-, and medium-sized enterprises (SME) led by women by providing access to preferential financing and business development tools, is a step in the right direction. The government should continue its efforts to enhance financial infrastructure, increase the diffusion, scale and reach of current public programmes that facilitate access to low-interest credit for female-owned SMEs, provide financial capability trainings, and increase the capacity of financing institutions to respond to female entrepreneurs' needs. The National Entrepreneur Fund also represents an effort by the Mexican government to streamline SME policy regulations and increase transparency in funding allocation; promoting the development and management of funds to provide financial support exclusively for women entrepreneurs could also be considered (OECD, 2014a).

Table 14. **Past OECD recommendations on financial inclusion**

Recommendations	Actions taken
Further encourage policies to support greater financial inclusion, including broadening the range of financial services, diversifying service providers to ensure commitments made by financial authorities (2013).	Action taken with the financial reform which goal was to increase the access to credit and reduce its cost, especially for families and SMEs, while maintaining the stability of the financial sector. The *Programa Integral de Inclusión Financiera* which provides financial education, credit, programmed savings, insurance and other products and services to beneficiaries of social programs was launch in 2014. The National Policy on Financial Inclusion was published on June 2016 setting the government major policy lines, actions and targets. The savings and loan sector have been allowed to establish correspondents to foster greater financial access to larger segments of the population.

Reforms are boosting productivity in certain industries

Structural reforms have paid off and should be pushed further. The government has continued to roll out its package of reforms to introduce further competition in the energy sector (electricity, oil and gas) and telecommunications, while empowering the competition authorities to deter collusion, monopolies, and other anti-competitive practices. This has reduced prices – by more than 25% in the case of telecommunications – to the advantage of consumers and businesses. Some benefits have emerged more quickly than expected, in particular for productivity growth, which has picked up recently, with

multifactor productivity growth turning from negative to positive since 2014. Nonetheless, large differences prevail across sectors, states, and firms – a situation not unlike that in many OECD countries. Mexico's most productive firms are performing well, such as in the sector of transportation equipment manufacturing, but the majority of firms are still struggling to perform better with limited success, leading to a growing dispersion in productivity, with a few leading sectors pulling ahead (Figure 17).

Figure 17. **Multi-factor productivity diverges across sectors**
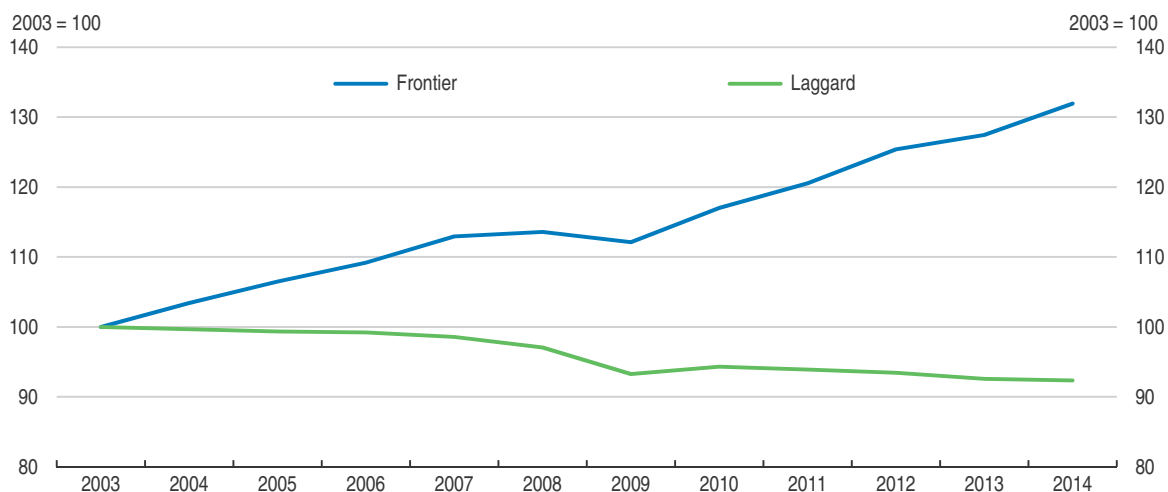
Note: Frontier sectors are the 10 NAICS (North-American Industry Classification System) three-digit sectors (out of 65) with the highest TFP growth over the period. They include the auto sector, telecommunications, quarrying, warehousing services and services associated with agriculture, among others. The laggard sectors represent the average of all non-frontier industries, meaning the 55 industries with the lowest TFP growth.
Source: INEGI KLEMS Productivity database.

StatLink ⟶ *http://dx.doi.org/10.1787/888933444543*

A reallocation of resources from low-productivity to high-productivity industries would boost Mexico's economic prospects. Within manufacturing, a more efficient allocation of productive factors across the bottom three-quarters of firms could increase production by 2.4 percentage points of GDP; a more efficient allocation across all firms could yield a boost of 5.9 percentage points of GDP (Dougherty and Escobar, 2016b). In successful emerging market economies, re-allocation from low to high productivity sectors has contributed substantially to income convergence. However, in Mexico, the contribution of labour reallocation across sectors is low, contributing only about 15% to productivity growth. On the positive side, reallocation in transportation equipment and services has been more frequent – with wholesale trade in particular a major success story – and considerable within-industry productivity growth, such as in retail trade and banking. The establishment of Special Economic Zones will also channel efforts and resources into a cohesive strategy that targets areas with a higher concentration of unproductive firms and sectors.

Given its sheer size in terms of labour share and typical low productivity levels, agriculture is a sector for which the transition has not happened yet in Mexico. In past episodes of rapid diminution of the income gap with first tier OECD countries, yearly averages of labour productivity growth in the sector were three percentage points higher after the episode and the employment share of agriculture decreased on average by four percentage points in selected OECD countries (Figure 18). Since the agriculture sector is also typically characterised by high informality and poverty rates, modernization has the benefit of increasing productivity and income which typically raises those more productive workers from informality and poverty.

Figure 18. **Employment and productivity changes in the agriculture sector during catching-up episodes among selected OECD countries**
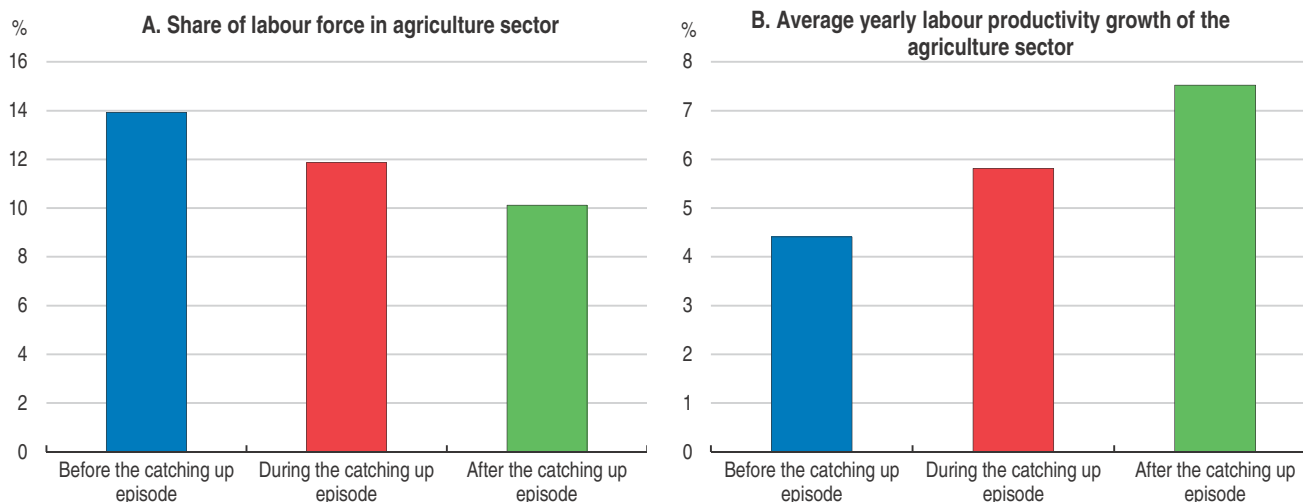
Note: Catching-up periods have been identified as period of sharp decrease in the GDP per capita gap with the highest tier of OECD members. The selected countries/periods are as follows: CHL (2007-13), GRC (2001-09), HUN (2000-06), KOR (2007-15), POL (2006-12), SVK (2000-08), SVN (2000-08), and TUR (2001-11).
Source: OECD calculation using Economic Outlook 100 and World Bank data.

StatLink ᔢᔥ *http://dx.doi.org/10.1787/888933444556*

Mexico has a high share of jobs in agriculture (13%) among OECD countries. This has remained almost unchanged since the early-2000s. Structural reforms should boost the modernization of agriculture, such as reforms of the legal framework of *eijidos* and *tierras communales* (areas of communal lands used for agriculture). The PROAGRO programme introduced in 2013 reformed agricultural subsidies, the new payments are linked to specific actions to improve land productivity (OECD, 2014), as farmers must give proof that the payment has been used for technical, productive, organisational or investment improvements, that is, technical assistance, machinery, certified seeds, fertilisers, restructuring, insurance or price hedging.

Mexico's high rate of informality, excluding agriculture, has declined by two percentage points since 2012, from 54.7% to 52.5% (INEGI-ENOE 2016) – or three percentage points with agriculture included (from 60% to 57%). The absolute number of workers with an informal employment relationship ("informal employment") is still high and women are more likely than men to work informally. About half of Mexico's informal workers are employed in extremely small, informal firms, which suffer from low productivity. The productivity of microenterprises (under 10 workers) could be boosted dramatically if these firms were pushed to either grow or exit. Simulations suggest that aggregate growth could be boosted by up to one percentage point if informality were reduced by 10 percentage points (OECD, 2015a; Dougherty and Escobar, 2016a). States and industries with high productivity suffer disproportionately more because their resources tied up in informal activities are not used in more productive activities.

The government should therefore further enforce compliance with social security contributions for all workers in formal companies. While there has been strong take-up in the fiscal regime for incorporation (*Régimen de Incorporación Fiscal*, RIF), which has induced 1.5 million informal firms to join the tax system since 2014, there is too little awareness of a related programme from 2014, the social security regime for incorporation (*Régimen de Incorporación a la Seguridad Social*, RISS), which offers reduced contribution rates for workers

joining IMSS, the national social security system. This programme has design features that borrow from the successful experiences of countries such as Brazil that have made important inroads in fighting informality (Box 4). Stepped-up enforcement measures have been employed focusing on firms with 50 or more employees. Focusing also on smaller firms, which should include state-level informality reduction targets, and a range of complementary policies to boost skills and reduce regulatory barriers, is warranted.

The business sector can also contribute to higher formalisation by making sure that all business partners across each firm's value chains follow key labour rules, for instance by having a corporate policy or code of conduct that addresses labour standards – mandating formality among suppliers and distributors. Certification measures are particularly helpful in this regard, and have been successful in the automotive sector, where informality rates are among the lowest.

Box 4. **Examples of policies to reduce informality**

Several Latin American countries have been relatively successful at reducing informality during the last decade. Among these, Brazil stands out as one of the most successful cases and could, therefore, be of interest for Mexico to learn what policies have been successful in countries with a similar level of development (Tornarolli et al., 2014). Brazil experienced a significant reduction in its informality rate – from over 60% in 2000 to under 50% in recent years (Filho and Veloso, 2016). As in other Latin America countries (e.g. Argentina, Peru and Ecuador), this significant reduction in the informality rate was driven, on a large extent, by economic growth. Hence, it is likely that continued emphasis on creating the right conditions for economic growth will lead to further gains in formal employment. However, evidence suggests that, in the case of Brazil, specific policy interventions also contributed to reduce the informality rate. For instance, a number of studies of the Brazilian case suggest that the reduction of employment costs helped to reduce informality. In particular, the introduction of an integrated tax and contribution payment system for micro and small enterprises (the 1996 SIMPLES Law), had a significant effect on the informality rate. This law facilitated registration and lowered the rate of taxation for small and microenterprises. Evidence suggests that this law contributed to the formalisation of nearly 500 000 microenterprises between over five years in the early 2000s, accounting for around two million jobs. A more recent law aimed at microenterprises with one employee (Lei Complementar 128/2008) also significantly reduced the cost of formalisation and contributions to social security. Recent evidence suggests that this law also had an impact on the formalisation of the self-employed, although there appears to be some perverse effect also on firms substituting regular employees for self-employed service providers.

Stricter enforcement mechanisms have also contributed to a higher proportion of formal employment. Evidence suggests that stricter enforcement leads to a higher proportion of formal employment. Although Brazil did not increase the number of labour inspectors to the level recommended by the ILO, it introduced a couple of initiatives that have enhanced monitoring and enforcement. In particular, Brazil changed the incentives under which inspectors work, including a bonus system linking salaries to performance targets, which have greatly increased the effectiveness of enforcement and led to an increase in formal worker registration.

Source: OECD (2013e, 2015a, 2016).

Openness to trade and investment is paying off in some sectors

Mexico is very open to foreign trade and investment: 12 free trade agreements have been signed with 46 countries and foreign direct investments is significant. With its strategic location, low unit labour costs and increasingly adept labour force, Mexico is gradually evolving into a global manufacturing hub. Experience suggests that participating in global value chains (GVC) and climbing up the value chain contribute to faster productivity growth (OECD, 2016).

Following NAFTA, Mexico benefited from its integration in GVCs mostly as assembler of manufactured inputs. In recent years, domestic content has increased and imported content declined (Figure 19). This means that more domestic value added is present in Mexico's exports. To draw more value-added from its global engagement, Mexico needs to further improve its capabilities in knowledge and skill-intensive activities within GVCs (such as new product development, manufacturing of core components, or brand development) and further reduce barriers to foreign investment and services trade in productive sectors not yet well integrated into GVCs but with high comparative advantages.

Figure 19. **Mexico's import content of exports (ICE) in selected manufacturing sectors has declined**
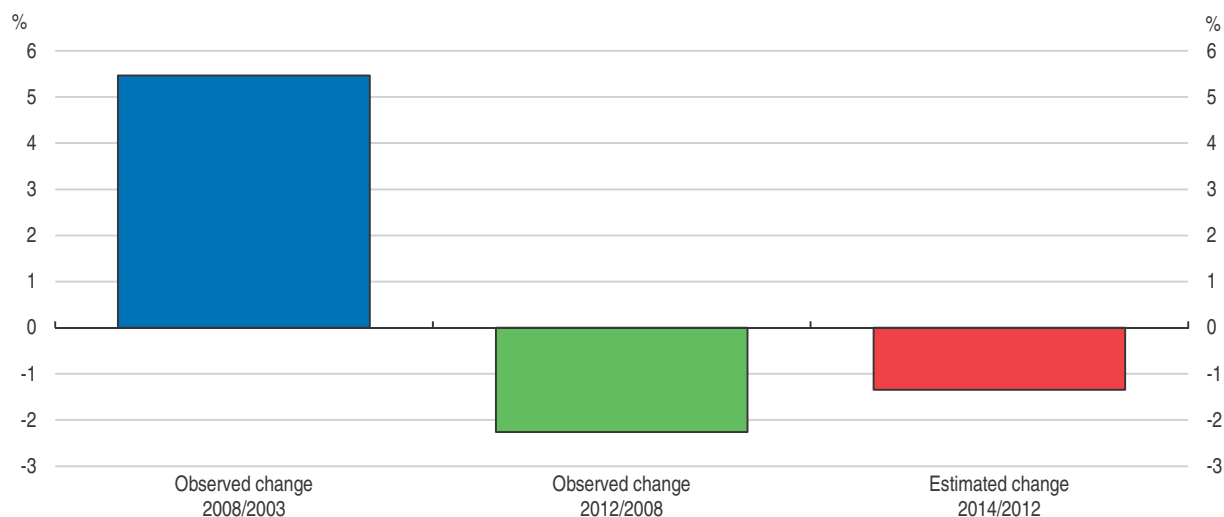
How to read this chart: Import content of exports is defined as the share of imported inputs in the overall exports of a country, and reflects the extent to which a country is a user of foreign inputs. The measure is also often referred to as the 'foreign value-added share of gross exports' and is defined as the foreign value-added in gross exports divided by total gross exports, in percentage. It is considered as a reliable measure of international "backward linkages" in analyses of global value chains. The observed changes for 2008/2003 and 2012/2008 are the unweighted averages of ICEs for each manufacture industry. The estimated change 2014/2012 is projected using regression analysis on a panel of ICEs per industries over the periods 2008/2003, 2012/2008 and 2014/2012. The estimated equation is: $d.ICE_{it} = \alpha + d. FDI_{it} + d.M_{it} + fe_i + \varepsilon_{it}$, where $d.ICE_{it}$ represents the change over the periods for each industry i, $d. FDI_{it}$ represents the cumulated change of Foreign Direct Investment in the industry, $d.M_{it}$ the cumulated change in imports in the industry, and fe fixed industries effects.
Source: OECD calculations using INEGI 2003-08-2012 Input Output tables.

StatLink ᵃˢᵖ *http://dx.doi.org/10.1787/888933444568*

Much progress has been achieved to reduce trade barriers, make it easier to do business, and improve regulation. Barriers to foreign investment and services trade have been reduced in key sectors – notably media and telecoms – but a substantial gap remains to OECD best practice in nearly all sectors (Figure 20), such as transportation, while they could be reduced further in nearly all sectors, through systemic reforms. Greater harmonisation of rules with trading partners could yield a further boost to trade flows (Nordås, 2016).

Figure 20. **Ample scope to reduce foreign investment and trade barriers**

A. Foreign investment restrictiveness index

B. Services trade restrictiveness index
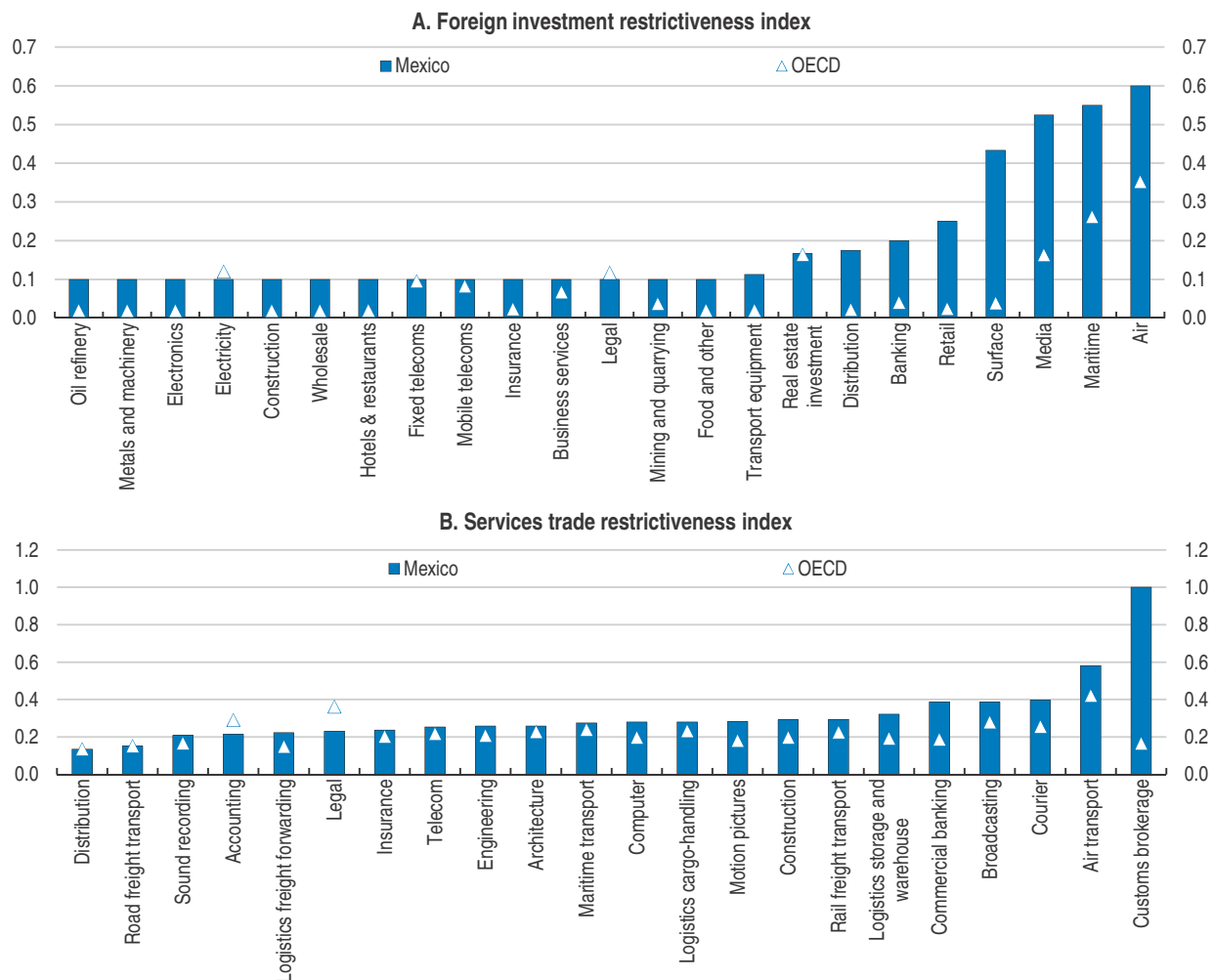
Note: Indexes are measured on a scale from 0 to 1, 1 being highly restrictive.
Source: OECD FDI and Services trade Restrictiveness databases.

StatLink ⬛⬛ *http://dx.doi.org/10.1787/888933444578*

Growing disparities among states and sectors in Mexico motivated a new plan to introduce special economic zones (SEZs) by the government. These zones are intended to support development in less developed states, and have the potential to attract investment, improve infrastructure and reduce regulatory barriers in these regions. The first three such zones will begin operation in the second half of 2017. In each of these initial zones, private sector investors have already been identified. Tax incentives are being provided, using criteria based on the degree of local sourcing and related contributions, which reflects the evolving good practice for such zones. These incentives and implementation will need to be monitored in the context of a cost-benefit analysis, to ensure sufficient positive spillovers, and to ensure that the private sector maintains a leading role (OECD, 2015a; World Bank, 2011). In addition, these zones could be linked with Mexico's emerging technology clusters and their high value added products, such as aeronautics, to help spur positive spillovers across different sectors and domestic suppliers. A mapping of such opportunities (State Innovation Agendas) is currently being undertaken by Mexico's national research and science council (CONACYT).

Innovative firms are more likely to participate in international markets than non-innovative firms (OECD, 2008, 2015). In the case of Mexico, evidence supports the relation between innovation and spending in R&D at the industry level and GVCs integration and productivity levels. However, private sector R&D expenditure in Mexico is well below that of nearly all OECD and BRICS countries. Change in R&D policies in 2008 boosted public sector spending, which is now catching up with OECD average, standing above 0.4% of GDP in 2014 (against 0.61% for the OECD average). The relatively low level of private R&D is partly a result of Mexico's industrial structure, as over one-third of manufacturing R&D is carried out in low and medium-technology sectors. However, obstacles to boosting the country's innovative potential include a weak domestic research and skills base, an underdeveloped knowledge-based start-up environment and institutional challenges.

Further raising R&D intensity is one of the priorities of the current administration which intends to double R&D spending from 0.54% of GDP to 1%. A tax credit on R&D was approved by Congress in the context of the 2017 Budget. Firms will be able to offset 30% of their qualifying R&D expenditures against income tax. In order to further support the private sector to integrate and climb up GVCs, the government and states need to foster cooperation between public and private research centres. In particular, the government should aim at further improving the early stage financing framework that facilitates co-operation of public research institutes and innovative private businesses (OECD, 2013c). Further supporting joint private and public R&D could be done in the same vain as the tertiary education measures for specific productive and well integrated sectors, such as aeronautics in Querétaro.

Further reforms are needed to improve governance and legal institutions

Mexico is perceived as a county that faces significant corruption problems (Figure 21, Panel A). The long delayed anti-corruption system was approved by Congress last year. The new system involves six government entities with the strong involvement of citizen committees, making the system quite complex, although less vulnerable to capture (OECD, 2017). Concerns remain about how the plan will be implemented at the local level, since states must now pass their own legislation and establish institutions that function effectively and without interference. Given the limited administrative capacity of many state and local governments, strong support and monitoring from the national level may be needed. This could involve providing a mechanism to delegate some roles to the federal anti-corruption system.

Given high crime rates in many states – notably homicide, kidnapping and extortion – which directly reduce well-being and perception of safety, an important priority of the government has been to improve security (Figure 21, Panel B). Areas of the country that have faced the most violence were often those that had the most productive firms and their average firm size and productivity has been depressed. More effective law enforcement strategies have been an important objective. Further professionalisation of police forces at all levels has been needed for quite some time, along with better co-ordination with local authorities. The federal government has facilitated this move by signing state-by-state agreements (with 17 states agreed by early 2016) that allow for integrated state-wide police forces. These shifts have boosted training and are expected to also reduce corruption.

There has been rapid progress to reform certain parts of the judicial system, notably in the criminal domain, where the legal system was not effective. However, further reform would be beneficial. Although most states have begun to implement the new criminal trials, not all of them are equipped to implement them effectively. The full functioning of the system, with training of all of the police, lawyers, judges, and associated infrastructure,

Figure 21. **Mexico is the poorest performer for safety and corruption across OECD countries**

A. Perceived level of public sector corruption
Index from 0 (most corrupt) to 100 (least corrupt)

Index, 2015 (left axis)   Index, 2015 (right axis)

B. Feeling safe walking alone at night

% of population aged 15+, 2015   % of population aged 15+, 2015
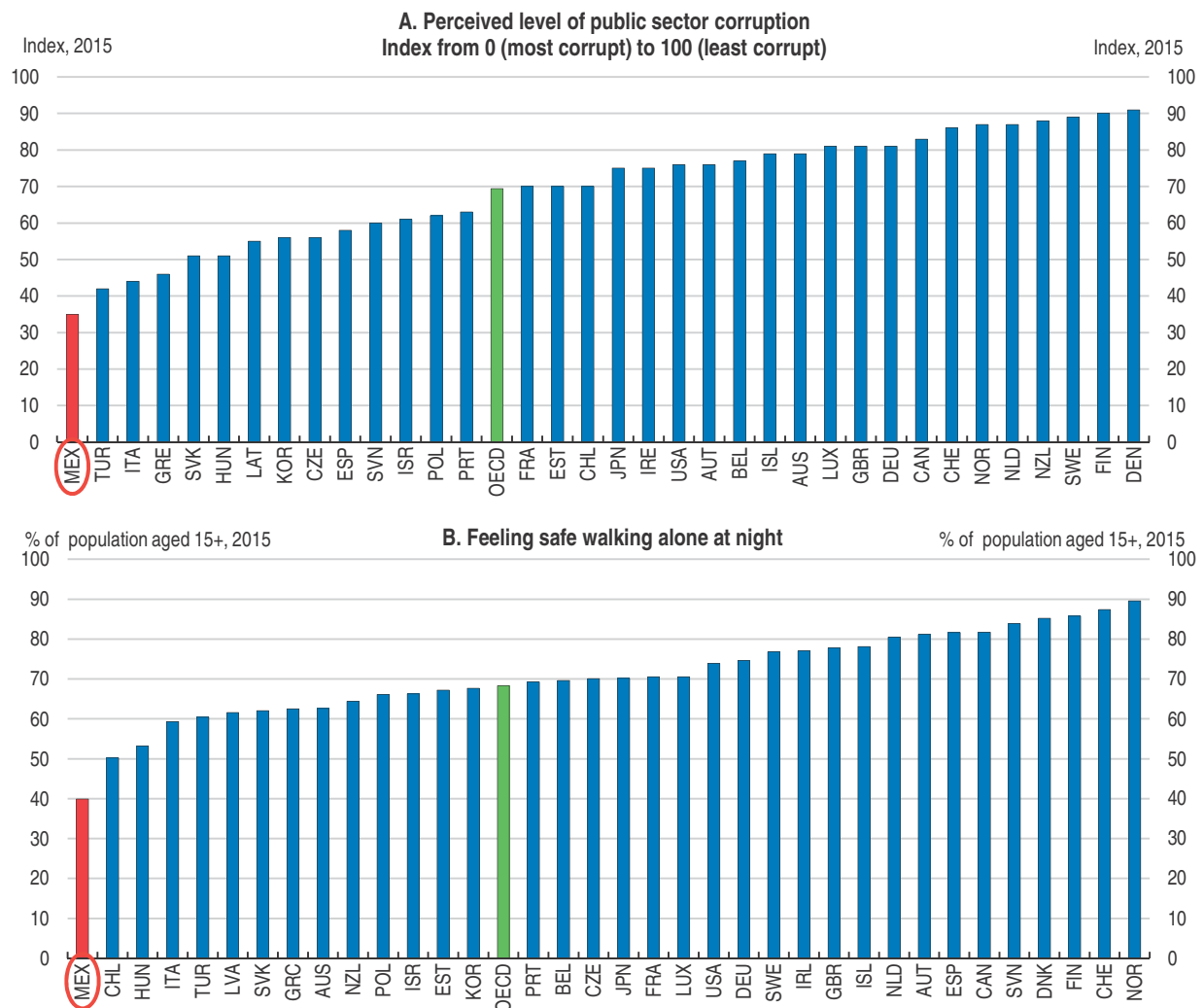
Note: Panel B: Percentage of people aged 15 and over. The reference year is 2015 with the exception of 2013 for Iceland. The indicator is based on the question: "Do you feel safe walking alone at night in the city or area where you live?" and it shows people declaring they feel safe.
Source: OECD Better Life Index – Edition 2016 Database, Transparency International.

StatLink ⌸ᵐᔆ▣ *http://dx.doi.org/10.1787/888933444583*

will take longer. Encouragingly, there has been a dramatic reduction in criminal case resolution time from 170 days to 27 days now, relying heavily on mediation.

A second wave of legal reform to civil and commercial justice still remains to be fully acted upon, although a start has been made for larger cases. The OECD has estimated that such reforms could add half a percentage point to GDP growth in the medium term (OECD, 2015a). Large efficiency gains from transitioning from written to oral trials can help to improve the outcomes of economic disputes such as those related to contract enforcement. The new procedures are now only applied to the largest cases, and not in all jurisdictions. This is in part due to resource constraints in state judicial systems. The concerted efforts that have been made to adopt the new procedural reforms for criminal cases need to also be fully extended to apply for all civil and commercial cases, following the 2011 framework.

Table 15. **Past OECD recommendations on legal issues**

Recommendations	Actions taken since the 2015 Survey
Complete the judicial reforms at the state level that move towards oral adversarial trials in criminal cases. Empower an executive agency to promote the analogous transition for civil cases (2013).	Actions taken to accelerate the adoption of oral adversarial trials, and prepare states for their full implementation. A government agency (SETEC) has helped states implement the new system with grants, co-ordination and consultation; all states have now begun to implement the new justice system, although half of local districts have just begun. Extension of the judicial reforms to civil and commercial domains is beginning. Now 26 states use oral trials for larger commercial cases, while four states use them in civil cases. However, most civil and commercial cases are still handled using the unreformed justice system.
Harmonise the criminal code and procedure across states. Strengthen the co-ordination, integration and training of police forces (2013).	Action taken to adopt the new unified National Code of Criminal Procedure, in all states and the federation in 2014, while further amendments to the Code were made in mid-2016. Efforts to strengthen co-ordination of police forces are ongoing.
Reform justice institutions, strengthen the rule of law, address security issues and reduce widespread corruption with reforms centred on the efficiency of judicial resolution of civil, commercial and criminal matters, and a strengthening of the transparency of public procurement (2015).	In addition to actions taken on judicial reform noted above, action was taken to strengthen the anti-corruption system, with the adoption of the *Sistema Nacional Anticorrupción*, strengthening institutions that investigate and prosecute cases of public corruption, including a new specialised court. However, some states have yet to fully ratify the new system. In states, local legislation will be modified to replicate the system at the sub-national level.

The carbon emissions tax rate remains insufficient

Mexico has made an unconditional commitment to reduce greenhouse gas (GHG) emissions by 22% by 2030 under the UNFCCC framework. The gradual deregulation of gasoline and diesel prices, which began in 2017 and should be completed by 2018, and the significant increase in rates of the "Special Tax on Production and Services" (IEPS) have improved the extent to which taxes reflect the external cost of emissions (Box 5). The increase in the effective tax rates on gasoline and diesel is remarkably large, and the 2016 rates are comparable to those of many lower-tax OECD countries. However, since those fuels are used mainly for road use, the tax burden is levied mainly on the transport sector, which accounts for roughly a third of energy use and carbon emissions in Mexico (OECD, 2016e).

Carbon emissions outside the road sector (residential heating, industrial processes and electricity generation) are partially taxed under the newly introduced carbon tax at very low rates, or are entirely unpriced. Natural gas, which accounts for a third of carbon emission from energy use, is exempt from the carbon tax and overall only 40% of carbon emissions from non-transport sectors energy use is subject to the carbon tax. On a weighted-average basis, the carbon tax rate lies around MXN 22.79 per tCO_2 (EUR 1.16 per tCO_2). The Mexican carbon tax rates are far below the lower-end estimate of the climate cost of EUR 30 per tCO_2 (OECD, 2015e). Therefore, for the carbon tax to send a strong price signal on the external costs of carbon emissions, its tax rates should be increased and reflect fuels' carbon content more uniformly. Increases in the carbon tax are needed particularly in the non-road sectors (OECD, 2016e).

Increasing and fixing the tax rates of the IEPS has already benefited tax revenues. While income from the fluctuating component of the IEPS was negative in 2013 and 2014, tax receipts turned positive in 2015. The carbon tax has not accounted for more than 0.5% of total tax revenues since its introduction. If the tax rate is increased and the tax base expanded (e.g. to include natural gas), the carbon tax has the potential to account for a significantly larger share of tax revenues (OECD, 2016e).

Box 5. **Green growth developments and challenges**

Mexico's per capita emissions of greenhouse gases – excluding most of those due to forest clearance – are well below the OECD average, but have been rising. Emissions per unit of GDP have declined very little over the past 25 years and are now not much below the OECD average. Emissions from forest clearance add approximately 10% to total emissions, but have decreased substantially as net forest clearance has fallen by over half since the 1990s.

During the 1990s, a major effort took place in order to shift electric generation from fuel to natural gas. Investments were substantial and contributed to a significant change in Mexico's carbon emissions. Air pollution has improved very much over the past 20 years, overall somewhat cleaner than in average OECD countries. But some large cities, especially Mexico City, still have frequent episodes of bad air pollution, which seem to have increased in frequency recently.

GDP growth since 1990 has been accompanied by a decline in energy intensity (total primary energy supply per unit of GDP). In recent years the decline has faltered, however. And while the share of renewables has been relatively high in the past, it has declined significantly even as it rose in most OECD countries. More than half of renewables is from biofuels and waste; wind and solar power are insignificant. In order to facilitate green growth, the government has made several efforts. For instance, income tax provides a 100% of immediate deduction for investments in machinery and equipment used to generate energy from renewable resources or from efficient electricity cogeneration systems. Moreover, the Congress approved the 2017 Budget which included fiscal incentives for investments in the development of charging stations for electric vehicles. In March and September 2016, Mexico's National Centre for Energy Control (CENACE), held 2 public biddings for nearly 80% of the electricity demand of the Federal Electricity Commission, for which half is dedicated to clean energy sources, specifically at wind and solar.

Water quality in rivers and lakes is acceptable or good in most of the country but very poor in the area around Mexico City, where a large share of wastewater is untreated. Following a near tripling of investment in water infrastructure between 2000 and 2010, access to piped drinking water is now over 90%, although much lower than this in some rural areas.

Precipitation varies a lot geographically and through time, so groundwater plays an important storage role; an increasing number of areas are in overdraft, with declining levels in aquifers; most aquifers in the country are affected, and salination is now an additional problem in some, such as around the regions of Baja California and Mexico City (Conagua, 2010).

Municipal waste generation per capita is lower than the OECD average but has been increasing in Mexico while it has been declining in other countries. Few municipalities charge households for waste collection, and none use quantity-based charges. Almost all such waste is sent to landfill.

Revenue from environmental taxes has increased in recent years and is now comparable to the OECD average.

Measured by patenting activity, Mexico devotes a similar, increasing, share of its R&D effort to environmentally-oriented activities as the average OECD country, but within a very low overall per capita total.

Figure 22. **Green growth indicators in Mexico**

A. CO₂ intensity

CO₂ per GDP
kg/USD (2010 PPP prices)

CO₂ tonnes per capita

— Mexico (demand-based)
— Mexico (production-based)
— OECD (demand-based)
— OECD (production-based)

— Mexico (production-based)
— OECD (production-based)

B. Energy intensity

Total primary energy supply
per GDP (ktoe/USD 2010 PPP)

% of renewables in total
primary energy supply

C. Population exposure to air pollution

Mean annual concentration of
PM2.5 (µg/m³)

% of population exposed
to PM2.5, 2013

▣ [0-10] µg/m³   ▣ [10-15] µg/m³
▣ [15-25] µg/m³   ▣ [25-35] µg/m³
▣ [35- .] µg/m³

D. Municipal waste generation and recycling

Municipal waste
(% of treated)

Municipal waste generated
(kg/person)

▣ Other
▣ Incineration
▣ Recycling and composting
▣ Landfill

E. Greening taxation

Environment-related tax
revenue (% of GDP)

Tax rate of unleaded petrol
and diesel (USD/litre)

▣ Energy   ▣ Motor vehicles
▣ Other   ▲ Total, 2000

— Unleaded petrol   ● Diesel

F. Environment-related inventions

Inventions per capita
(patents/million persons)

% of all technologies

Note: Panel E shows preliminary 2015 figures for Mexico, to better reflect the implementation of the reform IEPS on fuel and gas, and 2014 figures for other OECD countries.
Source: OECD (2016i), OECD Green Growth Indicators Database. For further details please refer to the metadata.

StatLink ᐧᒣᔊ *http://dx.doi.org/10.1787/888933444596*

References

Akgunduz, Y., & Plantenga, J. (2011), "Labour Market Effects of Parental Leave. A European Perspective", Utrecht School of Economics, Tjalling C. Koopmans Research Institute, *Discussion Paper Series*, No. 11-09.

Banxico (2016a), "Anuncio de Política Monetaria", *Banco de Mexico, Comunicado de Prensa*, 29 September.

Banxico (2016b), "Anuncio de Política Monetaria", *Banco de Mexico, Comunicado de Prensa*, 30 June.

Bauchet, J., Marshall, C., Starita, L., Thomas, J., & Yalouris, A. (2011), "Latest Findings from Randomized Evaluations of Microfinance", Financial Access Initiative, Innovations for Poverty Action, and Abdul Latif Jameel Poverty Action Lab. Forum 2. CGAP.

Beaman, L., Chattopadhyay, R., Duflo, E., Pande, R., & Topalova, T. (2009), "Powerful Women. Does Exposure Reduce Bias?", *The Quarterly Journal of Economics* (2009) 124 (4), 1497-1540.

Carstens, A. (2015), "Challenges for Emerging Economies In The Face Of Unconventional Monetary Policies In Advanced Economies", Stavros Niarchos Foundation Lecture, *Peterson Institute for International Economics*, April 20, 2015, Banco de México.

Cerutti, E., Claessens, S., and Laeven, L. (2015), "The Use and Effectiveness of Macroprudential Policies: New Evidence", *IMF Working Papers*, No. 15/61.

CNBV (2015), "Encuesta Nacional de Inclusión Financiera", México, Inclusión financiera, Principales hallazgos.

CONAPRED (2012), "Reporte sobre la discriminación en México 2012", Crédito. D.F., Consejo Nacional para Prevenir la Discriminación.

Cull, R., Ehrbeck, T., & Holle, N. (2014), "Financial inclusion and development: recent impact evidence", Washington, DC. World Bank Group, *CGAP focus note*; No. 92.

Damme, D. (2014), "How Closely is the Distribution of Skills Related to Countries' Overall Level of Social Inequality and Economic Prosperity?", *OECD Education Working Papers*, No. 105.

Daubanes, J. and S. Andrade de Sá (2014), "Taxing the Rent of Non-Renewable Resource Sectors: A Theoretical Note", *OECD Economics Department Working Papers*, No. 1149.

De la Cruz Toledo, E. (forthcoming), "Preschool Enrolment and Mothers' Employment in Mexico", extended abstract.

Dearing, H. (2015), "Does parental leave influence the gender division of labour?", Recent empirical findings from Europe, Vienna University of Economics and Business, Institute for Social Policy, *Working Paper No. 1/2015*.

Dearing, H. (forthcoming), "Designing gender-equalizing parental leave schemes – what can we learn from recent empirical evidence from Europe?", *Journal of Family Research*.

Dougherty, S. and O. Escobar (2016a), "Could Mexico become the new 'China'? Policy drivers of firm-level competitiveness", *OECD Productivity Working Papers*, No. 4.

Dougherty, S. and O. Escobar (2016b), "Misallocation and competition in Mexico", OECD Economics Department and Paris School of Economics, Manuscript.

Dougherty, S., R. Herd and T. Chalaux (2009), "India's growth pattern and obstacles to higher growth. What is Holding Back Productivity Growth in India? Recent Microevidence", *OECD Economic Studies*, Vol. 45 (1).

Fareed, F., Gabriel, M., Lenain, P. and Reynaud, J. (forthcoming), "Financial inclusion and women entrepreneurs", OECD Economics Department Working Papers, OECD Publishing, Paris.

Filho, F. and F. Veloso (2016), "Causas e Consequências da Informalidade no Brasil [Causes and Consequences of Informality in Brazil]", *Elsevier*, FGV-IBRE, Rio de Janeiro.

Gobierno de la República (2014), "Programa Institucional del Banco del Ahorro Nacional y Servicios Financieros 2014-18", Logros 2014, *www.bansefi.gob.mx/Documents/Avance%20Programa%20Institucional%20BANSEFI%20dic14_plantilla%20SHCP%20(3).pdf*

Gravelle T. and Moessner, R. (2001), "Reactions of Canadian Interest Rates to Macroeconomic Announcements: Implications for Monetary Policy Transparency", *Bank of Canada Working Papers*, No. 2001-5.

Hermansen, M. and Röhn O. (2015), "Economic Resilience: The Usefulness of Early Warning Indicators in OECD Countries", *OECD Economics Department Working Papers*, No. 1250.

HLPF (2016), Mexico Statement, "National Voluntary Review", *High-Level Political Forum*, New York.

HM Treasury (2011), "Integrating the operation of income tax and National Insurance contributions. A call for evidence".

IMF (2013), *IMF Country Report*. No. 13/333.

IMF (2015), *IMF Country Report*. No. 15/314

IMF (2016), *Analyzing and Managing Fiscal Risks–Best Practices*, IMF, May 2016.

INEE (2016), "Preguntas frecuentes sobre el replantamiento del modelo", *www.inee.edu.mx/index.php/preguntas-spd-2017*

IPP (2015), "Pay Equity Best Practices Guidelines", Institute of Public Policy, Harry S. Truman School of Public Affairs, University of Missouri-Columbia.

Kotsadam, A., & Finseraas, H. (2011), "The state intervenes in the battle of the sexes. Causal effects of paternity leave", *Social Science Research*, 40(6), 1611-1622.

Manpower Group (2015), *2015 Talent Shortage Survey*, ManpowerGroup.

MSCI (2014), "2014 Survey of Women on Boards", MSCI, ESG Research, *Governance Issue Report*.

Nordås, H. (2016), "Services Trade Restrictiveness Index (STRI): The Trade Effect of Regulatory Differences", *OECD Trade Policy Papers*, No. 189.

OECD, ILO, IMF, & WB (2014), "Achieving stronger growth by promoting a more gender-balanced economy", *Report prepared for the G20 Labour and Employment Ministerial Meeting,* Melbourne.

OECD (2004), "Women's entrepreneurship", Issues and policies, 2nd OECD Conference of Ministers Responsible for Small and Medium-sized Enterprises (SMEs), OECD Publishing.

OECD (2009), OECD Economic Surveys: Mexico 2009, OECD Publishing, Paris, *http://dx.doi.org/10.1787/eco_surveys-mex-2009-en*

OECD (2011), OECD Economic Surveys: Mexico 2011, OECD Publishing, Paris, *http://dx.doi.org/10.1787/eco_surveys-mex-2011-en*

OECD (2012a), "Executive summary", in OECD Reviews of Evaluation and Assessment in Education: Mexico 2012, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264172647-3-en*

OECD (2012b), Closing the Gender Gap: Act Now, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264179370-en*

OECD (2012c), "Mejores prácticas registrales y catastrales en México", OECD Publishing, Paris.

OECD (2013), OECD Economic Surveys: Mexico 2013, OECD Publishing, Paris, *http://dx.doi.org/10.1787/eco_surveys-mex-2013-en*

OECD (2013a), Getting It Right: Strategic Agenda for Reforms in Mexico, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264190320-en*

OECD (2013c), Knowledge-based Start-ups in Mexico, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264193796-en*

OECD (2013d), "A cross-country comparison of household income, consumption, and wealth between micro sources and national accounts aggregates", Working Party on National Accounts. *STD/CSTAT/WPNA(2013)9/RD*.

OECD (2013e), OECD Economic Surveys: Brazil 2013, OECD Publishing, Paris, *http://dx.doi.org/10.1787/eco_surveys-bra-2013-en*

OECD (2014), Agricultural Policy Monitoring and Evaluation 2014: OECD Countries, OECD Publishing, Paris, *http://dx.doi.org/10.1787/agr_pol-2014-en*

OECD (2014a), *Enhancing Women's Economic Empowerment though Entrepreneurship and Business Leadership in OECD Countries*, OECD Publishing, Paris.

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

OECD (2014c), "Social Expenditure Update – Social spending is falling in some countries, but in many others it remains at historically high levels", OECD Publishing, Paris.

OECD (2015), Economic Policy Reforms 2015: Going for Growth, OECD Publishing, Paris, *http://dx.doi.org/10.1787/growth-2015-en*

OECD (2015a), OECD Economic Surveys: Mexico 2015, OECD Publishing, Paris, *http://dx.doi.org/10.1787/eco_surveys-mex-2015-en*

OECD (2015b), "Mexico. Policy Priorities to Upgrade the Skills and Knowledge of Mexicans for Greater Productivity and Innovation", OECD Publishing, Paris.

OECD/ E. Hanushek / L. Woessmann (2015c), Universal Basic Skills: What Countries Stand to Gain, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264234833-en*

OECD (2015d), Taxing Energy Use 2015: OECD and Selected Partner Economies, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264232334-en*

OECD (2015e), *Effective Carbon Rates on Energy: OECD and Selected Partner Economies*, OECD Publishing, Paris.

OECD (2016a), Ollivaud, P., Y. Guillemette and D. Turner (2016), "Links between weak investment and the slowdown in productivity and potential output growth across the OECD", OECD Economics Department Working Papers, No. 1304, OECD Publishing, Paris.

OECD (2016b), OECD Economic Surveys: United States 2016, OECD Publishing, Paris, *http://dx.doi.org/10.1787/eco_surveys-usa-2016-en*

OECD (2016c), Education at a Glance 2016: OECD Indicators, OECD Publishing, Paris, *http://dx.doi.org/10.1787/eag-2016-en*

OECD (2016d), *Employment Outlook 2016. How does Mexico Compare?*, OECD Publishing, Paris.

OECD (2016e), "Evaluating Environmental Tax Policies – Case Study on Mexico", Joint Meetings of Tax and Environment Experts, Draft for discussion, OECD Publishing. Paris.

OECD (2016f), Gender Equality in the Pacific Alliance: Promoting Women's Economic Empowerment, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264262959-en*

OECD (2016g), OECD Economic Outlook, Volume 2016 Issue 2: Preliminary version, OECD Publishing, Paris, *http://dx.doi.org/10.1787/eco_outlook-v2016-2-en*

OECD (2016h), OECD Reviews of Health Systems: Mexico 2016, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264230491-en*

OECD (2016i), "Green growth indicators (Edition 2016)", OECD Environment Statistics (database), *http://dx.doi.org/10.1787/5710f950-en*

OECD (2016j), *PISA 2015 Results (Volume I): Excellence and Equity in Education*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264266490-en*

OECD (2017), *OECD Integrity Review of Mexico: Taking a stronger stance against corruption*, OECD Publishing, Paris.

Pasali, S. (2013), "Where Is the Cheese? Synthesizing a Giant Literature on Causes and Consequences of Financial Sector Development", *World Bank Policy Research Working Papers*, No. 6655.

Rey, H. (2015), "Dilemma not Trilemma: The Global Financial Cycle and Monetary Policy Independence", *NBER Working Papers*, No. 21162, May 2015.

Röhn, O., Caldera Sánchez, A., Hermansen, M., and Rasmussen, M. (2015), "Economic Resilience: A New Set of Vulnerability Indicators for OECD Countries", *OECD Economic Department Working Papers*, No. 1249.

Sandoval, S. (2015), "The Distribution of Top Incomes in Mexico: How rich are the richest?", Paris School of Economics, Public Policy and Development Master's Dissertation, *http://piketty.pse.ens.fr/files/Sandoval2015.pdf*

SEP (2016), "Resultados de la #EvaluaciónDelDesempeño, Ciclo Escolar 2015-16", *www.gob.mx/sep/articulos/resultados-de-la-evaluaciondeldesempeno-ciclo-escolar-2015-16*

UN (2015), *Transforming our world: The 2030 agenda for sustainable development.* United Nations, A/RES/70/1.

World Bank (2010), *Enterprise Surveys: Mexico*, The World Bank, Washington, DC.

World Bank (2011), *Special Economic Zones Progress, Emerging Challenges, and Future Directions*, World Bank, Washington, DC.

Wu, J. and Fan D. (2016), "Measuring the Macroeconomic Impact of Monetary Policy at the Zero Lower Bound", *Journal of Money, Credit and Banking*, Vol. 48, No. 2-3 (March-April 2016).

ANNEX

Follow-up to previous OECD policy recommendations

This annex reviews action taken on recommendations from previous Surveys. They cover macroeconomic and structural policy priorities. Each recommendation is followed by a note of actions taken since the January 2015 Survey. Recommendations that are new in this Survey are listed in the relevant chapter.

Financial stability

Recommendations	Actions taken
Further strengthen competition in the banking sector to support healthy development of capital markets, but with special consideration of financial stability issues (2013).	Significant action taken through the approval and implementation of the 2014 financial reform. These include measures to strengthen creditors' property rights, rules for the resolution of banks, and requirements that promote competition for bank accounts and financial services.
Strengthen autonomy on budget and staffing matters of the key financial sector agencies, give legal status to the Financial Stability Council and widen the toolkit for macroprudential intervention to ensure effective and efficient achievement of macroprudential objectives (2013).	Action taken, by giving the Banking and Securities Commission new supervisory powers and the Financial Stability Council legal status. Basel III capital requirements were made mandatory by law but work on widening the macroprudential toolkit is still on-going.
Focus on fully implementing the reform package with close monitoring at a high political level, and strengthen administrative capacity and governance quality at all levels of government (2015).	Still on-going. The President's office follows reforms closely, and has addressed bottlenecks in implementation of the education reform and promoted faster implementation of the legal, energy, competition, financial, fiscal, labour and electoral reforms. An anti-corruption and transparency reform has been passed and its implementation has begun.

Fiscal policy

Recommendations	Actions taken
Move towards a structural fiscal rule to reduce the partial pro-cyclicality of the current framework (2013).	The 2014 reform added a current expenditure cap to the previous rules. However, the new framework only approximates a structural rule.
National accounts standards should be fully implemented in the budget (2013).	Still on-going.
The fiscal stability law should be reformed to increase the build-up of financial buffers in liquid assets available in case of contingency or adverse market sentiment (2013).	Actions taken with the Fiscal Responsibility Law in 2015 which established the Mexican Oil Fund for Stabilization and Development in 2015.
Establish a harder budget constraint on sub-national governments to improve their tax collection by limiting further increases in transfers, avoiding extraordinary transfers and promoting the implementation of limits on deficits and debt ceilings (2013).	Action taken with several modifications through the Constitutional reform on fiscal discipline for sub-national governments and the Fiscal Discipline Law for subnational governments, to address sub-national deficits, debt limits and expenditure control. The Federation grants a guarantee over the sub-national debt to those States willing to sign an agreement in which they commit to specific balance and debt limits, as well as other key financial ratios.
Improve subnational governments' spending efficiency and effectiveness by clarifying spending responsibilities for lower levels of government in health and education (2013).	Starting in 2015, a new fund for expenditure on basic education (FONE) substituted the fund that covered the wages of the basic education payroll in Mexico. A new Health General Law was published in 2014 establishing mechanisms that ensure a more efficient and transparent health sector spending for the *Seguro Popular*.
Grant more tax powers to states. Strengthen property tax revenues by updating property registries, increasing rates, removing exemptions and improving collection, by allowing the federal or state tax administrations to collect the tax (2013).	Actions taken by allowing States to charge income tax on payrolls, and since 2015 States and municipalities can fully participate in the income tax of their administrative staff. In the case of consumption taxes, the fiscal reform unified consumption (VAT) rates across States. An incentive for municipalities that transfer the administration of the property tax to the state government was established in the Fiscal Federalism law in 2014, in the form of access to special transfer funds (for municipalities and for states).

Social policy

Recommendation	Actions taken
Increase the coverage and size of *Oportunidades* cash transfers to the poor, complete the implementation of *Seguro Popular*, and broaden the coverage of *65 y más* old-age pensions (2013). Fully roll-out the new *Prospera* cash transfer programme to help beneficiaries expand their capabilities, complete their education, join the formal sector and obtain well-paid jobs (2015).	Actions taken with a new programme, *Prospera*, replacing the old *Oportunidades*. The new programme connects social policy with economic dynamism by adding new dimensions, such as benefits in health, education, nutrition, financial inclusion, job placement and priority access to production programmes. Through training and job programmes, beneficiary families will be able to generate their own income and depend less on cash transfers from the Government. The Senior Pension Programme (*65 y más*) has achieved national coverage.
Take steps to delink the minimum wage from other prices in the broader economy; and investigate the effects on jobs and informality of raising the minimum wage in real terms (2015).	Significant action taken in November 2015 when the Chamber of Deputies approved new legislation to delink the minimum wage from any legal binding to set fees, payment of loans, services and sanctions among others.
Evaluate and streamline social benefit programmes (2013).	Ongoing as social benefit programmes are continuously evaluated and are obliged to have a matrix of indicators for results, which links such indicators with sectorial objectives.
Approve draft legislation for unemployment insurance and universal pensions to protect job seekers and old-age people against the risk of income losses, and reduce inequality (2015, 2013).	Still pending. The government proposed the introduction of unemployment insurance for formal workers and universal pensions for all retirees. The Lower Chamber has already approved the reform proposal (April 2014). However, these measures have yet to be approved by the Senate, due to fiscal pressures from the fall in oil prices and raising concerns about costs.

Health policy

Recommendations	Actions taken
Promote access to quality health care through improved co-ordination across health institutions to reduce redundancies; in particular, promote exchange of services between health care networks (2015).	In 2016, the National Agreement Towards Health Service Universalization was signed, with the goal to gradually ensure portability across providers. It was signed by the Ministry of Health, ISSSTE, IMSS, and three states. More states are expected to join in the near future. Also, the number of agreements to exchange health services between institutions had been increasing in the last years, from seven in 2014, to 11 in 2015.
To improve quality and reduce costs of services across all health care providers, standardise procedures and make health insurance mandatory (2015).	Efforts have been made to improve the efficiency and productivity across providers. IMSS has achieved important gains in efficiency by implementing consolidated drug procurement. The success of this scheme has prompted its expansion to include more states, pharmaceutical companies and drugs.
Allow free choice of health networks for new employees, and encourage competition between health care providers (2015).	IMSS has implemented a consolidated drug procurement procedure, making use of reverse auctions among potential participants and encouraging competition among providers. IMSS also has continuous collaboration with entities such as the COFECE (Federal Economic Competition Commission) to ensure transparency in all procurement procedures.
To reduce underreporting of wages to social security, improve co-ordination between social security and the tax collection agencies (2015).	A new bill (*Reforma 27 y 32 a la Ley del Seguro Social*) that amalgamates the definition of wage compensation for social security and tax purposes was approved by the Mexican Chamber of Deputies and is awaiting conclusion in the Senate. This bill would simplify the payment process of payroll taxes and harmonise tax-collection efforts across agencies.
Allocate financial resources to state health services according to need and give more flexibility to the states to determine how to spend these resources (2015).	No action taken. However, IMSS is exploring a new scheme to allocate resources for delegations at the state level to purchase drugs for primary care clinics, responding to a delegation's specific needs.
Consider converting government hospitals into corporate entities (2015).	IMSS is assessing the development of a public-private partnership scheme for four hospitals. The private provider's participation would include the maintenance of facilities, waste management, security and surveillance, among others.
Make sure that the National Strategy to Prevent and Control Overweight, Obesity and Diabetes is implemented and periodically evaluated (2015).	Still ongoing. Mexico launched a national campaign against obesity, overweight and diabetes in 2014. The administration is also exploring new policies to prevent harmful alcohol consumption.

Education and skills

Recommendations	Actions taken
Improve education performance by continuing with the systemic reforms to teacher incentives and school leadership, system funding and curricula, as well as evaluation and assessment strategies (2013).	The education reform includes a legal framework for the professional development of teachers, principals and supervisors, and mandates a National Evaluation System, which is now in effect. Teacher evaluations have been performed and a new education model has been announced.
Improve the equity and efficiency of education spending by refocusing such spending on pre-primary, primary and secondary education. Concentrate on the quality of teaching (2015).	Actions taken to refocus education spending across levels of education. New programmes have been introduced to improve school infrastructure (e.g. *Escuelas al CIEN*), including through the introduction of Educational Infrastructure Certificates, reduce the administrative burden of schools and allow them greater management autonomy (e.g. *Escuela al Centro*).
Enhance investment in dual education and vocational education and training programmes (2015).	The National Productivity Committee has led efforts to promote training and vocational programmes to strengthen technical education for major clusters like the aerospace and car industry. Likewise, efforts to conduct a Skills Strategy in collaboration with the OECD are ongoing, aiming to ensure that all Mexicans have the necessary skills to move toward higher productivity and value added economic activities, contributing to more inclusive economic growth and development.

Gender and labour market dynamism

Recommendations	Actions taken
Encourage more women to join the formal labour force by improving access to quality child-care for children under three years of age, and extend active labour market policies (2015, 2013).	Actions taken with the Labour Reform, which introduced modifications to strengthen women participation in the labour force. Among others, the requirement of marital status or pregnancy tests as criteria for hiring or dismissing workers is now forbidden (although employers are still required to pay 100% of wages if they hire a worker who is in the early stages of pregnancy and has not contributed to social security for the required amount of time); maternity leave was made more flexible by allowing the transfer of up to four of the six prenatal weeks to afterbirth care; a protocol for prevention, care, and sanction of sexual harassment was published. Public preschool hours were extended from 3 to 4 hours starting next year. Moreover, based on a Supreme Court Resolution, fathers working formally and paying contributions can present their case and demand the benefit of accessing IMSS "guarderías". Teleworking was recognised legally.

Financial inclusion

Recommendations	Actions taken
Further encourage policies to support greater financial inclusion, including broadening the range of financial services, diversifying service providers to ensure commitments made by financial authorities (2013).	Action taken with the financial reform which goal was to increase the access to credit and reduce its cost, especially for families and SMEs, while maintaining the stability of the financial sector. The *Programa Integral de Inclusión Financiera* which provides financial education, credit, programmed savings, insurance and other products and services to beneficiaries of social programs was launch in 2014. The National Policy on Financial Inclusion was published on June 2016 setting the government major policy lines, actions and targets. The savings and loan sector have been allowed to establish correspondents to foster greater financial access to larger segments of the population.

Legal issues

Recommendations	Actions taken
Complete the judicial reforms at the state level that move towards oral adversarial trials in criminal cases. Empower an executive agency to promote the analogous transition for civil cases (2013).	Actions taken to accelerate the adoption of oral adversarial trials, and prepare states for their full implementation. A government agency (SETEC) has helped states implement the new system with grants, co-ordination and consultation; all states have now begun to implement the new justice system, although half of local districts have just begun. Extension of the judicial reforms to civil and commercial domains is beginning. Now 26 states use oral trials for larger commercial cases, while four states use them in civil cases. However, most civil and commercial cases are still handled using the unreformed justice system.
Harmonise the criminal code and procedure across states. Strengthen the co-ordination, integration and training of police forces (2013).	Action taken to adopt the new unified National Code of Criminal Procedure, in all states and the federation in 2014, while further amendments to the Code were made in mid-2016. Efforts to strengthen co-ordination of police forces are ongoing.
Reform justice institutions, strengthen the rule of law, address security issues and reduce widespread corruption with reforms centred on the efficiency of judicial resolution of civil, commercial and criminal matters, and a strengthening of the transparency of public procurement (2015).	In addition to actions taken on judicial reform noted above, action was taken to strengthen the anti-corruption system, with the adoption of the *Sistema Nacional Anticorrupción*, strengthening institutions that investigate and prosecute cases of public corruption, including a new specialised court. However, some states have yet to fully ratify the new system. In states, local legislation will be modified to replicate the system at the sub-national level.

Urban policy

Recommendations	Actions taken
Develop a coherent national urban policy that takes into account the broader impacts of housing development on the urban environment and people's well-being (2015).	Actions taken. The Federal Government has a National Urban Development Program in place. Recent actions include the adoption of new operating rules for federal subsidies that give higher weights to centrally located developments. There is also a federal programme to help low-income inhabitants access housing options inside the city centre. Furthermore, a strategy was developed, based in the COP21 agreement and aligned to the 2030 Sustainable Development Agenda, which promotes the model of "A Sustainable City".
Eliminate distortions towards homeownership (2015).	Actions taken with the programme, *Arrendavit*, which was introduced to assist INFONAVIT affiliates with rental housing in lieu of homeownership. Implementation of the National Housing Policy has involved co-ordination local and state governments with the private sector to identify the housing needs of the population. Recently implemented programs aim to satisfy diverse population needs to attend the vulnerable sectors of the population in the country, through renovation, refurbishment, enlargement and rental housing.

Regulatory policy

Recommendations	Actions taken
Create a high-level interagency body focused on productivity that can study and advocate for structural reform (2013). Pass the law that establishes the Productivity Commission's new mandate (2015).	Significant action taken. The National Productivity Committee (NPC) was created in 2013 to promote productivity enhancing policies. The supporting Productivity Law was passed in 2015, giving the NPC a clear legal mandate, and the capacity to issue policy recommendations (binding if addressed to public sector agencies) to promote productivity in the long term.
Promote regulatory reform and remove entry barriers at all levels, particularly at the subnational level, building on progress at the federal level (2013). Improve and simplify the existing stock and quality of regulation at the local, state and national levels (2015).	Action taken through the establishment of the National Productivity Committee (NPC), which helps to identify regulatory bottlenecks to productivity growth. New federal regulations are already subject to a regulatory impact analysis by the regulatory oversight body COFEMER; however, efforts to roll back regulation at the state and local levels have encountered substantial difficulties, and a comprehensive sub-national review of regulations has not occurred. In November 2016, Congress approved constitutional reforms which will allow national and sub-national authorities to co-ordinate on the implementation of sound regulatory improvement policies, including revision and simplification of regulations.

Recommendations	Actions taken
Remove barriers to foreign investment in remaining sectors, building on progress with unilateral tariff liberalisation (2013).	Actions have been taken in some specific sectors. For instance, reforms have raised foreign investment caps for the telecommunications and broadcasting sectors, to 100% and 49%, respectively. The energy reform also opens the energy sector to private sector participation, including foreign investment.
Examine the mandate of the new telecom competition regulator to be sure that it has enough scope of authority to deter future anti-competitive behaviours (2015).	No formal action has been taken to examine the IFT's scope of authority, although measures of competition in the telecom sector have improved since its creation.
Address conditionality rules in the telecom reform that makes market access conditional on reciprocity (2015).	No action taken, but an inter-ministerial task force has been created to analyse proposals to address this issue, including by creating a working group in the Senate.
Phase out restrictions on agricultural land ownership and transfer, while strengthening rural income support and access to finance (2015).	No significant action taken, beyond new government facilitation of use rights on *ejidos* lands for energy projects. An expansion of such arbitration mechanisms for broader uses has been announced.
Ensure that the new contracting rules for oil & gas investment are carefully designed in order to provide sufficiently strong motivation for large-scale private sector participation (2015).	Actions have been taken to improve the bidding process, and fiscal terms have been strengthened with each succeeding tender of the first round of public auctions.
Promote high-tech industrial clusters with linkages to universities and early-stage investment vehicles (2015).	Several measures have been taken to promote new clusters, such as in Veracruz. CONACYT is also promoting collaborations between academia and industry chambers through the Stimulus Innovation Program and others actions like the Sectorial Innovation Funds. A new National Entrepreneur Fund has also been launched.
Enhance the data infrastructure for evidence-based policy making (2015).	Some new surveys such as the National Survey on SME's competitiveness and productivity are being carried out by INEGI in collaboration with other agencies.
Promote the implementation of the new political rules that allow for re-election of state and local offices (2015)	Action taken with new rules for re-election of legislators and mayors, on track to be implemented in many states from 2018.

Thematic chapters

Chapter 1

Towards a more inclusive society

Building vibrant and systematic partnerships with the private sector is a prerequisite for the successful implementation of the Mexican government's agenda to accelerate poverty reduction and sustainable development, and ultimately to deliver on the Sustainable Development Goals. This chapter examines how advancing financial inclusion and promoting socially responsible firms can contribute to sustained economic growth and shared prosperity.

Mexico faces the challenge of making society more inclusive. Income is highly concentrated, many families live in poverty, insecurity is high and children's opportunities to do better than their parents could be improved. Recent reforms were introduced by the government to correct these trends. The *Pacto por México* reforms aimed at reducing income inequality, improving the quality of education, encouraging operating in the formal sector and reducing poverty.

In June 2016, the Government also endorsed a National Strategy for Financial Inclusion to tackle the lowest level of financial inclusion among OECD members. Section 1 of this chapter analyses recent developments in terms of financial inclusion policy and government commitments, providing evidence of a positive association between financial access and entrepreneurship. These findings support the need for Mexico to strengthen efforts to fully achieve its commitments on financial inclusion, as well as to support entrepreneurs, particularly women.

The second section of this chapter discusses how the private sector can be a strategic partner in the pursuit of a more inclusive society. The section analyses how Mexican firms perform in terms of environmental, social, and business practices. The private sector can play a key role in making society more inclusive, for instance by reducing discrimination against women in the workplace. The section provides evidence suggesting that contributing to sustained and inclusive growth brings several financial and productivity advantages to firms.

Financial inclusion

Financial inclusion can spur economic growth and reduce poverty

Financial inclusion is broadly defined as the access to and use of formal financial services by households and firms. Having access to financial services allows firms to invest and households to smooth their consumption and build capital over time, fostering the creation of businesses and helping to improve people's livelihoods. A vast amount of research shows that financial inclusion is not only positively correlated with but also causally related to growth (Cull, Ehrbeck, and Holle, 2014; Pasali, 2013). Moreover, most of the empirical evidence at the microeconomic level suggests that financial inclusion does have a positive impact on indicators like self-employment, household consumption, empowerment of women and well-being (Bauchet et al., 2011; Cull, Ehrbeck, and Holle, 2014).

In Mexico, GDP per capita and access to financial services are positively correlated, and states with higher access to formal financial services have a lower poverty rate (Figure 1.1). Although the direction of causality between financial inclusion and social development is debatable, each aspect complements the other. In this sense, the fact that the Mexican government has firmly placed financial inclusion as a key policy priority is welcomed.

Figure 1.1. **Financial inclusion is a key enabler of economic growth and poverty reduction**

A. GDP per capita and access to financial services

GDP per capita (thousand pesos)

Number of banks per 10,000 adults

B. Poverty and access to financial services

Poverty rate (%)

Number of banks per 10,000 adults
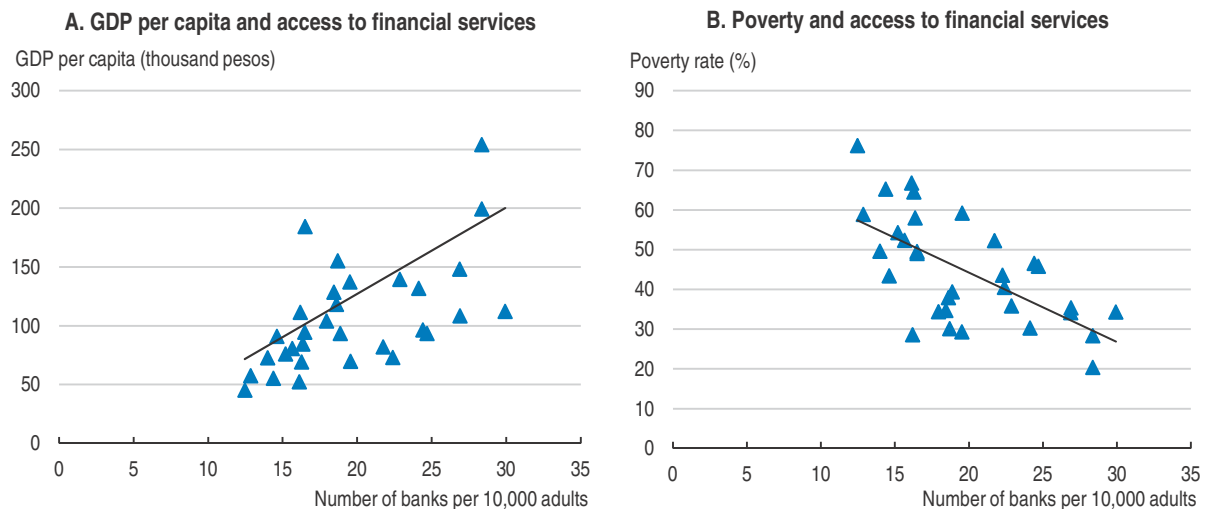
Note: The poverty rate is based on Consejo Nacional de Evaluación de la Política de Desarollo Social (CONEVAL) definition A person is in poverty when they have at least one social deprivation (in the six indicators of educational gap, access to health services, access to social security, quality and living spaces, basic services in housing and access to food) and their income is insufficient to purchase goods and services required to meet their food and non-food needs.
Source: Comisión Nacional Bancaria y de Valores (CNBV),Consejo Nacional de Evaluación de la Política de Desarrollo Social (CONEVAL), and Instituto Nacional de Estadística y Geografía (INEGI) 2014.

StatLink ⬛▮⬛ *http://dx.doi.org/10.1787/888933444604*

Where does Mexico stand?

Having a financial sector that lacks scope and depth not only reduces productivity in the financial sector but also limits the role that consumption and investment smoothing can have in tempering macroeconomic volatility. Since 2008, the Mexican banking and securities regulator (CNBV) has included financial inclusion as a formal statutory objective in its strategic plan. In 2009, Mexico became "Principal Member" of the Alliance for Financial Inclusion (AFI) and in 2011, member of the Maya Declaration signing several commitments towards increasing financial inclusion. The National Council for Financial Inclusion (CONAIF) was also established in 2011. In 2013, the results of the first National Survey for Financial Inclusion (ENIF) were published and, in 2014, the financial reform was passed aiming to strengthen the regulatory environment, increasing competition, and lowering the cost of borrowing especially for small- and medium-sized enterprises (SMEs). More recently, in 2016, the National Financial Inclusion Strategy was finalised (Table 1.1).

Despite the government's efforts, in 2014 the level of financial inclusion measured by the percentage of people with a bank account, remained the lowest amongst OECD countries (Figure 1.2). Figure 1.3 below highlights the difference in accessibility to bank branches across municipalities within Mexico.

Mexico still needs to strengthen efforts to fully achieve its commitments on financial inclusion. In the context of the Maya Declaration, Mexico committed to establish a national financial inclusion strategy, facilitate the provision of mobile financial services, have a robust data and measurement system in place by launching a demand side survey and publishing quarterly information on electronic transactions, and to have a bank branch or

Table 1.1. **Timeline of reforms and commitments on financial inclusion**

Year	Reforms and commitments
2008	• CNBV, Mexican banking and securities regulator, embraced financial inclusion as a formal statutory objective in the strategic plan
2009	• Mexico became 'Principal Member' of the Alliance for Financial Inclusion (AFI) • Financial reform was passed easing the conditions to open accounts and relaxing regulatory conditions to encourage emergence of niche banks • Banking Agents started offering financial services
2010	• Creation of a tiered account system to facilitate opening of basic savings and payment accounts, and to make new business models (mobile agents network) possible • Mobile networks were permitted to set up agent networks and manage mobile accounts
2011	• Mexico became a member of the Maya Declaration and signed its commitments towards increasing financial inclusion • National Council for Financial Inclusion (CONAIF) was established in line with the objectives of the National Development Plan • National Committee on Financial Education was created to increase financial awareness among consumers
2012	• The Ministry of Finance and Public Credit (SHCP) became a 'Principal Member' of the Alliance for Financial Inclusion • Mexico established an outstanding voice in the G20's Global Partnership for Financial Inclusion, particularly during Mexico's G20 Presidency in 2012
2013	• Results of the first 'National Survey for Financial Inclusion' were published
2014	• Financial reform was passed. One of the aims was to increase access to credit and reduce its cost, especially for families and SMEs
2015	• A draft of Mexico's National Financial Inclusion Strategy was drawn up for the review of members of CONAIF • Second 'National Survey of Financial Inclusion' was conducted
2016	• National Financial Inclusion Strategy was finalised • Results of the second Financial Inclusion survey were published

Source: Comisión Nacional Bancaria y de Valores (CNBV), CGAP (2010), and IMF (2012).

Figure 1.2. **Financial inclusion in Mexico remains the lowest amongst OECD countries**

Adults (15+ age) with an account at a financial institution, 2014
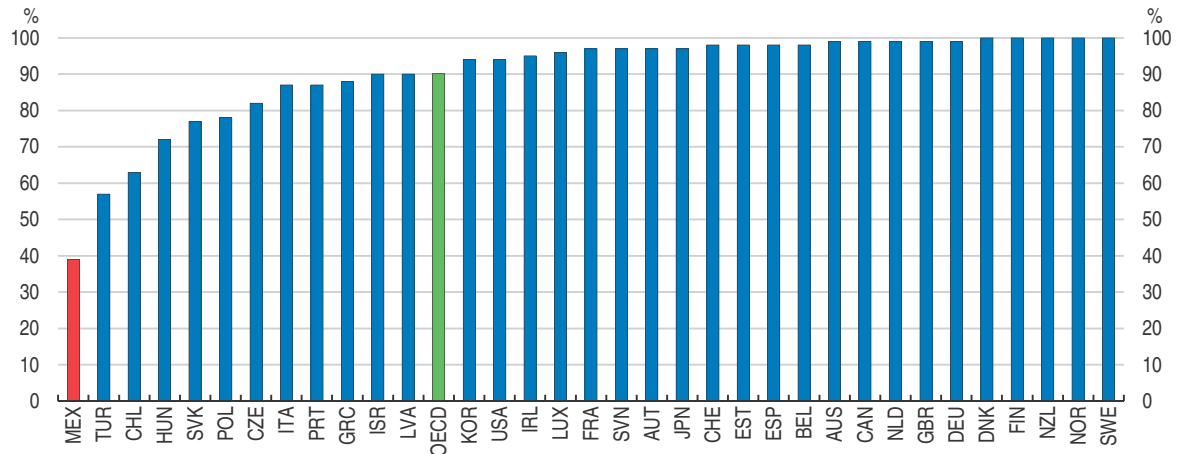
Source: World Bank Global Findex Database (2014)

StatLink ⟨⟩ *http://dx.doi.org/10.1787/888933444619*

a banking agent in every municipality by 2014. The first three commitments have been fulfilled (AFI, 2013). However, as of 2015, 31% of the 2 457 municipalities did not have any financial access point (branches, banking agents and ATMs) and half of the municipalities have no access to bank branches (Figure 1.3 and Figure 1.4).

Figure 1.3. **Financial access points are still low in many municipalities**
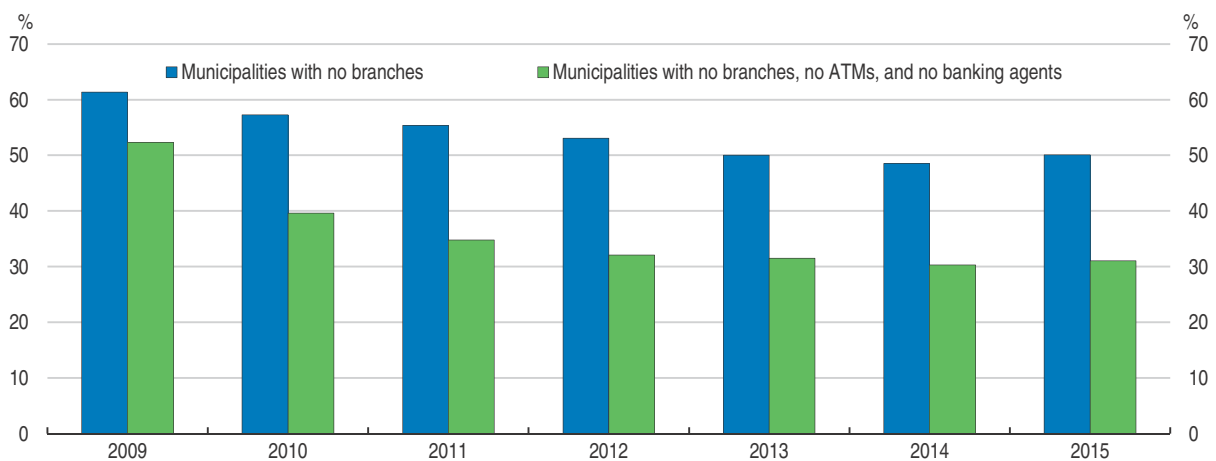
Note: The blue chart refers to municipalities with no banking branches but with other access points such as ATMs or banking agents. The green line refers to municipalities with no access point, meaning, no branches, no ATMs and no banking agents.
Source: Comisión Nacional Bancaria y de Valores (CNBV)

StatLink ⟨⟩ *http://dx.doi.org/10.1787/888933444620*

Figure 1.4. **The state of financial inclusion has improved from 2009 to 2015**

A. 2009

B. 2015

Municipality Cuauhtémoc within Mexico City, with the highest score of the financial inclusion index.
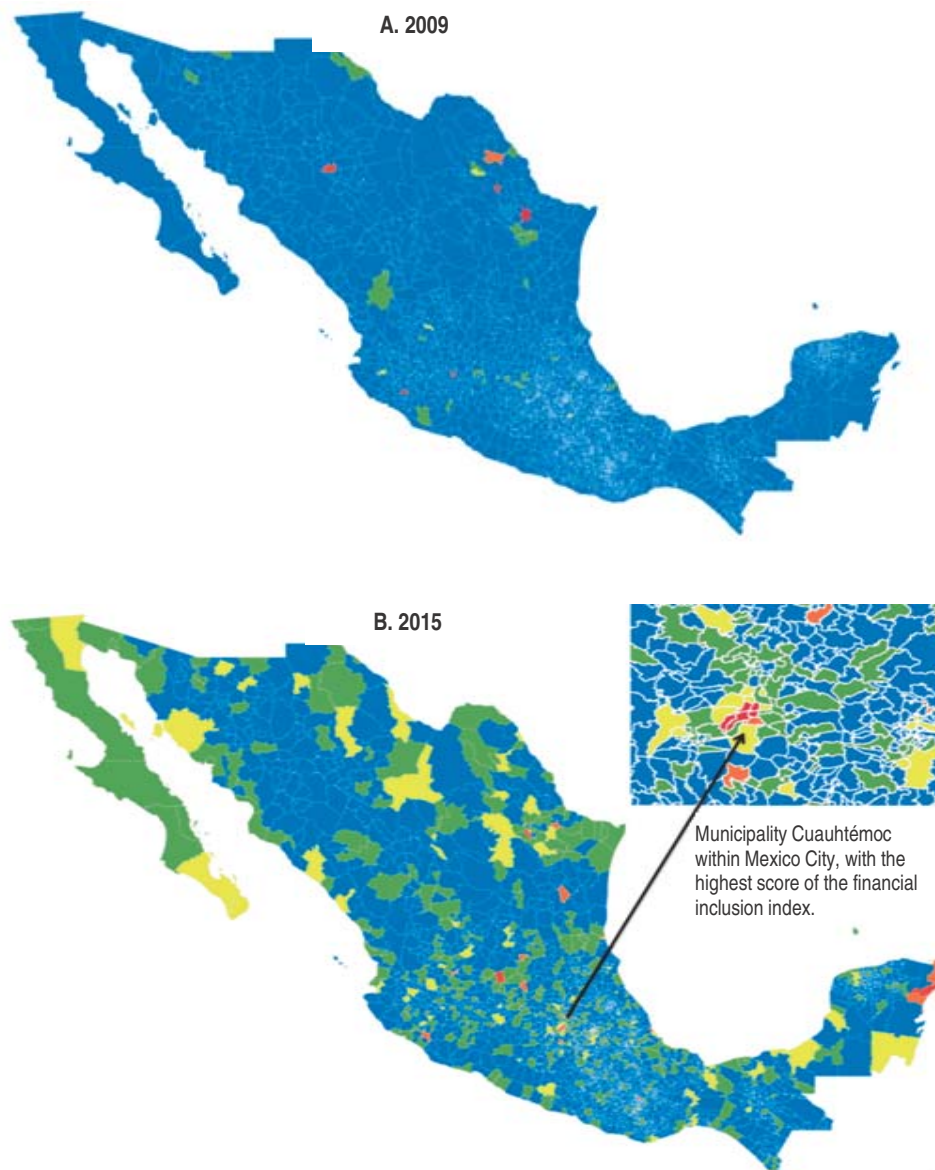
Financial Inclusion Index (FII)	2009	2015
	% of municipalities	
0 to 0.1	98.4	80.1
0.11 to 0.20	1.0	15.5
0.21 to 0.30	0.3	3.3
0.31 to 0.40	0.1	0.7
0.41 to 0.50	0.1	0.2
0.51 to 1	0.1	0.2

Source: Adapted from Comisión Nacional Bancaria y de Valores (CNBV), as described in Box 1.1.

Assessing Mexico's financial inclusion landscape: A Financial Inclusion Index (FII)

Financial inclusion is a multifaceted concept including dimensions such as bank accounts, credit, savings, insurance, remittances and transfers, among others. To better understand recent developments as well as the current status of financial inclusion in Mexico, a dynamic Financial Inclusion Index (FII) was built for the Economic Survey of Mexico using data from the National Banking and Securities Commission (CNBV) on financial inclusion indicators regarding availability and usage of different financial services at the municipality level. This Financial Inclusion Index takes into account five such indicators: accessibility of financial services, depth of credit services, usage of financial channels, concentration of checking accounts, and concentration of non-checking accounts (see Box 1.1).

Box 1.1. **Financial Inclusion Index**

A dynamic Financial Inclusion Index (FII) is built using data from the National Banking and Securities Commission (CNBV) which provides quarterly information on financial inclusion indicators regarding availability and usage of different financial services at the municipality level.

The Financial Inclusion Index takes into account five such dimensions: i) accessibility of financial services, ii) depth of credit services, iii) concentration of checking accounts, iv) concentration of non-checking accounts, and v) usage of financial channels.

Accessibility of financial services is measured by the total number of access points per 10 000 adults, including branches, banking agents and ATMs. Depth of credit services is based on the number of credit products per 10 000 adults in each municipality; these credit products include personal loans, group loans, nominal loans, automobile loans, housing loans and consumer durables loans. Concentration of Checking Accounts refers to all types of checking banking accounts per 10 000 adults in each municipality while concentration of non-checking accounts refers to all types of non-checking banking accounts per 10 000 adults in each municipality. Finally, usage of financial channels is measured by the number of transactions carried out using automated teller machines (ATMs) and cellular service per 10 000 adults in each municipality.

For each of the above-mentioned financial inclusion dimensions, an individual index is created for each municipality using the following formula.

$$D_{im} = \frac{A_{im} - Min_i}{Max_i - Min_i}$$

Where: D_{im} = Index for indicator i for municipality m. A_{im} = the actual value of indicator I for municipality m. Min_i = minimum value of indicator i. Max_i= maximum value of indicator i.

The Financial Inclusion Index is the simple equally weighted average of the dimension indices, normalised to range between 0 and 1, where 0 refers to the lowest level of financial inclusion.

$$FII = \sum_{i=1}^{n} WiDi$$

Allocation of weights is complex and a number of papers that have attempted to calculate composite indices assign equal weights to all variables and dimensions. This is the case for those indices proposed by Sarma (2008) as well as Chakravarty and Pal (2010). As a result, each normalised variable is implicitly considered as constituting a specific dimension (Amidžić et al., 2014).

Results from the Financial Inclusion Index are shown in Figure 1.4. They highlight that financial inclusion has improved in some municipalities from 2009 to 2015, although the current level of financial inclusion still remains low. According to the 2015 Index, 80% of the municipalities have a score close to 0, meaning that financial exclusion remains very high. Therefore, government efforts to expand access to and usage of financial services across financially excluded municipalities should be strengthened.

Likewise, the findings of the recent National Survey on Financial Inclusion show that over the last three years usage of financial services or access points did not increase significantly (Figure 1.5). The share of adult population with a savings bank account increased by 8 percentage points from 36% in 2012 to 44% in 2015. Fifty-six percent of the adult population still does not have a bank account. Similarly, the share of adult population using credit and insurance services increased no more than 3 percentage points in the last three years. Regarding the share of population using financial access points, all the indicators showed some increase except bank branches, which decreased by 1 percentage point.

Figure 1.5. **Use of financial services and access points has slightly improved**
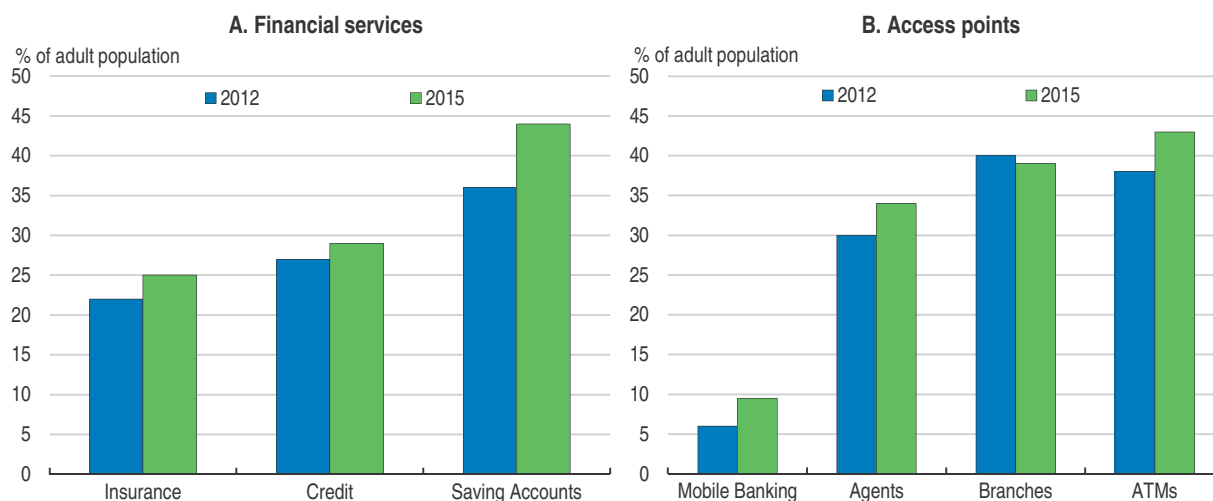
A. Financial services

B. Access points

Gender gaps in financial inclusion

There are also gender differences in the usage of financial services. At the national level, men have more savings bank accounts than women and they use internet banking and mobile banking more. Moreover, some striking differences are visible in the indicators pertaining to ownership of an asset, having a retirement savings account and usage of insurance services, where women tend to be more financially excluded than men. On the other hand, women in rural areas seem to have more banking accounts as compared to men and they are also the main users of group loans (Figure 1.6). Progress in the percentage of women with a saving account in rural areas should be noted, rising from 19% of women in 2012 to 38% in 2015, while for men this increase was from 26% in 2012 to 32% in 2015.

These positive results seem to be partly linked to the government initiative *Programa Integral de Inclusión Financiera* launched in 2014 which provides financial education, credit,

Figure 1.6. **Gender gaps in financial inclusion are large**
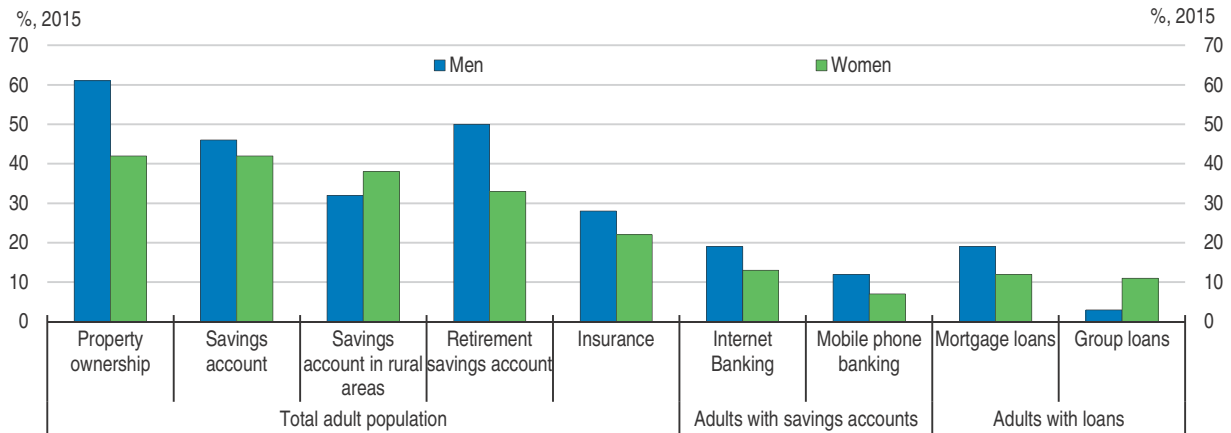
programmed savings, insurance and other products and services to beneficiaries of social programs, the vast majority of whom are women (Gobierno de la República, 2013; CONAIF, 2016). One factor that might explain the gender gap in insurance and savings accounts for retirement is the higher labour force participation of men compared to women, as in many cases, employees receive these as part of employment benefits. This represents a higher poverty risk for women at old ages.

Informal credit represents a high share of all credit in Mexico. Data from the National Survey of Financial Inclusion (ENIF 2015) reveals that despite having 46% of individuals reporting not having credit, 25% use informal credit systems compared to 16% using formal credit transactions and to 13% resorting to both formal and informal credit. Overall, men tend to use more credit and resort to informal systems more than women (Figure 1.7,

Figure 1.7. **The use of formal credit is low**
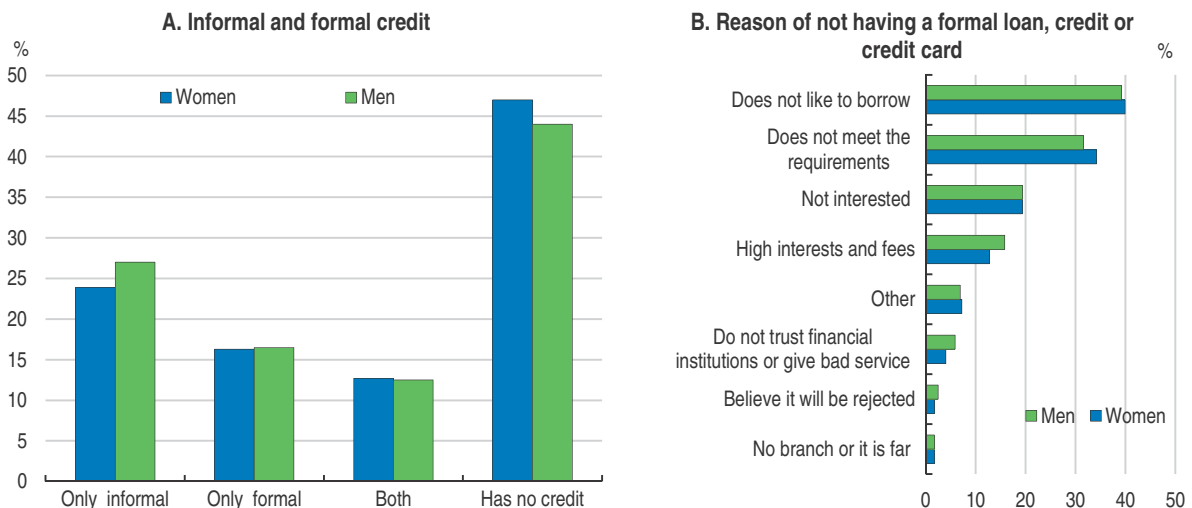
Panel A). ENIF also provides information on the reason why women and men do not hold a formal credit (Figure 1.7, Panel B). The main reason both for men and women is the fact that they do not like to borrow, followed by the fact of not meeting the requirements (34% of women and 32% of men), not being interested and interest rates or fees being high.

Better access to financial services can boost entrepreneurship

Entrepreneurs form a big portion of the labour force in Mexico, and they play a vital role on employment, innovation, competition and productivity. Entrepreneurship is closely associated to micro-firms and small and medium-sized enterprises (SMEs) and it is an important source of economic growth and job creation (Beck and Demirguc-Kunt, 2006; Demirgüc-Kunt and Klapper, 2013). The share of self-employed (employers and own-account workers), as a percentage of total employment in Mexico is around 25% for women and 28% for men, which is among the highest of OECD countries.

The framework conditions for SMEs and entrepreneurship have improved in recent years, thanks to reforms that now allow firms to be created in one day, as well as targeted programmes (Box 1.2). Nonetheless, administrative burdens on start-ups remain relatively high, and SMEs still face restricted access to credit and limited new opportunities in innovative sectors (OECD, 2013). More needs to be done to reduce informality, improve access of SMEs to financing, and generate greater numbers of medium-sized companies able to innovate and become international businesses (OECD, 2013a). Last year, the Mexican Government created a new figure through the Commercial Corporations Law (*Ley de Sociedades Mercantiles*): the Simplified Actions Corporation (*Sociedad por Acciones Simplificadas* or *SAS*), which allows firms to be created within 24 hours through a digital platform, at zero cost for the entrepreneur.

Financial constraints are considered as one of the biggest challenges for entrepreneurs (World Bank, 2014). Entrepreneurs who are excluded from using financial services such as credit or cheques and transfer services from the formal financial institutions are more likely to turn to informal institutions which offer these services at a much higher price. Lack of access to financial services can force potential entrepreneurs to take a job rather than creating one for themselves (Banerjee and Newman, 1993).

There is limited empirical evidence on the relationship between financial inclusion and entrepreneurship but the existing literature suggests a positive link between the two. Recent evidence (Fareed et al., 2017) shows that access to financial services in Mexico can open up economic opportunities for entrepreneurs. Access to formal financial systems can be a gateway to the use of financial services such as credit or debit card terminals, which can allow businesses to develop.

Financial inclusion and women's entrepreneurship

When women engage in paid work, many of them work in the informal sector because they lack opportunities to work in the formal sector, either as employees or entrepreneurs. Mexican entrepreneurs tend to engage more in the informal sector, and the share of women in the informal sector is larger than men. One in four women entrepreneurs is informal. Moreover, while there is no big difference by gender regarding the share of own-account entrepreneurs (22% for men and 23% for women), there is a larger gender gap when looking at the share of those self-employed who are employers, only 2.1% of women, relative to 5.3% for men (Figure 1.8, Panel B, and Panel C).

Box 1.2. **Entrepreneurship and SME policy in Mexico: The role of INADEM**

Entrepreneurship and SME policy in Mexico falls under the main responsibility of the National Institute of the Entrepreneur (*Instituto Nacional del Emprendedor: INADEM*), a decentralised government entity established in 2013 which reports directly to the federal Ministry of Economy. Although other government agencies are also involved in SME policy – for example, *Nacional Financiera* (NAFINSA), a state development bank, manages the largest national loan guarantee programme, and CONACYT (i.e. the National Council of Science and Technology) runs programmes in support of technology-based companies – the number of SME programmes that INADEM manages is unparalleled at the federal level.

INADEM's SME-targeted programmes are implemented through the National Entrepreneur Fund (*Fondo Nacional del Emprendedor*), which works through a series of annual calls for tenders. These tenders (16 of them in 2016) encompass a wide range of policy support measures, from virtual and physical business incubators to innovation promotion in small businesses, from supply chain development to the promotion of an entrepreneurial culture through awareness-raising events. While the different calls in the National Entrepreneur Fund do not come to form a coherent and comprehensive SME policy strategy, they nonetheless include some innovative policy approaches.

This is, for example, the case with the INADEM programme for micro-enterprises encouraging Information and Communications Technology (ICT) adoption and managerial skills upgrading. This programme targets enterprises typically employing less than 10 employees in low value added industries such as retail trade and low-tech manufacturing. It is innovative by combining basic training in key management principles with the provision of an array of ICT solutions. More specifically, activities under this programme, which is run by INADEM in collaboration with national chambers of commerce and training agencies, include six hours of basic management training on six areas regarded most relevant to success in small business management (i.e. inventory management, accounting, customer relationships, micro-market analysis, repayment capability, and introduction to a management software programme). In addition, participants receive a tablet inclusive of the management software programme, which among other things enables participant companies to benchmark themselves against competitors in the same industry; another software programme that allows customers to pay for utility bills and pre-paid phone charges; and a swipe-card extension that allows customers to pay by credit card. The two main objectives of the programme are to help low-skilled small business owners to increase their market shares by honing their management skills, and to bring enterprises on the brink of informality within the purview of the government. This programme intends to reach a large number of micro-enterprises, more than 70 000 over two years (2015 and 2016), which is made possible by its low per-enterprise implementation costs (i.e. about MXN 8 000 per enterprise).

Another important policy recently developed by INADEM consists in the *Puntos para Mover a México*, a network of one-stop information centres that gather information about federal-, state- and municipal-level SME policies and that can also refer entrepreneurs to local private-sector and not-for-profit associations that offer business development services. These centres are co-ordinated by the Entrepreneur Support Network (i.e. *Red de Apoyo al Emprendedor*), a co-ordination mechanism among federal ministries and state governments set up to share information and co-ordinate SME policies.

The National Entrepreneur Fund also represents an effort by the Mexican government to streamline SME policy regulations and increase transparency in funding allocation. Project proposals are assessed by accredited external evaluators through the national system of evaluators (i.e. *Sistema nacional de evaluadores*), rather than directly by the government as in the past, which is expected to make the selection process more independent. Applicants are also provided with clear information on key selection criteria, such as the number of points given to each project if certain conditions are met. For example, in calls affecting regional development, projects in state-level priority industries are granted significant extra points, while in others this is the case for projects submitted by women with the aim to encourage women's entrepreneurship. Successful projects under each call are also published online, again with the goal to increase transparency in the allocation of government funding.

Many of the issues faced by women entrepreneurs are similar to those faced by entrepreneurs in general and largely centred on access to finance and markets as well as the climate for doing business. Nonetheless, many characteristics of women entrepreneurs and of their enterprises differ from those of men, and therefore require specific policy interventions. As they frequently divide their time between working and caring, women's businesses are usually of smaller scale and in specific sectors. They often have less experience when they start a business and are also less likely than men to borrow in order to finance their business (OECD, 2014).

Measures to promote female entrepreneurship include fostering a gender-neutral legal framework for businesses, ensuring equal access to finance for female and male entrepreneurs, and pairing targeted financing schemes with other measures such as financial literacy, training and increased access to support networks, including mentoring and professional advice or consultancy (OECD, 2014). Programmes such as the recently launched *Mujeres PYME,* which seeks the development of micro-businesses and SMEs led by women by providing access to preferential financing and business development tools, as well as Bansefi's financial educational programmes for women in rural areas are steps in the right direction.

To analyse the links between financial access and women entrepreneurs, data was used from the National Survey of Occupation and Employment (ENOE) which provides detailed information about the socio-economic characteristics and the labour market status of individuals; municipal level data from the National Banking and Securities Commission (CNBV) on financial inclusion indicators pertaining to access and usage of financial services; and state level data from the World Bank on indicators pertaining to the business environment (i.e. the Doing Business indicators).

The analysis suggests that financial access is positively linked with entrepreneurship and it can open up economic opportunities for women entrepreneurs (Box 1.3). Each financial access point (branches, point-of-sale terminals, banking agents and ATMs) can be a gateway to the use of financial services, which can allow businesses to develop. However, this positive relationship does not hold for women entrepreneurs working in the informal sector.

Four out of every five women entrepreneurs work in the informal sector and about half of the women entrepreneurs work in the commerce sector. So, looking at different sectors separately for women working in the formal sector and the informal sector suggest that in the commerce sector financial access is, surprisingly, associated with less female entrepreneurship. By contrast, financial access for all other sectors is positively related to entrepreneurship in both the formal and informal sector, although the relationship is weak for some sectors. Moreover, the probability of being an entrepreneur is higher in the informal sector, for those in urban areas, and increases as the size of the firm decreases. Education, age, marital status, income, sector, employment rate, business ease score are other significant determinants of entrepreneurship in Mexico.

The government's efforts with the new Financial Inclusion Strategy are therefore welcome. Yet, there is still an important need to enhance financial infrastructure, increase the diffusion, scale and reach of current public programmes that facilitate access to low-interest credit for women-owned SMEs, provide financial capability trainings, and increase the capacity of financing institutions to respond to female entrepreneurs' needs in particular, given the result highlighted in this chapter. A mix of general policies for SMEs

Figure 1.8. **Women entrepreneurs' share in the informal sector is large while the share of women employers is significantly lower**

A. Share of own-account entrepreneurs

B. Share of employers entrepreneurs

C. Informality and gender shares of Mexican entrepreneurs
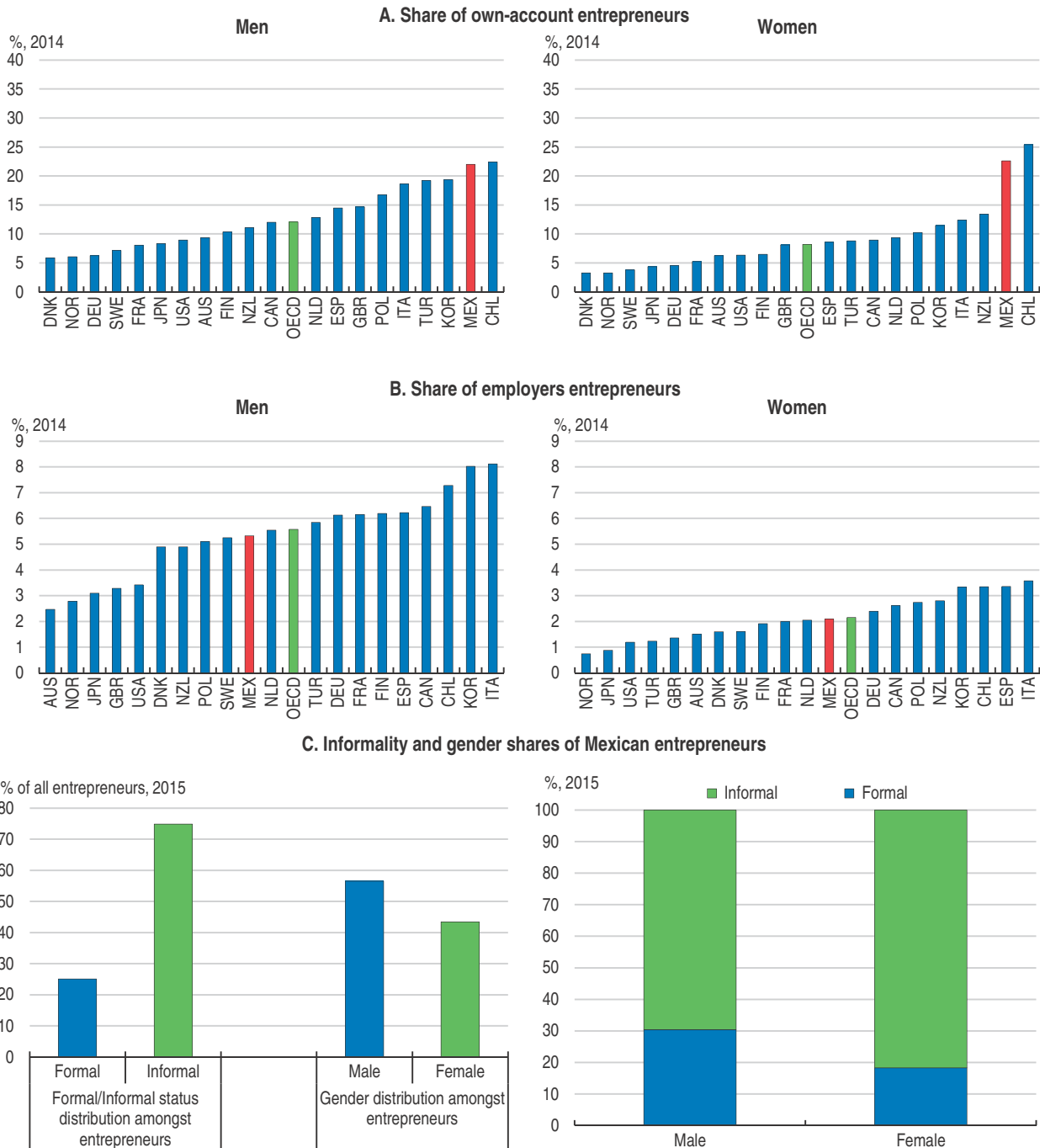
Note: Panel A and Panel B: Data for AUS, MEX, NZL data refer to 2015.
Source: Adapted from OECD (2016a) Entrepreneurship at a Glance and Encuesta Nacional de Ocupación y Empleo (ENOE).

StatLink ⬛🖩⬛ *http://dx.doi.org/10.1787/888933444651*

Box 1.3. **Financial inclusion and female entrepreneurship**

In order to analyse the link between different financial inclusion indicators and female entrepreneurship along with a better understanding of the key determinants of female entrepreneurship in Mexico, an empirical study was carried out using a panel dataset constructed from three different data sources. First, data from the National Survey of Occupation and Employment (ENOE) was used which provides detailed information about the socio-economic characteristics and the labour market status of individuals on a quarterly basis. This quarterly data from 2009 to 2015 was paired with municipality level data from the National Banking and Securities Commission (CNBV) which provides quarterly information on financial inclusion indicators pertaining to access and usage of financial services. Lastly, the ENOE dataset along with the CNBV dataset was paired with state level data from World Bank on indicators pertaining to the ease of doing business, which show the extent to which the regulatory environment is favorable for starting and operating a business.

A panel logit regression model using random effects was used to examine the effect of financial access on entrepreneurship. The term entrepreneurship refers to self-employment, i.e. people owning or co-owning a micro-firm or a small- and medium-sized enterprise (SME) as defined in ENOE.

$$Entrepreneurship = \alpha + \beta X + \mu j + \varepsilon$$

Entrepreneurship is the dependent variable which represents the status of the worker (entrepreneur = 1, otherwise = 0). X is the matrix of independent variables which includes the financial access indicator along with a set of other control variables (such as education, age, marital status, income, sector, employment rate, and business ease score). The term μj refers to the fixed effects for state j and ε represents the error term.

The following tables provide a summary of the econometric results for different samples, using different financial indicators: Branches per 10 000 adults, POS terminals per 10 000 adults, Banking agents per 10 000 adults, non-checking accounts penetration, and credit products per 10 000 adults.

Table 1.2. **Econometric estimation results for different samples**

Sample Type	Financial access indicators					
	Branches/ 10 000 adults	POS terminals/ 10 000 adults	Banking agents/ 10 000 adults	Checking accounts/ 10 000 adults	Non-checking accounts penetration	Credit products/ 10 000 adults
Overall sample	0.0265***	0.0007***	0.0178***	-0.0312***	0.0204***	-0.0114
Women	0.0145**	0.0002	0.0055	-0.0307***	0.0139**	-0.0170
Women in the formal sector	0.0332***	0.0006**	0.0032	-0.0317***	0.0344***	-0.0115
Women in the informal sector	-0.3114***	-0.0004	-0.02726***	-0.0569***	-0.0177*	-0.0377**
Women in urban areas	0.0144*	0.0003**	0.0099*	-0.0453***	0.0287***	-0.0241
Women in rural areas	0.0080	-0.0027*	-0.0016	-0.0087	-0.0009	0.0083

Note: *** p<0.01, ** p<0.05, * p<0.1. Results from a panel logistic model (xtlogit) with random effects.
Source: Adapted from ENOE, CNBV and World Bank.

Box 1.3. **Financial inclusion and female entrepreneurship** *(cont.)*

Table 1.3. **Econometric estimation results for formal and informal females in urban and rural areas**

	Urban areas		Rural areas	
	Branches/ 10 000 adults	Bank agents/ 10 000 adults	Branches/ 10 000 adults	Bank agents/ 10 000 adults
Females in formal sector	0.039***	0.023***	0.015	-0.050**
Females in informal sector	-0.046***	-0.045***	-0.018	0.008

Note: *** p<0.01, ** p<0.05, * p<0.1. Results from a panel logistic model (xtlogit) with random effects.
Source: Adapted from ENOE, CNBV and World Bank.

Table 1.4. **Econometric estimation results for formal and informal females by economic sector**

Sector Name	Branches/ 10000 adults		POS/ 10000 adults	
	Formal female entrepreneurs	Informal female entrepreneurs	Formal female entrepreneurs	Informal female entrepreneurs
Manufacturing	0.06519*	0.00669	0.00060	0.00053
Construction	0.20071*	-15.04344	0.00257	-
Commerce	-0.04498**	-0.06761***	-0.00093*	-0.00132***
Restaurants and accommodation	0.05833**	-0.01784	0.00023	0.00007
Transport and communication	0.82281**	0.57452*	0.01850	-
Professional, financial and corporate services	0.08663**	0.03461	0.00317***	-0.00162
Social services	0.09808***	0.33561	0.00572***	-0.00187
Other services	0.07830***	-0.00104	-0.00032	-0.00778

Note: *** p<0.01, ** p<0.05, * p<0.1. Results from a panel logistic model (xtlogit) with random effects.
Source: Adapted from ENOE, CNBV and World Bank.

and instruments explicitly targeting women can be effective in prompting interest and entry into entrepreneurship (OECD, 2014). The National Entrepreneur Fund represents an effort by the Mexican government to streamline SME policy regulations and increase transparency in funding allocation (Box 1.2); promoting the development and management of funds to provide financial support exclusively for women entrepreneurs could also be considered (OECD, 2014).

The role of firms in achieving sustainable and inclusive growth

The private sector can be a strategic partner in the pursuit of sustainable and inclusive growth, with the ability to have a profound impact, particularly in areas such as climate change, inclusiveness, equality and good governance. Firms could contribute through three different approaches: philanthropic activities not related to the firm's activities through which businesses seek to contribute to improving social and environmental conditions; initiatives related to the firm's operations to diminish their negative impacts and to strengthen those that are positive; and development of innovative

products and services. Particularly in the latest two approaches, firms themselves stand to benefit in terms of business opportunities, cost reduction, and consumer loyalty.

This section analyses how Mexican firms perform in terms of environmental, social, and business practices. The section provides evidence suggesting that contributing to sustained and inclusive growth brings several financial and productivity advantages to firms.

Achieving green and inclusive growth

There is a growing interest for countries in attaining green growth not only as it is related to lower energy intensities but also because it is related to a higher standard of living. Since Mexico has significant natural resource capital, the cost of environmental degradation and the increasing risks posed by climate change could be very high, emphasising the importance of a green-growth agenda. It is vital that the country sets specific goals to reduce the environmental footprint of growth, to substantially increase water-use efficiency across all sectors and to ensure sustainable withdrawals and supply of freshwater to substantially reduce the number of people suffering from water scarcity. Enhancing energy efficiency would also be a key element in promoting low carbon development in Mexico. This strategy should involve better urban planning, solid waste management, energy efficiency and water management, and will require a strong alliance between governments, the private sector and civil society.

Pollution tends to affect the least well off the most. In developing countries, in general, industrial plants tend to pollute more in poorest neighbourhoods (Gangadharan, 2006). In Mexico, less prosperous communities are more likely to be near polluting plants, whose amount of waste released into the water is significantly greater (Chakraborti et al., 2016). This negative association between socio-economic status and pollution is likely to translate into differences in health outcomes across socio-economic groups.

Green growth projects have a specific focus on creating employment and income opportunities for poor or disadvantaged groups. The green growth component of these interventions often relates to job creation in resource-efficient and low-carbon sectors, developing markets for environmentally sustainable products and creating awareness of resource-efficient practices which results in enhanced well-being for society as a whole. Involvement of the private sector on further developing green growth projects is vital.

Enabling women's equality and untapped potential

The corporate sector plays a key role in providing access to goods and services that help women improve their living standards and increase their mobility and potential. Enabling women's productivity is important for firms looking for skilled workers and an improved talent pool. Business communities and society as a whole should be open to creating more flexible work environments, promoting work-life balance and diversity, as well as boosting female representation in management.

Achieving work-life balance is a challenge for all workers, especially working parents. Governments and employers can help to address the issue by encouraging supportive and flexible working practices, making it easier for parents to strike a better balance between work and home life, including through greater availability of childcare and pre-school, as noted in the Assessment and Recommendations. Moreover, child-related leave entitlements in Mexico are limited relative to other OECD countries. Maternity leave,

although paid at 100%, lasts only 12 weeks, while a one week paternity leave was introduced in the last two years, funded by employers.

Parental leave may help reduce discrimination against women in the workplace and particularly in hiring. If men and women are roughly equally likely to take leave, employers will be less reluctant to hire women of childbearing-age. More OECD countries are turning towards reserving non-transferable periods of paid parental leave exclusively for use by fathers (OECD, 2016b). In Mexico, a more gender-equitable use of parental leave entitlements, by extending the length of paternity and maternity leave, could level the playing field, reduce the traditional role of women as caregivers, and increase women's working hours.

Figure 1.9. **Paid leave entitlements should be more gender equitable**

A. Paid leave entitlements available to mothers

B. Paid leave entitlements reserved for fathers
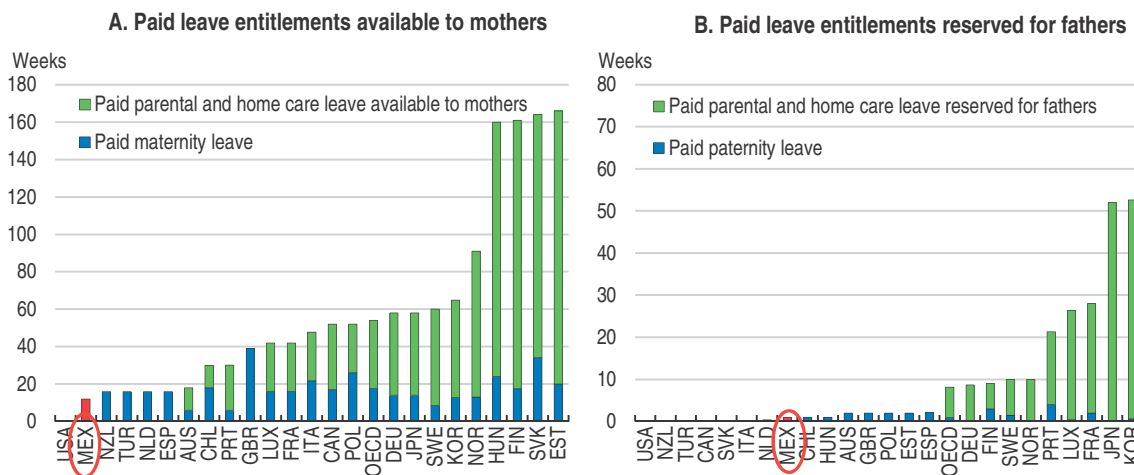
Note: Panel A: Information refers to parental leave and subsequent periods of paid home care leave to care for young children (sometimes under a different name, for example, "childcare leave" or "child raising leave". Panel B: Information refers to entitlements to paternity leave, "father quotas" or periods of parental leave that can be used only by the father and cannot be transferred to the mother, and any weeks of sharable leave that must be taken by the father in order for the family to qualify for "bonus" weeks of parental leave.
Source: OECD (2016), OECD Family Database.

StatLink ᠁ *http://dx.doi.org/10.1787/888933444668*

Several studies have shown that increasing the number of women in leadership positions is good for business as companies perform better. A diverse company is better able to serve and retain the market. The presence of women might improve team performance by bringing a greater range of perspectives to reach better decisions and consequently better business performance. Companies with three or more women in top management score higher on organisational criteria than companies with no female executives (McKinsey, 2010). Society also regards a higher degree of diversity as positive, and the reputation of the company improves (Carter et al. 2003; Pfeffer and Salancik 1978; Donaldson and Davis 1991). Likewise, a result that follows from the Lückerath-Rovers (2013) study is that return on equity is consistently higher for companies with women on the board than for companies without women on the board. These results, and a social goal of countering the negative bias in the perception of female leaders, call for measures to increase women's leadership (Beaman, Chattopadhyay, Duflo, Pande, & Topalova, 2009).

In Mexico, less than 10% of women sit on boards, a very low level compared to other OECD countries. Gender quotas to narrow the gender gap in corporate boards are in place in several countries (e.g. Norway, Belgium, France, Canada (Quebec), etc.), ranging from 30% to 50%, and varying for public and private companies. In Mexico, such quotas could be set voluntarily at first and applied in the public sector to begin with. If improvement in the private sector is unsatisfactory, a mandate with penalties for non-compliance could be introduced. The government should also provide incentives to companies to reduce gender gaps, not just in the boardroom. For instance, companies could be required to report their wage gender gaps, encouraged to set specific goals to reach equal pay for equal work, reduce gender inequalities and to report analysis on how its actions, institutions and policies affect the well-being of its employees and their families.

The business case for firms to be inclusive and sustainable

Contributing to the achievement of the 2030 United Nations' Sustainable Development Goals brings several advantages for firms such as identifying new business opportunities, attracting capital, strengthening risk prevention, facilitating co-ordination with governments and civil society by having a common purpose, and attracting talent and customer preference, among others (EY, 2015).

Over the course of the last 20 years, a growing share of firms has voluntarily incorporated environmental and social issues in their business models through the adoption of related sustainable policies (Ioannou and Serafeim, 2014). The impact of these policies on the firm's financial performance has received considerable attention (Margolis, et al., 2009). According to some studies, firms that pursue sustainability practices that result in improved corporate governance, resource utilization, business innovation, or employee engagement often outperform their peers (Porter and Van der Linde, 1995; Lundgren and Brännlund, 2010; Kempf, Alexander, and Peer Osthoff, 2007). Likewise, Moore (2001) and Peters and Mullen (2009) concluded that firms that are socially responsible have better performance, with the relationship strengthening over time. Environmental, social, and governance practices of a firm can play a role in improving its productivity by encouraging employees to become more productive. Employees are ready to deploy efforts, work harder, and better for the firms that do good to the society and are environment-friendly, thus, increase their productivity (Greenberg and Baron, 2008; Baron, 2007). On the other hand, some other studies reported null or negative causal relationships (Bellavance et al., 2009; Neilling and Webb, 2009) and causation remains an unresolved issue (El-Sayed and Paton, 2005; McWilliams and Siegel, 2000; Waddock & Graves, 1997; Stuart et al., 2010; Barnett, 2007).

The evidence is particularly relevant for Mexico in which labour and capital markets as well as legal and political institutions are being redefined; however empirical analysis is scarce. Policy makers and managers in the firms should design institutions and guidelines by being fully aware of the power that such institutions have in determining the social, environmental, and governance performance of corporations. Moreover, transparency and the disclosure of the non-financial indicators such as environmental, social, and governance scores (Box 1.4) should be improved as markets and stakeholders value environmental, social and governance (ESG) performance of the firms and would work as incentive for firms to improve their performance.

> ### Box 1.4. **Environmental, social and governance (ESG) scores**
>
> Firms' business practices are measured and scored based on the environmental, social and governance (ESG) criteria which are a set of standards for a company's business practices. Thomson Reuters ASSET4 ESG data provides an overall performance score for each company, as well as scores for 3 pillars:
>
> - The environmental (E) score reflects how well a company uses best management practices to avoid environmental risks and capitalise on environmental opportunities in order to generate long term shareholder value; it is calculated based on indicators of the following categories: resource reduction, emissions reduction, and product innovation.
>
> - The social (S) score measures a company's capacity to generate trust and loyalty with its workforce, customers and society, through its use of best management practices. It is a reflection of the company's reputation and the health of its license to operate, which are key factors in determining its ability to generate long term shareholder value. The score is calculated based on the indicators of the following categories: employment quality, health and safety, training and development, diversity, human rights, community and product responsibility.
>
> - The corporate governance (G) score measures a company's systems and processes, which ensure that its board members and executives act in the best interests of its long-term shareholders. It reflects a company's capacity, through its use of best management practices, to direct and control its rights and responsibilities through the creation of incentives, as well as checks and balances in order to generate long-term shareholder value. Indicators used to calculate this score belong to these categories: board structure, compensation policy, board functions, shareholders rights, and vision and strategy.
>
> - The overall ESG score reflects a balanced view of a company's performance in these three areas: environmental, social and corporate governance pillars.
>
> Scores take values between zero and one helping to categorise firms' performance on five categories: outstanding (0.751 to 1), good (0.584 to 0.75), average (0.417 to 0.583), below average (0.251 to 0.416), and poor (0 to 0.25).
>
> Professional investors use ESG scores to define a wide range of responsible investment strategies and integrate it into their traditional investment analysis. Issues such as climate change, executive remuneration and employee rights are becoming as important as traditional financial metrics for companies and investors when evaluating corporate performance. Investment professionals are able to monitor, rate and benchmark company and portfolio ESG performance against their sector, geographic area or major credit and equity indices (Thomson Reuters).

Are Mexican firms doing well by being good?

In the last decade, Mexico has been moving to enrich sustainable business practices. Investors' and stakeholders have been demanding that firms implement environmental, social and governance (ESG) criteria in their core strategy and operations and, moreover, they demand transparency and disclosure from these ESG practices. From 2008 to 2015, the number of publicly listed firms reporting ESG scores has increased from only 13 to 35, still a small number. Despite progress made during recent years, on average, Mexican firms rank the lowest in terms of overall ESG scores compared with North American and Latin American firms (Figure 1.10).

Looking at the individual environment, social and corporate scores, Mexican firms' average governance score over recent years is the lowest, followed by the environment score and then the social score. In comparison with firms from Latin America and North America, Mexican firms also rank the lowest based on the corporate governance score which might be driving these firms' low overall ESG score. On the other hand, in terms of environment and social criteria, Mexican firms score higher than North American firms on average, although lower than other Latin American firms. Weak legal institutions and lack of effective enforcement of legal standards could be driving Mexican firms' low performance on corporate governance. Hence, improving the judicial means of enforcement would be a step in a good direction to better incentivise firms on improving their corporate governance practices. The OECD Principles of Corporate Governance (OECD, 2015) build on expertise of policy makers, regulators, business and other stakeholder from around the world to provide recognised benchmark for assessing and improving corporate governance.

Figure 1.10. **ESG scores of Mexican firms are lower than other Latin American countries**

A. Overall ESG score

B. Overall ESG, environment, social, and governance score
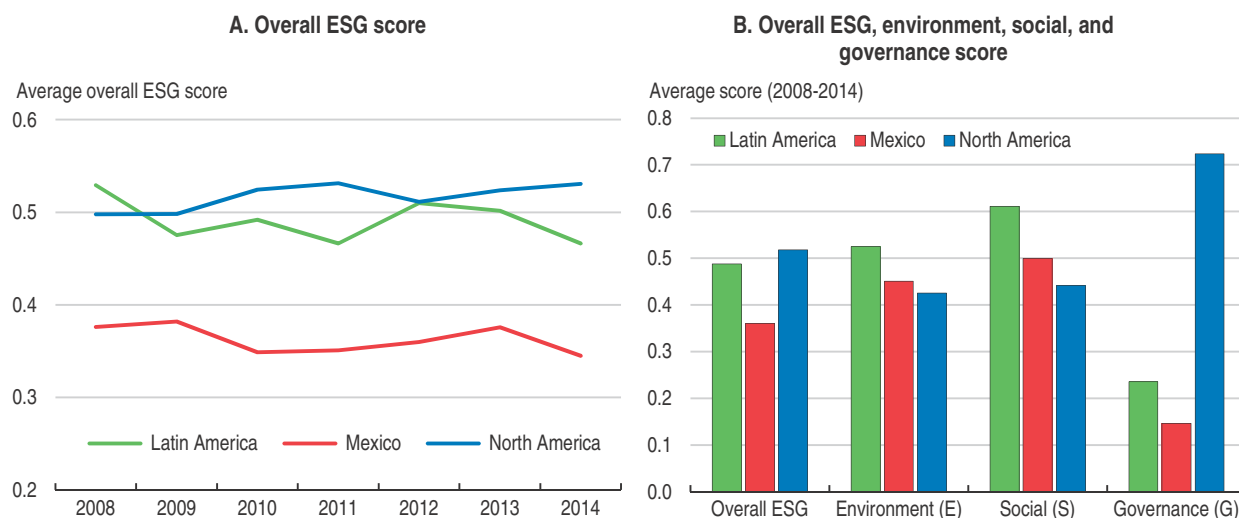
Note: Environmental, social and governance (ESG) scores in North America refer to a simple average of firms from the United States and Canada and scores for Latin America refer to a simple average of firms from Brazil and Chile. Data for Mexico does not include the financial sector given that data for only one firm in 2014 is available. The number of firms reporting ESG scores varies per year.
Source: Adapted from ASSET4 Thomson Reuters data.

StatLink ᵍᵍᵖ *http://dx.doi.org/10.1787/888933444671*

The environmental, social, and corporate governance performance of Mexican firms varies across economic sectors. Firms in the industrial sector have the highest average overall ESG score (0.40) in recent years, followed by transportation sector (around 0.27) and the lowest performance in the utility (0.14) and financial sector (0.04). All in all, the sample of Mexican firms compares poorly in all sectors relative to firms in North America and Latin America (Figure 1.11). A strong legal environment, enforcement and appropriate incentives are needed for firms to undertake significant efforts on sectors lagging behind.
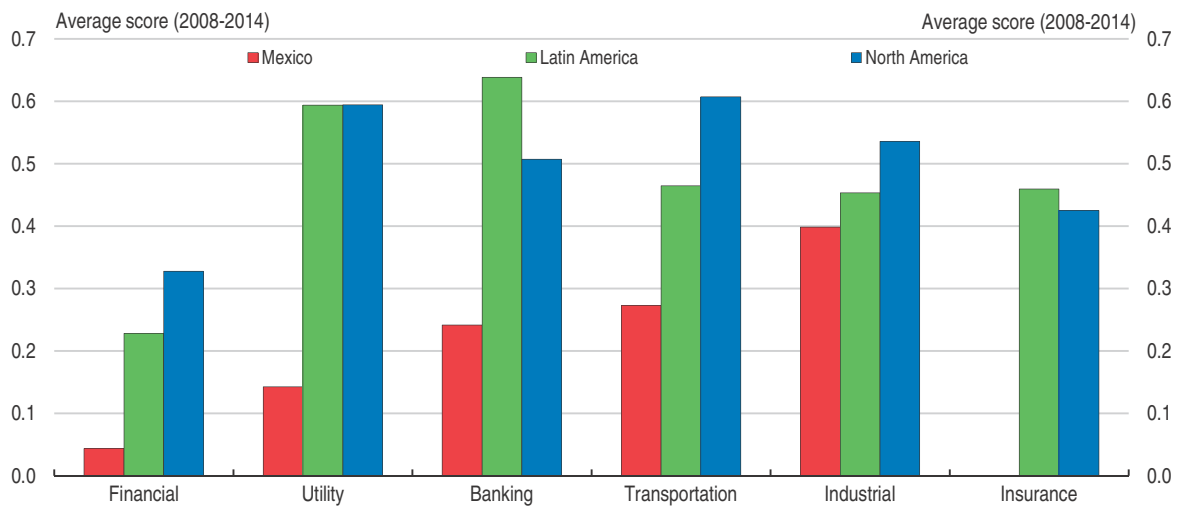
Figure 1.11. **Differences between sectors are large**

Note: Environmental, social and governance (ESG) scores in North America refer to simple average of firms from the United States and Canada. Latin America refers to the simple average of firms from Brazil and Chile. ESG data is not available for any Mexican firm in the insurance sector. ESG data in the financial sector is only available in 2014 for one firm. The number of firms reporting ESG scores varies per year.
Source: Adapted from ASSET 4 Thomson Reuters data.

StatLink 🔗 *http://dx.doi.org/10.1787/888933444687*

Communities may respond positively to ESG-friendly firms, valuing their practices and additional expenditures, willing to pay more for products from such firms improving their sales and revenues. Likewise, a company that offers its employees trainings, bonuses, compensation, good health insurance and leaves might be rewarded with higher labour productivity as result of higher motivation. Accordingly, using the available panel data on the behaviour of 35 Mexican firms, 1457 North American firms, and 111 Latin American firms spanning over a period of 2008 to 2015, two hypothesis were tested: 1) an ESG-friendly firm is rewarded with better financial performance; and 2) employees in ESG-friendly firms are more productive (Box 1.5).

Overall, the main findings for Mexican firms suggest a positive association of the overall environment, social, and government score and firms' return on equity, asset turnover, and labour productivity (Gabriel *et al.*, forthcoming). Firms' revenues are positively associated with all the three scores (E, S, and G) independently while labour productivity is also positively associated with the social and environmental score. The positive association of the overall ESG score with an improvement in firms' financial performance holds when including Latin American and North American firms to the analysis, being particularly evident for firms in the industrial and transportation sector. However, the association with labour productivity becomes weak. Nevertheless, these results highlight the benefits of a comprehensive environment, social and corporate governance management approach towards business performance and the Mexican government should motivate firms to set targets and action plans to increasingly adopt ESG-friendly practices as a way to incentivise firms to do well by being good.

Box 1.5. **Do ESG-friendly firms perform better?**

Over the past two decades, sustainable business practices and its relationship with firms' financial performance has gained particular attention. To better understand this relationship an empirical analysis was conducted using information from Thomson Reuters ASSET 4 dataset on firms' environmental, social, and governance scores and financial indicators as well.

Gabriel *et al* (forthcoming) used panel data of 35 Mexican firms, 1457 North American firms, and 111 Latin American firms spanning over a period of 2008 to 2015. Different models were estimated to test the associations between financial performance and labour productivity with each of the ESG scores separately. To better explain this relationship, several other firm characteristics as well as labour productivity determinants are included as controls. Firm controls include: firm size and value based on the logarithm of total assets, market value to equity and price to book ratio, firm age, leverage, liquidity ratio and risk. Country and sector fixed effects are also included as needed.

$$(\textit{Financial indicator or Labour productivity})_{it} = \alpha + \beta\ (E,S,G,ESG\ score)_{it} + \gamma Firm\ controls_{it} + \epsilon_{it}$$

Three different financial indicators as used for estimating this model: i) return on assets (ROA) measured as the ratio of EBIT over total assets; ii) return on equity (ROE); and, ii) asset turnover, measured as revenues over total assets. Labour productivity is measured as the logarithm of the ratio of value added (revenues – intermediate inputs) over number of employees.

Both models are estimated with a sample of only Mexican firms (Table 1.5) as well as for a whole sample that includes Mexican, Latin American (Brazil and Chile) and North American (Canada and the United States) firms. In addition, the model was estimated for the whole sample of countries for each economic sector (industrial, utility, and transportation) (Table 1.6).

Overall, the main findings for Mexican firms suggest that: i) the environment, social, and government score has no statistically significant association with firms' return on assets (ROA); ii) revenue is positively associated with all the three scores, and finally, iii) labour productivity and return on equity (ROE) are positively associated with the social and environmental score (Table 1.5). The positive association of the overall ESG score with an improvement on firms' financial performance holds when including Latin American and North American firms to the analysis, being particularly evident for firms in the industrial and transportation sector. However, the association with labour productivity becomes weak.

Table 1.5. **Estimated coefficients on the association between ESG scores and firms' financial and productivity performance: Mexican firms**

Sample: Mexican firms reporting ESG scores[1]

Variables of interest	Proxies	ESG score	Social score	Environment score	Governance score
Financial performance	Return on assets (ROA)	0.00101 (0.0216)	0.0211 (0.017)	0.000895 (0.0206)	0.00301 (0.051)
	Return on equity (ROE)	0.800** (0.134)	0.863** (0.122)	0.921** (0.128)	0.681 (0.349)
	Asset turnover	0.282* (0.126)	0.442*** (0.105)	0.507*** (0.122)	0.733*** (0.315)
Labour productivity	Value added-based labour productivity	0.534*** (0.235)	0.699*** (0.189)	0.492* (0.224)	0.602 (0.559)

1. Estimations for ROA and asset turnover were estimated also for the whole sample of Mexican firms, i.e. those with and without an ESG score (260 firms). Results are similar and therefore not reported.
Note: *** p<0.01, ** p<0.05, * p<0.1. Sector fixed effects are included. Sample: Mexican firms reporting ESG scores including all sectors. Return on assets (ROA) = EBIT/total assets. Return on equity (ROE). Asset turnover = Revenues/total assets. Value based labour productivity = log(value added/employees).
Source: Adapted from ASSET 4 Thomson Reuters data.

Box 1.5. **Do ESG-friendly firms perform better?** (*cont.*)

Table 1.6. **Estimated coefficients on the association between ESG scores and firms' financial and productivity performance: Mexican, Latin American and North American firms**

Sample: Mexican, Latin American and North American firms reporting ESG scores

Variables of interest	Proxies	ESG score	Social score	Environment score	Governance score
All sectors					
Financial performance	Return on assets (ROA)	0.0392*** (0.0041)	0.0127 (0.010)	-0.0013 (0.0056)	0.0134 (0.014)
	Asset turnover	0.405*** (0.0302)	0.379** (0.066)	0.251*** (0.018)	0.282 (0.123)
Labour productivity[1]	Value added-based labour productivity	0.0063 (0.005)	0.0035 (0.0051)	0.0078* (0.0046)	0.0011 (0.0074)
Industrial sector					
Financial performance	Return on assets (ROA)	0.0421*** (0.00537)	0.0141 (0.0125)	-0.00181 (0.00666)	0.0152 (0.0156)
	Asset turnover	0.412*** (0.0437)	0.378** (0.0841)	0.223*** (0.0361)	0.292 (0.172)
Utility sector					
Financial performance	Return on assets (ROA)	0.0365 (0.0157)	0.0214 (0.0141)	0.0142 (0.00617)	0.0298** (0.00888)
	Asset turnover	0.137 (0.138)	0.0989 (0.0832)	0.0861 (0.119)	0.133 (0.162)
Transportation sector					
Financial performance	Return on assets (ROA)	0.00372 (0.00788)	0.00595 (0.00984)	-0.00467 (0.0122)	0.00498 (0.0120)
	Asset turnover	1.114*** (0.134)	1.137*** (0.160)	0.990** (0.192)	1.497* (0.509)

1. An alternative specification was estimated including other determinants of labour productivity as control variables such as expenditure on R&D, training hours of employees, physical capital and salaries; results do not show a significant relationship of ESG scores and labour productivity.

Note: *** $p<0.01$, ** $p<0.05$, * $p<0.1$. Country fixed effects are included. 'All sectors' refers to industrial, utility, transportation, banking, insurance and financial sector. Return on assets (ROA) = EBIT/total assets. Asset turnover = Revenues/total assets. Value based labour productivity = log(value added/employees).

Source: Adapted from ASSET 4 Thomson Reuters data.

This empirical approach faces limitations and constraints. For instance, the small size of Mexican sample (35 firms) limits the robustness of results and cross-section analysis might be invalid when there is high firm heterogeneity. In addition, the presence of measurement issues of ESG scores and firm performance. As well, the fact that endogeneity might be caused by omitted variables or reverse causality, implies that only association can be determined, neither the direction nor the mechanism of causation. However, aiming to better assess the causal relationship between the ESG scores and firms' financial performance, we followed a granger causality approach (Granger, 1969) based on two regression models:

$(financial\ indicator)_{i,2015} = \alpha + \beta1\ (financial\ indicator)_{i,2008} + \beta2\ \{ESG\ score\}_{i,2008} + \beta3\ (Firm\ controls)_{i,2008} + fe(sector)_I + \varepsilon_{1,i}$

$(ESG\ score)_{i,2015} = \alpha + \beta1(ESG\ score)_{i,2008} + \beta2\ (financial\ indicators)_{i,2008} + \beta3(Firm\ controls)_{i,2008} + fe(sector)_I + \varepsilon_{2,i}$

Box 1.5. **Do ESG-friendly firms perform better?** *(cont.)*

Table 1.7 shows results for the asset turnover indicator and the overall ESG score for years 2008 and 2015. For the first model, we have a statistically significant positive relationship between asset turnover in 2015 and ESG scores in 2008 and the asset turnover in 2008. Moreover, the overall ESG score is significant and positively associated with the overall score in 2008 but is not significantly associated with asset turnover in the past. Therefore, it can be claimed that asset turnover does not granger cause the overall ESG score while a higher overall ESG score granger causes a higher asset turnover for firms on average. Results for other combinations of years were mixed and non-robust.

Table 1.7. **Testing for causality**

Independent variable	Dependent variable	
	Asset turnover in 2015	ESG score in 2015
	Estimated coefficient	Estimated coefficient
Intercept	-0.434	-0.374
ESG score in 2008	0.074*	0.594***
Asset turnover in 2008	0.771***	0.020

Note: *** $p<0.01$, ** $p<0.05$, * $p<0.1$. Sector fixed effects are included.
Source: Adapted from ASSET 4 Thomson Reuters data.

Policy recommendations to improve inclusion

Key recommendations

- Expand public early childcare and pre-school coverage.
- Extend the length of paternity and maternity leaves.
- Better enforce the constitutional provision on gender discrimination, particularly in the workplace, boardrooms and credit markets.

Additional recommendations

- Establish voluntary gender targets to get more women into boardrooms.
- Encourage firms to set targets and action plans to increasingly adopt ESG-friendly practices as a way to incentive firms to do well by being good.
- Improve transparency and the disclosure of non-financial indicators such as environmental, social, and governance scores.

References

AFI (2013), "Ubicando la inclusión financiera en el mapa mundial, Informe sobre avances de la Declaración Maya 2013", Alianza para la Inclusión Financiera.

Amidžić, G., Massara, A., and Mialou, A. (2014), "Assessing countries' financial inclusion standing–A new composite index", *IMF Working Papers*, No. 14/36, Statistics Department, February 2014.

Banerjee, A., & Newman, A. (1993), "Occupational choice and the process of development", *Journal of Political Economy*, Vol. 101, No. 2.

Barnett, M. L. (2007), "Stakeholder influence capacity and the variability of financial returns to corporate social responsibility", *Academy of Management Review*, Vol. 32, No. 3.

Baron, D. (2007), "Managerial contracting and corporate social responsibility", *Journal of Public Economics*, Vol. 92.

Bauchet J, Marshall C, Thomas J. and Yalouris A. (2011), "Latest findings from randomized evaluations of microfinance", Financial Access Initiative, Innovations for Poverty Action, and Abdul Latif Jameel Poverty Action Lab. Forum 2, Washington, D.C., CGAP

Beaman, L., Chattopadhyay, R., Duflo, E., Pande, R., and Topalova, T. (2009), "Powerful women: Does exposure reduce bias?", *The Quarterly Journal of Economics*, Vol. 124, No. 4.

Beck, Thorsten, and Asli Demirguc-Kunt (2006), "Small and medium-size enterprises: Access to finance as a growth constraint", *Journal of Banking and Finance*, Vol. 30, No. 11.

Bellavance, F., Makni, Rim, Claude Francoeur (2009), "Causality between corporate social performance and financial performance: Evidence from Canadian firms", *Journal of Business Ethics*, Vol. 89.

Carter, D. A., Simkins, B. J., & Simpson, W. G. (2003), "Corporate governance, board diversity and firm value". The Financial Review, Vol. 38.

CGAP (2010), "Update on branchless banking policy and regulation in Mexico", CGAP.

Chakraborti, L., Margolis, M., and Sainz Santamaria, J. J. (2016), "Do industries pollute more in poorer neighborhoods? Evidence from toxic releasing plants in Mexico", *CIDE, Documento de Trabajo Número 597*.

Chakravarty, Satya and Rupayan Pal (2010), "Measuring financial inclusion: An axiomatic approach", *Indira Gandhi Institute of Development Research, Working Paper,* No. WP2010/003.

CONAIF (2016), *Política Nacional de Inclusión Financiera*, Junio de 2016, Ciudad de México.

Cull R, Ehrbeck T. and Holle N. (2014), "Financial inclusion and development: Recent impact evidence", Focus Note 92, CGAP, Washington, DC.

Demirguc-Kunt A. and Klapper L. (2013), "Measuring financial inclusion: Explaining variation in use of financial services across and within countries", *Brookings Papers on Economic Activity*, Spring.

Donaldson, L., & Davis, J. H. (1991), "Stewardship theory or agency theory: CEO governance and shareholder returns", Australian Journal of Management, Vol. 16, No. 1.

El-Sayed, Khaled, and David Paton (2005), "The impact of environmental performance on firm performance: static and dynamic panel data evidence", *Structural Change and Economic Dynamics*, Vol. 16, No. 3.

EY (2015), "¿Cómo pueden contribuir las empresas a los Objetivos de Desarrollo Sostenible?", Ernst & Young.

Fareed, F., Gabriel, M., Lenain, P. and Reynaud, J. (forthcoming), "Financial inclusion and women entrepreneurs", *OECD Economics Department Working Papers,* OECD Publishing, Paris.

Gabriel, M., Lenain, P., Mehrez, M., Reynaud, J., and P. Soneja (forthcoming), "Are ESG-friendly firms rewarded with higher performances? An empirical analysis testing the 'doing well by doing good' hypothesis in the Americas", *OECD Economics Department Working Papers*.

Gangadharan, Lata (2006), "Environmental compliance by firms in the manufacturing sector in Mexico", *Ecological Economics*, Vol. 59, No. 4.

Gobierno de la República (2013), *Plan Nacional de Desarrollo 2013-18*, México, Gobierno de la República.

Granger, C. W. J. (1969), "Investigating Causal relations by econometric models and cross-spectral methods", *Econometrica*, Vol. 37.

Greenberg, J. and Baron, R.A. (2008), "Behavior in organizations", Prentice-Hall, Upper Saddle River, NJ.

IMF (2012), "Mexico: Financial system stability assessment", *IMF Country Reports*, No. 12/65, International Monetary Fund, Washington, DC, March 2012.

Ioannou, I. and Serafeim, G. (2014), "The impact of corporate social responsibility on investment recommendations", *Harvard Business School, Working Papers*, No. 11-017, February 10, 2014.

Kempf, Alexander, and Peer Osthoff (2007), "The effect of socially responsible investing on portfolio performance", *European Financial Management,* Vol. 13, No. 5.

Lückerath-Rovers, (2013), "Women on boards and firm performance", *Journal of Management & Governance*, May 2013, Vol. 17, No. 2.

Lundgren, T. and Brännlund, R. (2010), "Environmental policy and profitability: Evidence from Swedish industry", *Environmental Economics and Policy Studies*, Vol. 12.

Margolis, J. D, H. Elfenbein, and J. P. Walsh (2009), "Does it pay to be good... and does it matter? A meta-analysis of the relationship between corporate social and financial performance", manuscript.

McKinsey (2010), "Women Matter 3: Women leaders, a competitive edge in and after the crisis", McKinsey & Company.

McWilliams, A. and D. Siegel (2000), "Corporate social responsibility and financial performance", *Strategic Management Journal*, Vol. 21, No. 5.

Moore, G. (2001), "Corporate social and financial performance: An investigation in the UK supermarket industry", *Journal of Business Ethics*, Vol. 34, No. 3-4.

Nelling, E. and Webb, E. (2009), "Corporate social responsibility and financial performance: the 'virtuous circle' revisited", *Review of Quantitative Finance and Accounting*, Vol. 32, No. 2.

OECD (2013), Knowledge-based Start-ups in Mexico, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264193796-en*

OECD (2013a), Getting It Right: Strategic Agenda for Reforms in Mexico, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264190320-en*

OECD (2014), *Enhancing Women's Economic Empowerment though Entrepreneurship and Business Leadership in OECD Countries*, OECD Publishing, Paris.

OECD (2015), G20/OECD Principles of Corporate Governance, OECD Publishing, Paris. DOI: *http://dx.doi.org/10.1787/9789264236882-en*

OECD (2016), OECD Family Database, *www.oecd.org/els/family/database.htm*

OECD (2016a), Entrepreneurship at a Glance 2016, OECD Publishing, Paris. DOI: *http://dx.doi.org/10.1787/entrepreneur_aag-2016-en*OECD (2016b), "Parental leave: Where are the fathers?", *OECD Policy Brief*, OECD Publishing, Paris.

Pasali S. (2013), "Where is the cheese? Synthesizing a giant literature on causes and consequences of financial sector development", *World Bank Policy Research Working Papers*, No. 6655, October.

Peters, Richard, and Michael R Mullen (2009), "Some evidence of the cumulative effects of corporate social responsibility on financial performance", *Journal of Global Business Issues*, Vol. 3, No. 1.

Pfeffer, J., and Salancik, G. R. (1978), "The external control of organizations: A resource dependence perspective", Stanford Business Books, Stanford, CA.

Porter, M. and Van der Linde, C. (1995), "Toward a new conception of the environment competitiveness relationship", *The Journal of Economic Perspectives*, Vol. 9, No. 4.

Sarma, Mandira (2008), "Index of financial inclusion", *ICRIER Working Paper*, No. 215, New Delhi.

Stuart L. Gillan, Jay C. Hartzell, Andrew Koch, and Laura T. Starks (2010), "Firms' environmental, social and governance (ESG) choices, performance and managerial motivation", University of Georgia, University of Texas at Austin, and University of Pittsburgh, Manuscript.

Thomson Reuters (n.d.), Asset4 ESG scores on creditviews.

Waddock, Sandra A, and Samuel B Graves (1997), "The corporate social performance-financial performance link", *Strategic Management Journal*, Vol. 18, No. 4.

World Bank (2014), *World Development Report 2014*, World Bank, Washington, DC.

Chapter 2

Boosting productivity through integration into Global Value Chains

Mexico's structural reforms are already boosting productivity, but more can be done. This chapter focuses on issues that have led to the success of the "modern" Mexico, and have led to difficulties with the "traditional" Mexico. These include the success of Global Value Chains (GVCs) in advancing the trade integration and linkages of key sectors, as well as how competition problems, excessive local regulation, and weak legal institutions have led to misallocation across firms.

Following the government's wide-ranging structural reforms since 2012, according to OECD estimates, total factor productivity growth has turned positive and picked up (Figure 2.1, Panel A). Nevertheless, success has not spread all over the country and large income gaps persist between the highly productive modern economy and the low-productivity traditional one. Mexico's most productive firms and sectors are performing very well – such as auto exports – but the vast majority of firms and sectors are still struggling. Total factor productivity growth, estimated using detailed sector-level production functions, has accelerated during the most recent period for the top 10% of industries, while the long decline in productivity in the remaining 90% of sectors has been arrested (Figure 2.1, Panel B).

The present chapter discusses Mexico's successful, though incomplete integration into Global Value Chains (GVCs). OECD research suggests that GVC participation can bring economic benefits in terms of productivity, diversification and sophistication of production. Understanding what drives integration into GVCs provides policy guidance to support a wider integration.

Figure 2.1. **Productivity is picking up in some parts of the economy**

A. Aggregate TFP growth

B. Industry-level TFP growth (3-digit NAICS)
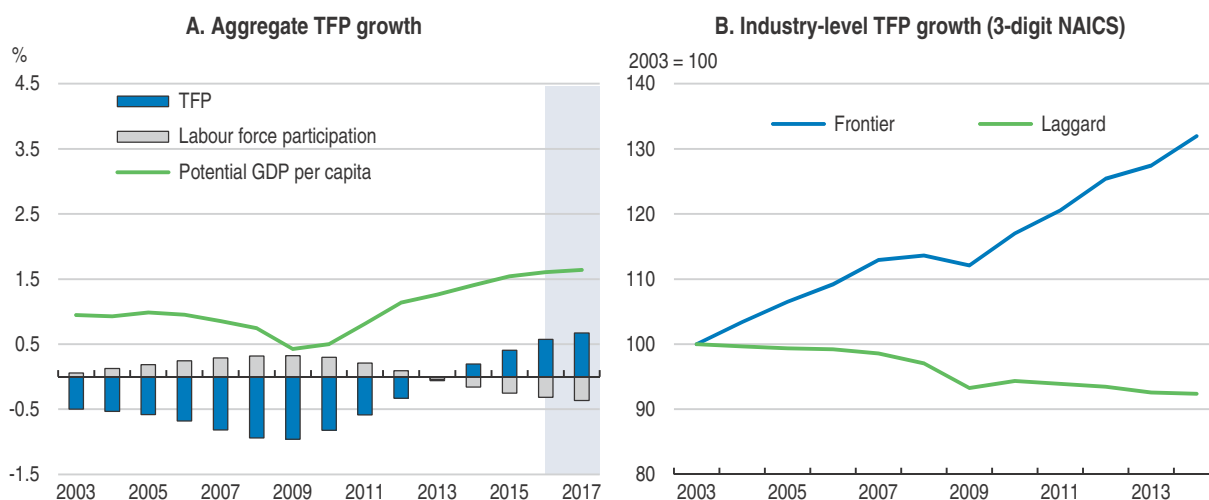
Source: OECD Economic Outlook database, OECD analysis of KLEMS data from INEGI.

StatLink ᐃᔑᐳ *http://dx.doi.org/10.1787/888933444695*

Determinants of GVC integration

The emergence of GVCs has brought to consumers products that are increasingly complex bundles of inputs from multiple origins. GVCs are often complex networks involving multi-directional flows of material inputs, services and personnel, ownership of

assets via foreign direct investment (FDI) in a cross-border context, enforcement of contracts and standards, encompassing transfer of technology and protection of intellectual property (IPR).

GVC participation can be captured with indicators of backward and forward participation. Backward participation in GVCs is defined as the share of foreign value added in a country's gross exports. Forward participation is defined as the share of domestic value added embodied in foreign countries' exports. Improving backward linkages has many benefits. It entails import competition, in particular in manufacturing and services, and accelerates the reallocation of domestic resources towards the most competitive firms. Backward integration also facilitates the diffusion of knowledge either indirectly through learning from suppliers or directly via knowledge spillovers from foreign direct investment (FDI). Improving forward integration, that is the production of intermediate inputs used in other countries' exports, increases the potential market, leverages the use of human capital and natural resources, and, as a result, contributes to growing economic activity.

The development of GVCs has been driven by the search for competitive intermediate inputs. With more geographically-fragmented production processes, additional costs accrue, notably at the border. But many costs accumulate long before the border is reached, as GVCs have large domestic arms (De Backer and Miroudot, 2013). Under 10% of trade costs are estimated to be tariffs, with 10-30% represented by natural trade costs (i.e. geographical and cultural factors) and the remaining 60-80% relating to indirect costs of trade procedures, maritime connectivity and services, regulatory environment, currency fluctuations and availability and use of ICT services (UNESCAP, 2014).

The scope for government intervention is therefore large. Governments can facilitate border and "pre-border" environments. Border costs – those mostly related to customs procedures – are predominantly regional and thus involve government's foreign policy (OECD, 2015d). Pre-border costs are related to costs of use and the quality of infrastructure and logistics services, regulatory burdens, etc. One example of relevant policy intervention is the creation of special economic zones, such as have recently been introduced in Mexico's poorer southern states, with the aim to provide investment incentives, improve infrastructure and streamline regulatory processes. An economy's state of development determines its capacity to produce valuable intermediates to be used by both domestic and foreign countries' exporters, and is also a good proxy to the institutional setup to do business. Typically, the relative quality of productive and human capital is expected to be negatively correlated with backward participation, while it is expected to be positively correlated with forward linkages. Industry composition also affects GVC participation. For instance, services exports contain less foreign value added than manufacturing exports.

But like trade openness, integration into GVCs depends also on factors that are not directly related to economic policies. Legal origins and common language are robust determinants of bilateral trade linkages in gravity-type models. Natural endowments also play a central role in GVC integration. Countries with low endowments in commodities typically have higher backward integration while high endowments increases forward integration. Geographical location is also an important determinant of trade and GVC integration, as it is a good proxy for trade costs. Firms also locate in leading-edge countries close to the technology frontier, in order to benefit from the diffusion of advanced

technologies (Griffith et al., 2004). Many studies nevertheless discuss the fact that distance may affect both the numerator and denominator of backward and forward participation, and conclude that the impact of distance is therefore less certain.

Mexico is among the most open large economies in the world, and the country's free trade openness policy has yielded tremendous benefits over the last two decades. Twelve free trade agreements have been signed with 46 countries, which benefit Mexico's trade directly and also indirectly, as FDI inflows led firms to strategically locate in Mexico rather than other regions, in order to penetrate North American markets. Mexico is relatively well-endowed given its location, the presence of physical borders with the United States, a large consumer base, the size of its domestic market and its geography, with access to both the Atlantic and the Pacific oceans. Indeed, the larger the domestic market, the higher the chance that exporting firms can source intermediate inputs from home rather than seeking them from abroad. Similarly, the short distance to potential markets is expected to diminish trade costs and therefore increase the likelihood of trade linkages.
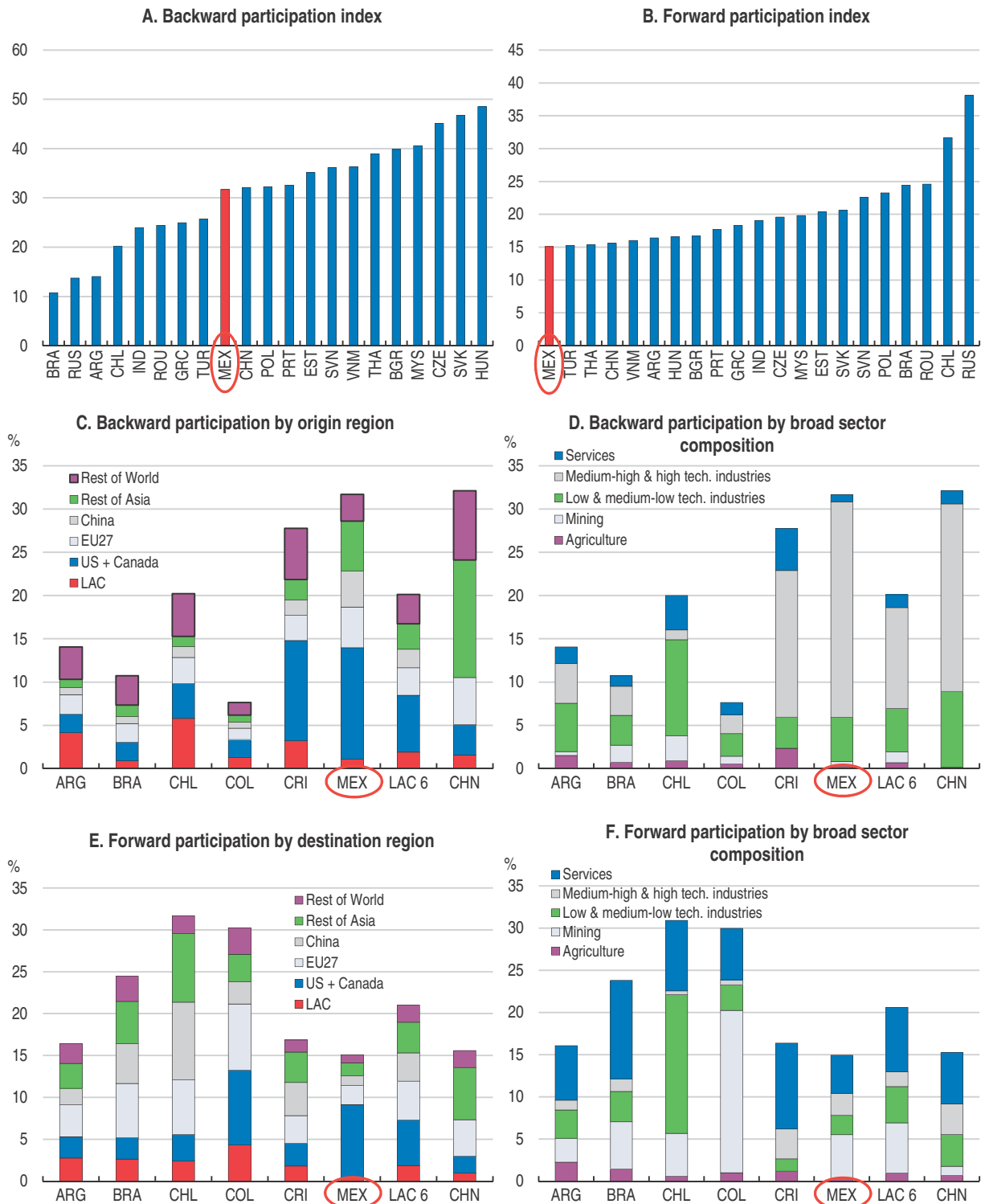
In the case of Mexico, the positive border and NAFTA effects with the United States are most probably higher than the costs linked with distance, e.g. some Asian suppliers are using Mexico as an entrance point to the North American markets. Manufacturing firms that need to minimise response times tend to favour Mexico as a production site when they seek to produce for the North American market. Door-to-door time for products sourced from China's east coast and continuing into the interior of the United States average three to four weeks via the West Coast of the United States and four to six weeks via the East Coast. In contrast, door-to-door time is less than a week for products sourced from Mexico. This advantage in delivery is critical for manufacturing products for which demand is volatile or for perishable, bulky and seasonal products for which carrying costs are high. In addition, the cost of shipping is also an advantage for Mexico. Documented prices of freight costs for shipping a container to Pittsburgh indicate that Mexico costs only 57% the price shipping from Brazil and 49% that of shipping from China (Boston Consulting Group, 2008, 2014).

Where does Mexico stand?

Given the proceeding discussion, Mexico is therefore well integrated to GVCs from a backward participation perspective (Figure 2.2, Panel A). Thus, the share of foreign value added in Mexico's gross exports is important. However, Mexico remains below peer countries regarding its forward participation to GVCs (Figure 2.2, Panel B), which means that the share of Mexican value added embodied in foreign countries' exports is low. Mexico's backward and forward participation are skewed towards NAFTA, as anticipated (Figure 2.2, Panels C and E). Mexico's backward participation is concentrated in medium-high to high technology industries, while its forward participation is concentrated in mining (Figure 2.2, Panels D and F). The services sector is an area where Mexico's integration is lagging behind peer countries.

In a recent paper, Cadestin et al. (in OECD, 2016a) estimate the determinants of GVC backward participation for Latin American countries for which data on the OECD-WTO Trade in Value Added (TiVA) database is available: i.e. Argentina, Chile, Costa Rica, and Mexico. The determinants of participation are market size, level of development, industrial structure and geographical location, policy determinants such as low import tariffs, both at home and faced in export markets, engagement in preferential trade

Figure 2.2. **Mexico's backward and forward participation in GVCs, 2011**

A. Backward participation index

B. Forward participation index

C. Backward participation by origin region

D. Backward participation by broad sector composition

E. Forward participation by destination region

F. Forward participation by broad sector composition

Note: The backward participation index is defined as the share of foreign value added in a country's gross exports. Forward participation is defined as the share of domestic value added embodied in foreign countries' exports. For comparability reasons, most countries included are non-OECD peer countries, such as Brazil, Argentina, Indonesia, Romania, Vietnam, among others.
Source: OECD-WTO Trade in Value Added database.

StatLink 🔗 *http://dx.doi.org/10.1787/888933444707*

agreements (PTAs) and openness to inward FDI. Their findings suggest that Mexico's backward integration is high and over-performing against the model (Figure 2.3). Non-policy determinants are high, and can be explained by Mexico's proximity with the United States. They also find that trade policy plays an important role for Mexico. Finally, their results highlight that FDI openness is not a significant contributor for Mexico, compared to the rest of the sample. Ultimately, the role of policy determinants is most likely underestimated since regression analysis can only take into account the temporal effect of policy while a lot of the structural variables are affected by previous policies. Using a different model, another OECD study (OECD, 2016a) corroborates the finding that Mexico is well integrated from a backward perspective. The determinants in their model are: distance to activity, population, GDP per capita, the share of manufacturing in value added, and the share of natural capital. They also found that Mexico's forward integration is below its expected value.

Figure 2.3. **Backward GVC participation ratio: relative contribution of policy and non-policy factors**
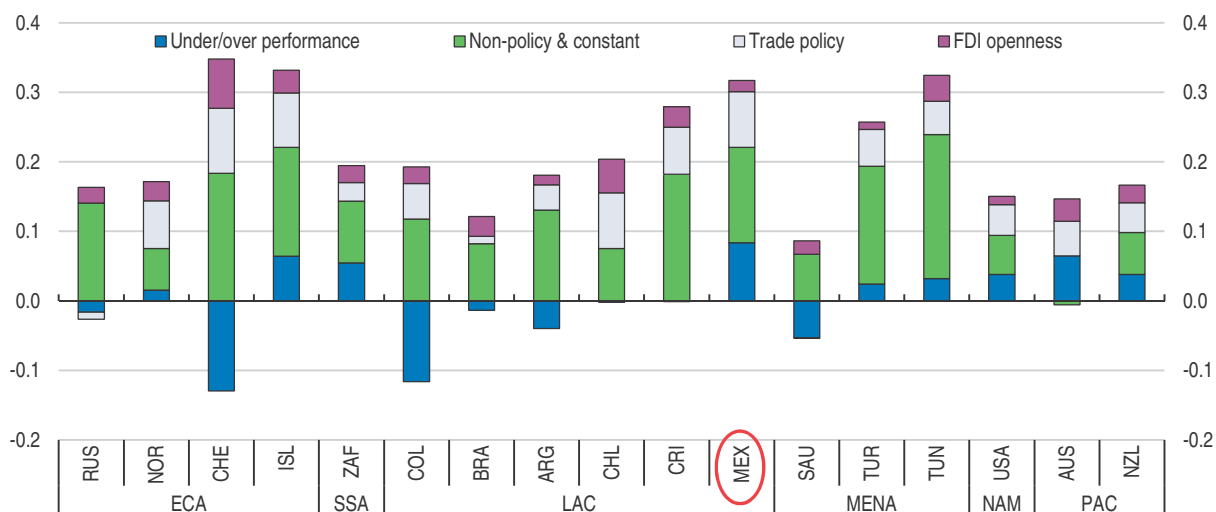
Source: Cadestin et al. (2016)

In another paper, Kowalski et al. (OECD, 2015a) quantify the importance of some other GVC participation determinants across a larger number of developed and developing economies found that trade facilitation and logistics performance, quality of infrastructure and of institutions, intellectual property protection and quality of electricity supply are particularly important (Figure 2.4).

Since the inception of NAFTA in the mid-1990s, Mexico became a prime supplier of intermediate goods and assembler for the US manufacturing sector. Its integration into GVCs has therefore been mostly through its integration to the US business cycle. The relative stability of the backward participation over time reflects the relatively mature value chains in the NAFTA region (Figure 2.5, Panel A; OECD, 2015b). The export orientation of Mexico's manufacturers, while low, has steadily increased over the last two decades. This relative low score in forward participation could also be due to the fact that

Figure 2.4. **The impact on GVC integration of other policies**
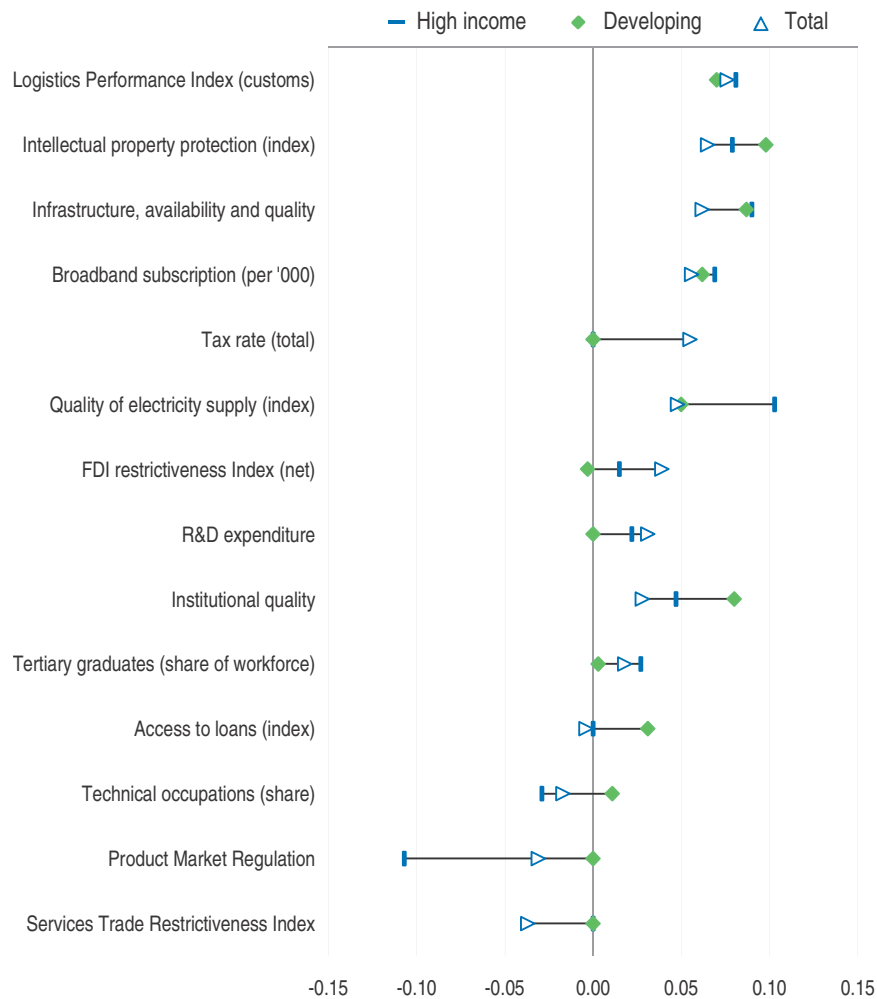
Source: Kowalski et al. (OECD, 2015a).

StatLink ⋿╕╘╗ http://dx.doi.org/10.1787/888933444726

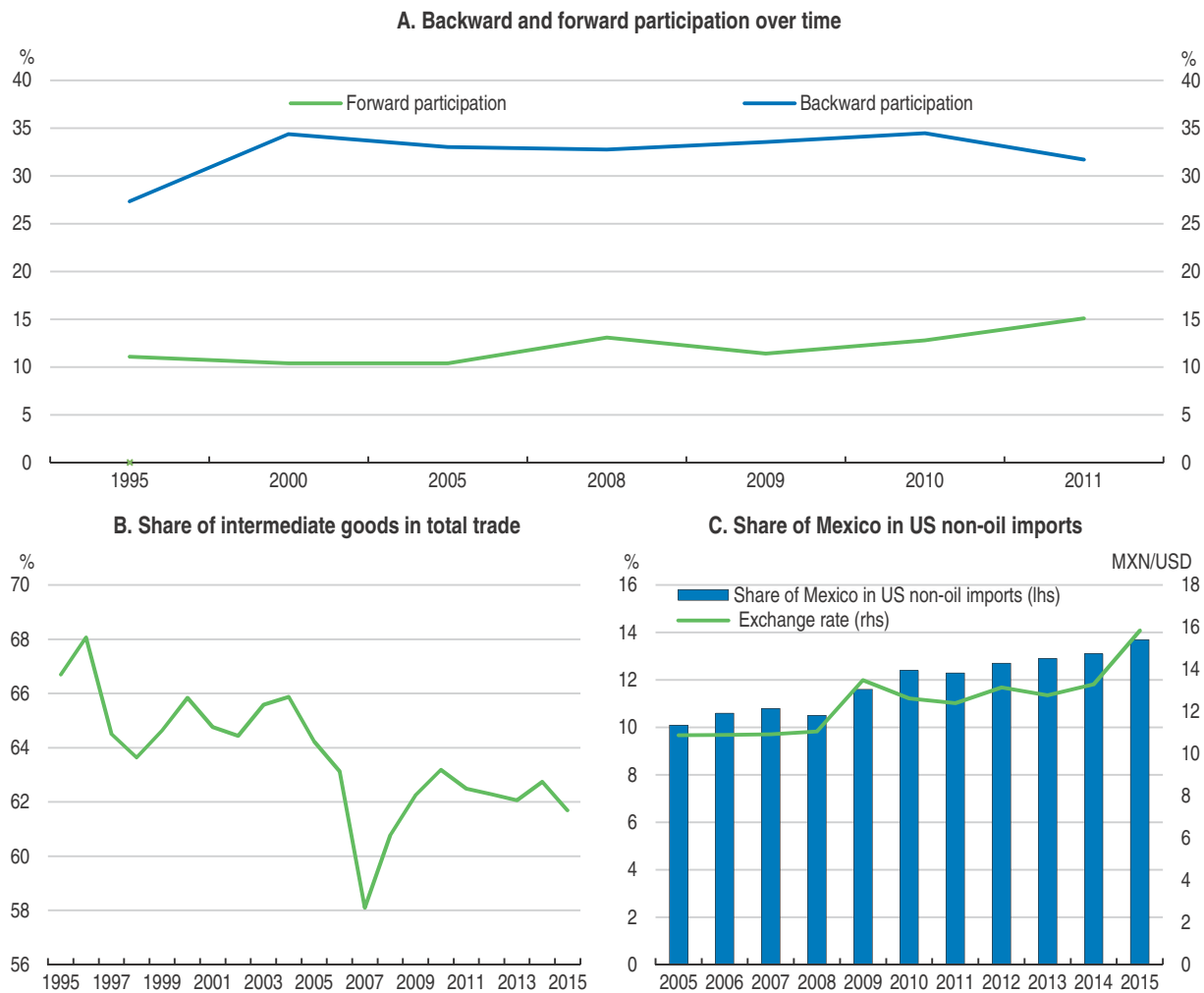Mexico is increasingly becoming a supplier of final goods, including business services (Figure 2.5, Panel B). The decline in the share of intermediate goods in trade over recent years could also be the result of slower global growth; however, Mexican manufacturing exports to the United States gained significant market share since the great recession, partly due to a more competitive exchange rate (Panels C and D). Another explanation is that the export of intermediate goods to the United States are increasingly used in US exports and thus explain the slight increase in forward participation over time (see Panel A).

Recent data confirms a decreasing share of Mexico's backward participation to GVCs, with some specific sectors, such as the auto sector – which is typically very import/ intermediate intensive – leading the way (Box 2.1 and Figure 2.6, Panel A).[1] The national statistical agency (INEGI) recently released the 2012 Input/Output table, which allows capturing the most recent backward linkage, but does not permit getting an updated measure of forward linkage since it would require Mexico's trade partners' updated Input/ Output tables, too. Nevertheless, such increases in domestic value in exports and the fact that Mexico is now more engaged in trade in final goods and high value added products could suggest that some sectors are climbing up the GVCs and the cumulative process of

Figure 2.5. **Mexico's participation in GVCs, share of intermediates in total trade of manufactured goods and export penetration into the US economy**

A. Backward and forward participation over time

B. Share of intermediate goods in total trade

C. Share of Mexico in US non-oil imports

Note: The backward participation index is defined as the share of foreign value added in a country's gross exports. Forward participation is defined as the share of domestic value added embodied in foreign countries' exports.
Source: OECD-WTO Trade in Value Added database, OECD STAN, Banxico and US Dept. of Commerce.

StatLink 🔗 *http://dx.doi.org/10.1787/888933444733*

knowledge diffusion may be at play (Figure 2.6, Panel B). Data from OECD TiVA suggests that the share of domestic value added in exports of final goods has been constant in recent years but the share of domestic value added in exports of intermediate goods has increased.

Lower import content in exports, or higher domestic content in exports does not *per se* translate into value added created in Mexico. Trading more final products, no matter where the value added comes from, can increase Mexico's backward participation to GVCs, but trading final products could also limit forward participation in GVCs. An exercise forecasting Mexico's recent backward participation trend shows that while it is projected to have increased for the whole economy, it is expected to have decreased for the

Figure 2.6. **Mexico's exports are evolving**

A. Mexico's backward participation (ICE) has decreased

B. Share of high-value exports by sector
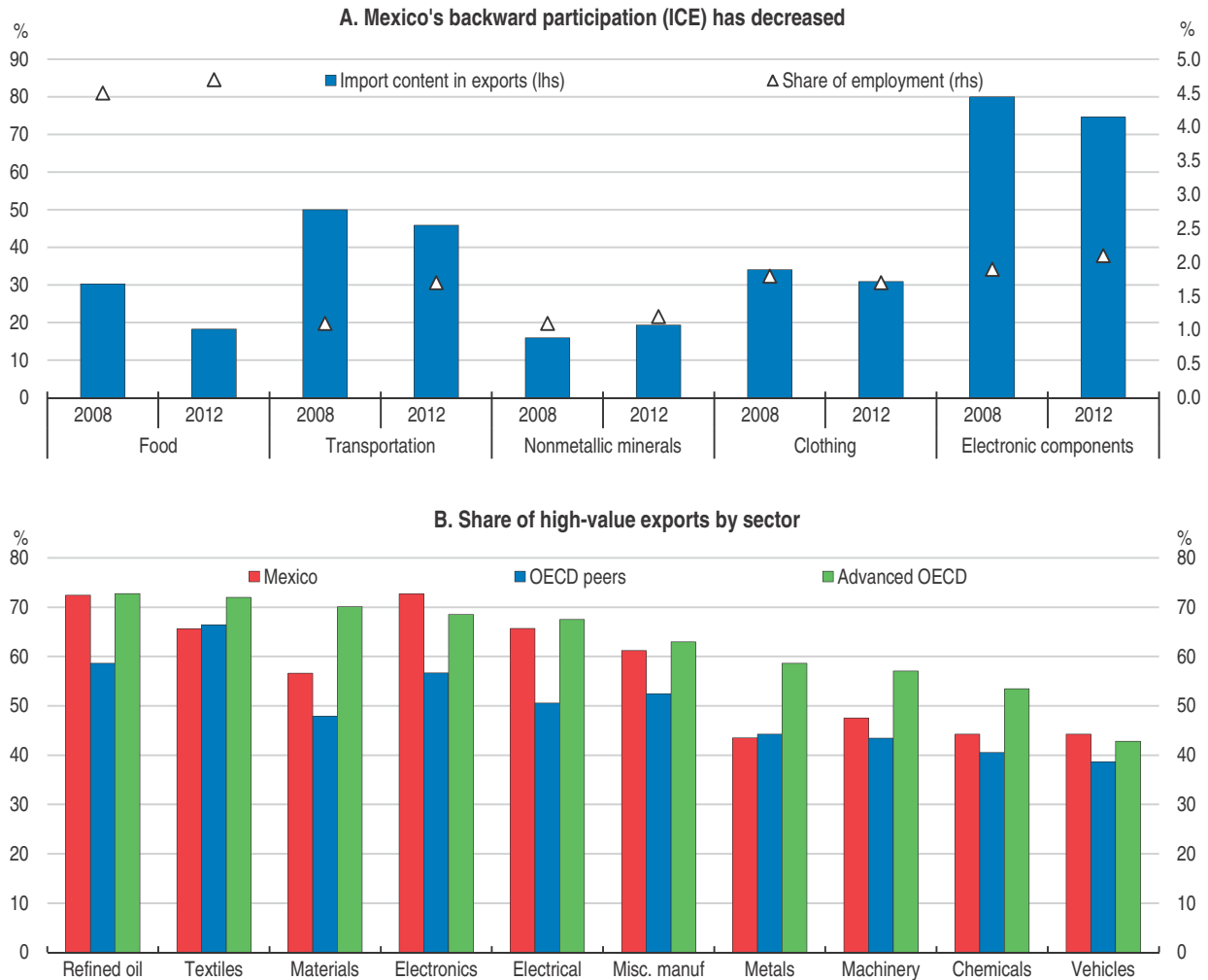
Note: An export is considered of high value when its price exceeds the world's average price by at least 15%.
Source: OECD analysis of INEGI Input/Output tables, CEPII and OECD trade data.

StatLink *http://dx.doi.org/10.1787/888933444748*

Box 2.1. **Mexico's car industry: A success story**

The Mexican auto sector has grown at impressive rates since the Great Recession and is expected to continue its growth going forward (Figure 2.7). With favourable labour costs and terms of trade, Mexico has attracted significant foreign direct investment and recently became the United States' prime auto producer, before Canada. Over the last decade, Mexico went from the 20th to the 7th largest worldwide producer of cars between 2005 and 2015, multiplying its total production by about 6 (OIA, 2016). Mexico is also the largest producer of cars in Latin America, and the World's 4th largest automobile exporter (PROMEXICO, 2016) (Figure 2.8, Panel A).

Box 2.1. **Mexico's car industry: A success story** (cont.)

Figure 2.7. **Light vehicles production and installed capacity**
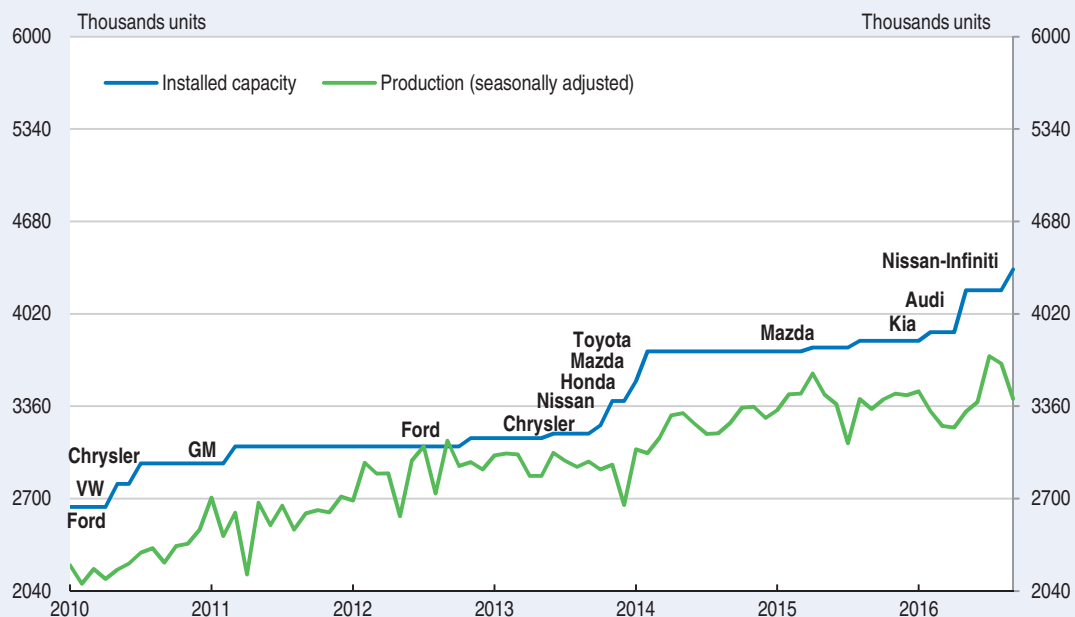
Note: Installed Capacity estimation based on press releases of assemblers and news. Seasonally adjusted data.
Source: Banco de México using data from AMIA.

StatLink ᵃᵍᵖ *http://dx.doi.org/10.1787/888933444757*

Mexico's auto sector has benefited from large cumulative foreign direct investments over the last two decades that have allowed the sector to climb up the value chain. First, Mexico is not only producing more cars, but it is producing cars with higher value added, as proxied by the increase amount of luxury cars produced in Mexico (Figure 2.8, Panel B). In addition, car factories are increasingly moving from assembly to test and design centres (AMIA, 2016). Another indicator that the Mexican auto sector is climbing up the value chain is the diminution of imported content in auto exports (ICE, the ICE is as a good measure of international 'backward linkages' in analyses of global value chains). The ICE in the auto industry has decreased from about 50% in 2008 to 46% in 2012, and is estimated (see Box 2.2) to have decreased to about 43% in 2014.

Recent studies show that the successful development of the auto industry in Mexico is characterised by high geographic concentration, via the formation of clusters, far superior in this industry than in the other manufacturing industries (Chavez and Garcia Loredo, 2014). These results indicate that one of the factors driving growth in this sector is the presence of agglomeration economies. Those results have macroeconomic implications at the State level and the development of the auto exports business has benefited those States with higher share of auto exports (See Figure 2.8, Panel C).

Box 2.1. **Mexico's car industry: A success story** (cont.)

Figure 2.8. **Auto sector performance**

A. Auto production and exports

B. Production of light cars, by auto type

C. Auto exports and state output growth
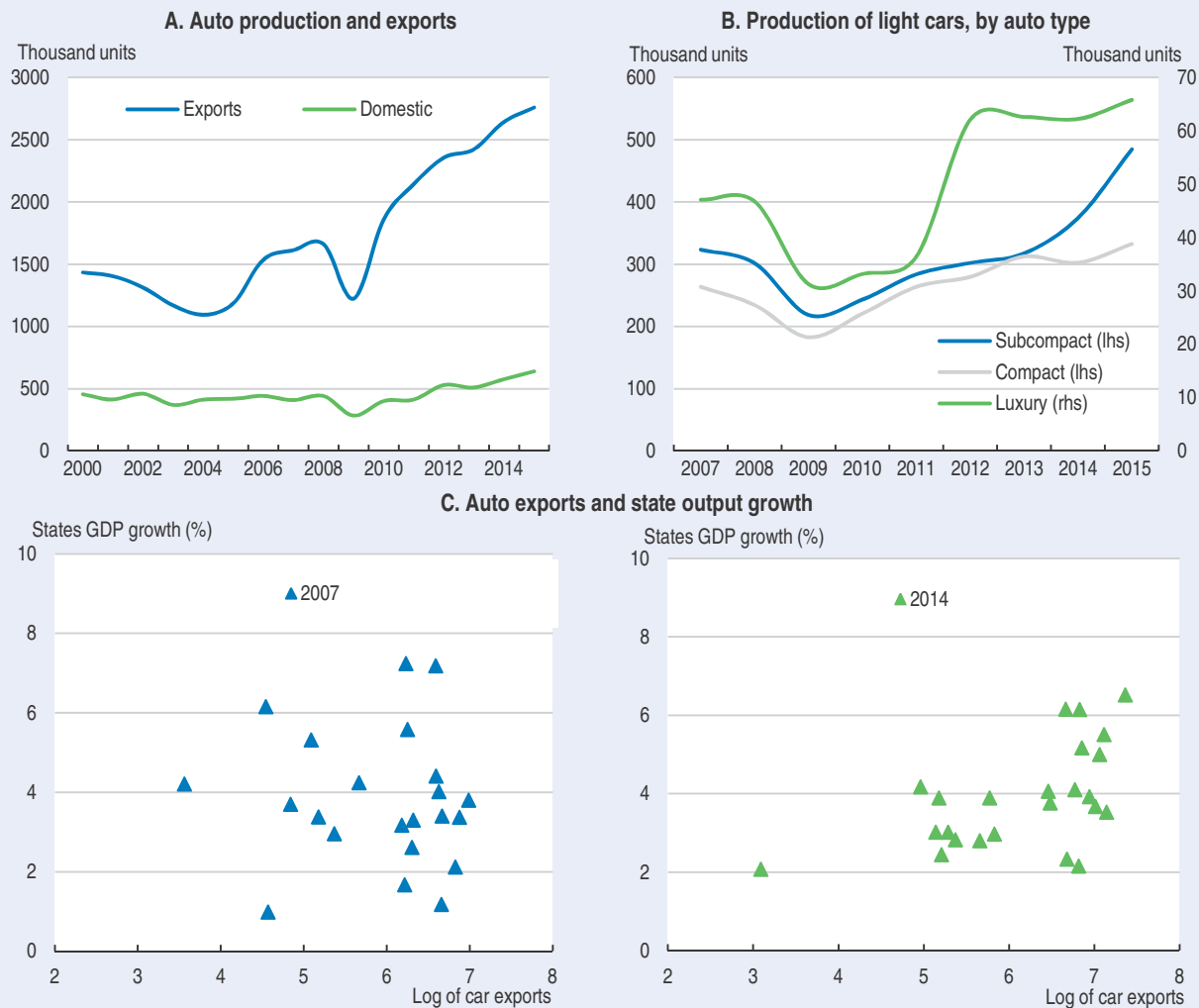
Source: OECD calculations using data from AMIA, INEGI, and Banco of Mexico.

StatLink 🔗 *http://dx.doi.org/10.1787/888933444765*

manufacturing sector (Box 2.2). Yet, the benefits linked to forward participation are as important as are the ones from backward participation. Gauging where Mexico's integration stands compared to peer OECD countries at the sectoral level reveals interesting patterns. Mexico's low forward participation is indeed due to fact that the country's exports are mostly final goods directed to the United States (Figure 2.9, Panel A). Yet, a good counter-example is again the auto sector: the auto sector has a low forward participation but the sector is highly integrated, supporting the evidence of a climbing up the supply chain. Mexico's backward participation is more homogeneous, in particular in the manufacturing sectors (Figure 2.9, Panel B).

Figure 2.9. **Mexico's backward and forward participation to GVCs in selected sectors vs peer OECD countries (2011)**

A. Mexico's forward participation by sectors (2011)

B. Mexico's backward participation by sectors (2011)
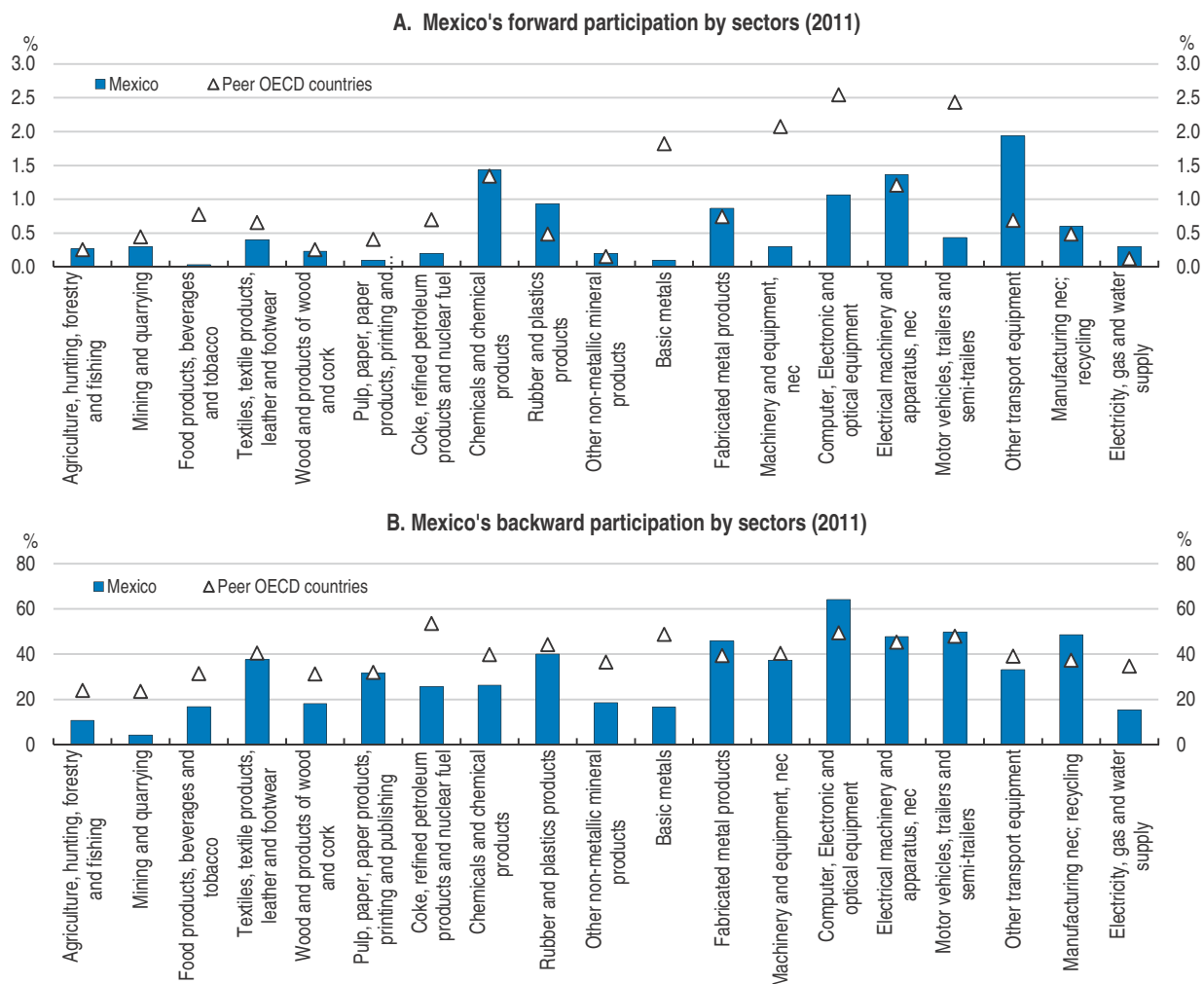
Note: Panel A: Forward participation to GVCs is defined as the domestic value added embodied in foreign exports as share of gross exports. Panel B: Backward participation to GVCs is defined here as the foreign VA embodied in exports, as % of total gross exports. Peer OECD countries are: CHL, CZE, EST, HUN, KOR, LVA, SVK, SVN, TUR.
Source: OECD calculations with OECD-WTO TiVA Database.

StatLink 📊📈 *http://dx.doi.org/10.1787/888933444776*

Box 2.2. **Projecting Mexico's backward integration to GVCs in 2014**

In order to gauge the evolution of Mexico's backward participation over more recent years, latest trade and FDI data are used to forecast Mexico's backward participation up to 2014. An econometric approach to project the industries' backward participation (import content in exports, ICE) levels up to 2014 using (i) the 2012 ICEs from the 2012 input/output table and (ii) regressing the 2003, 2008 and 2012 ICEs to determinants such as industries' imports, industries' FDI, and exchange rate fluctuation to control for price movements. Our regression analysis is based on a panel of ICE levels per industry for the years 2003, 2008 and 2012, using random effects. The estimated equation is:

$$ICE_{it} = c + FDI_{it} + M_{it} + EXR_t + \varepsilon_{it}$$

Box 2.2. **Projecting Mexico's backward integration to GVCs in 2014** (cont.)

where ICE_{it} represents the import content in exports for each industry i at time t, FDI_{it} represents the cumulated flows of foreign direct investment in the industry i at time t in log, M_{it} the cumulated imports in the industry i at time t in log, EXR_t the change of the effective exchange rate over the period, and ε the residuals. The results indicate that the fit is good and the determinants are significant (Table 2.1). In a recent paper, OECD (2016) uses a different methodology to forecast backward GVC integration. Their structural GVC indicator captures the slowdown in 2012 well, but predicts an increase for 2014. Our analysis suggests that while ICE is likely to have increased for the whole economy by 2014, it is expected to have decreased for the manufacturing sector (Figure 2.10).

Table 2.1. **Estimation results of ICE model by industries**

	Dependent variable: ICE
FDI	0.007*
M	0.029***
EXR	-0.009**
R-square	
Overall	0.338
Within	0.237
Between	0.328
Observations	110
Industries	39
Wald test	36.46***
σ^u	0.127
σ^e	0.038
ρ	0.916

Note: *** indicates significance at the 1% level, ** at the 5%, and * at the 10%.
Source: OECD calculations using INEGI and Banxico data.

Figure 2.10. **Projected 2014 backward GVC integration in manufacturing industries (ICE)**
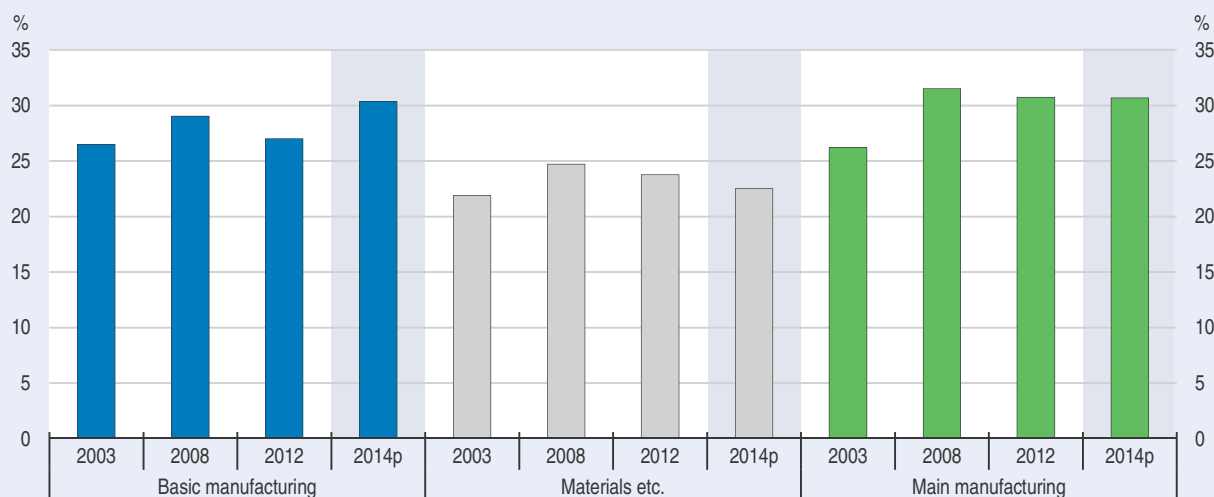
Source: OECD calculations using INEGI and Banco de México data.

StatLink ⟨⟨⟨⟨ *http://dx.doi.org/10.1787/888933444789*

Where does Mexico have a comparative advantage?

The complexity of a country is a broad measure of the set of capabilities available in a country. Technically, it is a projection of the matrix connecting countries to the products they export. Since the complexity measure considers information about the diversity of countries and the ubiquity of products, it is able to produce a measure of economic complexity containing information about both the diversity of a country's exports and their sophistication. For example, Japan or Germany, with high complexity measures, export many goods that are of low ubiquity and that are produced by highly diversified countries, indicating that these are diverse and sophisticated economies. Countries with low complexity measures export only a few products, which are of relatively high ubiquity and which are exported by countries that are not necessarily very diversified, indicating that these are countries that have little diversity and that the products that they export are not very sophisticated (see Hidalgo and Hausmann, 2009).

Complexity measures have been found to be good predictive of future growth and predictive of the complexity of a country's future exports, making a strong empirical case that the level of development is indeed associated to the complexity of a country's economy (Hidalgo and Hausmann, 2009). Countries' value chain activity is also linked to growing sophistication and diversification of exports as is the use of more sophisticated inputs (OECD, 2015; Taglioni and Winkler, 2015). Recent studies show that Mexico has the potential to further integrate and climb up GVCs since its aggregate measure of complexity is relatively high (Hidalgo and Hausmann, 2009). The National Productivity Committee make economic complexity measures available by municipality and industry, and authorities are using these measures to support their policy framework. Cross checking those measures by industries with GVC indicators yield interesting results: sectors' complexity and strategic product value (as measure by the product's complexity potential) are positively related to backward participation to GVCs in Mexico (Figure 2.11).

Figure 2.11. **Sectorial complexity measures vs backward participation in GVCs (ICE)**
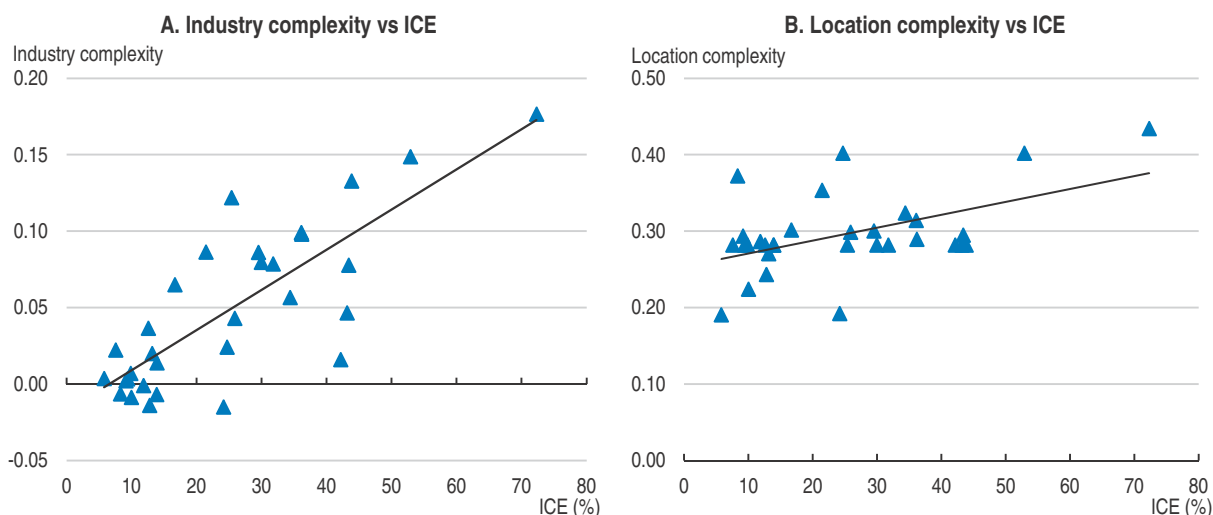
Note: Data corresponds to 3-digit industry-level observations from years 2003 to 2014.
Source: OECD calculations with INEGI and GOB.MX data.

StatLink ⬛ *http://dx.doi.org/10.1787/888933444799*

While the link between complexity and backward GVC participation is robust, the relation with labour productivity does not seem to hold (Figure 2.12, Panel A). In addition, the relation between labour productivity and the revealed comparative advantage measure is not significant either, indicating that Mexico is not fully exploiting the potential gains from its comparative advantages (Figure 2.12, Panel B). The revealed comparative advantage (RCA) is a good indicator of potential for export growth. It is the proportion of the country's exports that are of the class under consideration (E_{ij}/E_{it}) divided by the proportion of world exports that are of that class (E_{nj}/E_{nt}). A comparative advantage is "revealed" if RCA>1. If RCA is less than unity, the country is said to have a comparative disadvantage in the commodity or industry.

Figure 2.12. **Backward GVC participation and labour productivity vs revealed comparative advantage (RCA)**
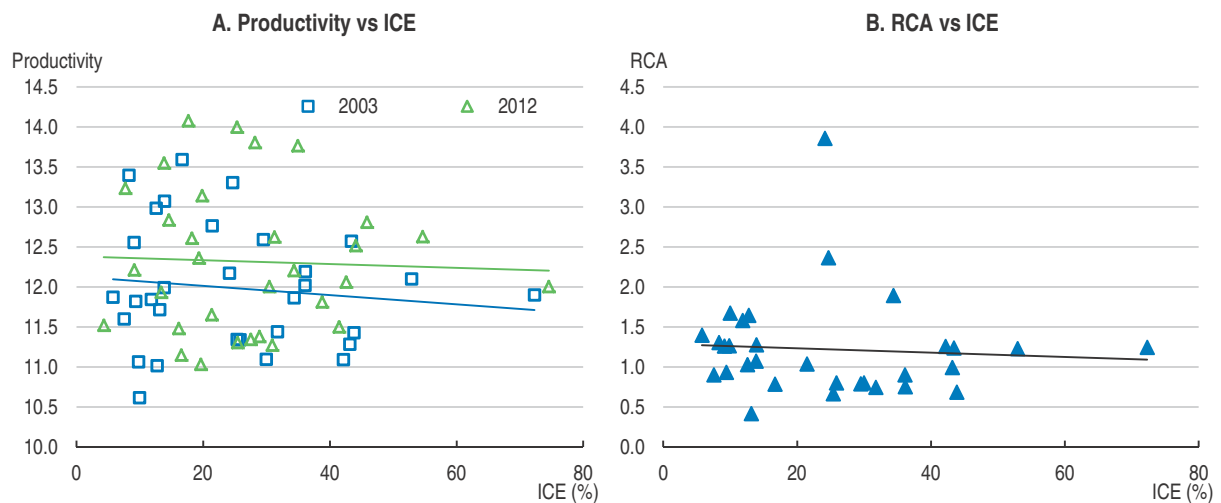
Note: Data corresponds to 3-digit industry-level observations from years 2003 to 2014.
Source: OECD calculations using INEGI and GOB.MX data.

StatLink ⟟⟟ *http://dx.doi.org/10.1787/888933444807*

Activities where Mexico has the greatest competitive or comparative advantages are manufacturing goods with a high weight to value ratio, whose quality is more important than their prices, that are specially protected under NAFTA rules and whose production is mainly oriented towards foreign markets. According to Watkins (2007), Mexico has comparative advantages in the following four lines of production; (i) manufacturing production with a high weight to value ratio (the production of cars, flat screens and appliances of large size); (ii) production of firms that implement just-in-time procedures and whose production is subject to frequent changes in design (auto parts); (iii) goods that require strong managerial involvement in order to meet high quality standards (aerospace industry and medical instruments) and; (iv) manufacturing goods where the protection of property rights is important.

## How can Mexico further integrate and climb up GVCs?

This chapter refers to climbing up GVCs as an economy's ability to create larger value in GVCs by observing the ratio of domestic value-added embodied in its exports to its actual exports (discussion above and OECD, 2013). Such a focus on value-added corresponds to the concept of "high value-added activity" in the GVC literature, a concept which refers to activities

that are better remunerated (have higher margins) and have higher entry barriers because the skills required are difficult to obtain. Therefore, a particularly important driver for upgrading in GVCs is investment in knowledge-based capital (KBC) (OECD, 2013). GVCs encourage productivity growth by accelerating learning and innovation and by broadening and deepening the skill set in a country. The highest level of value creation in a GVC is often found in certain upstream activities, such as new concept development, design, R&D, or the manufacturing of key parts and components, as well as in certain downstream activities, such as marketing, branding, or customer service. Such activities involve tacit, non-codified knowledge in areas such as design, the creation and management of cutting-edge technology, and complex systems, as well as management or organizational know-how. Different types of KBC play a role in GVCs (OECD, 2013): (a) computerised information (software and databases); (b) innovative property (R&D and non-R&D innovative expenditures, including copyrights, designs, and trademarks); and (c) economic competencies (brand equity, firm-specific technological and managerial skills, networks, and organizational structures).

While work on measurement of KBC has made tremendous progress in recent years, there is still no good measure for Mexico (OECD, 2013). An early proxy was the Knowledge Economy Index (KEI), from the World Bank Institute, representing the overall level of development of a country or region towards the Knowledge Economy. The 2012 KEI puts Mexico at the bottom among OECD countries (Figure 2.13).[2] The rest of this section discusses the link between productivity and backward integration with measures of KBC for Mexico, as proxied by FDI, R&D, innovation and skills, with a focus at the sector level.

Figure 2.13. **Mexico's Knowledge Economy Index (KEI) is the lowest among OECD countries**
Index from 0 (least knowledge-based) to 10 (most knowledge-based economy)
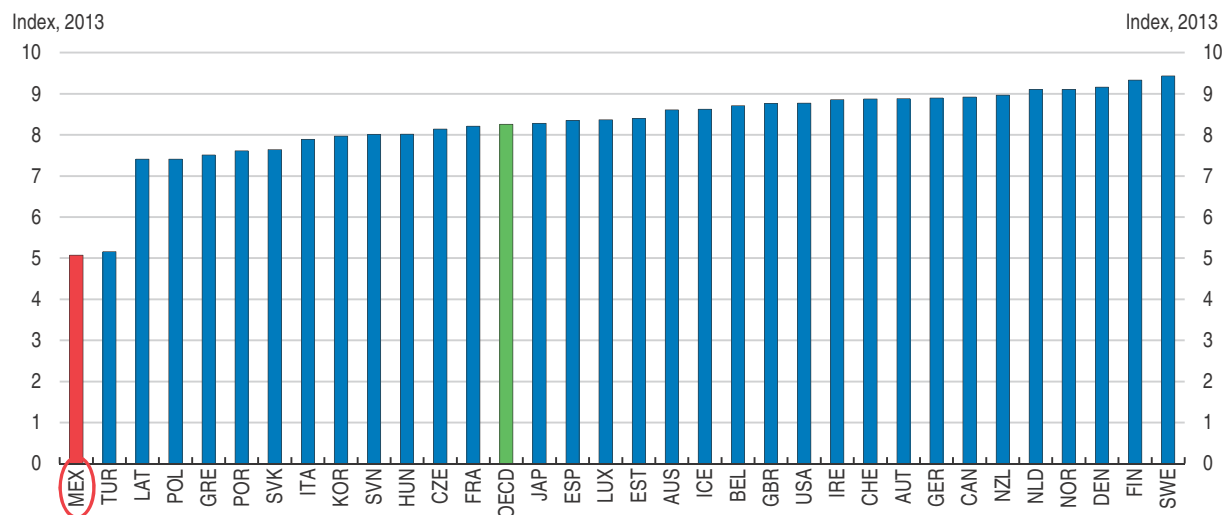
Note: Data not available for Chile and Israel.
Source: World Bank, Knowledge for Development, 2013.

StatLink ⟪≣⟫ *http://dx.doi.org/10.1787/888933444819*

Foreign Direct Investment (FDI)

Mexico attracts significant FDI flows (Figure 2.14, Panel A), however its stock of inward FDI remains low compared to peer countries (Figure 2.14, Panel B).

Integration into GVCs is typically linked to FDI spillovers, which are also, through knowledge diffusion, a determinant of productivity growth. Positive changes in foreign

Figure 2.14. **FDI flows and stocks**

A. FDI inflows

B. FDI inward stocks
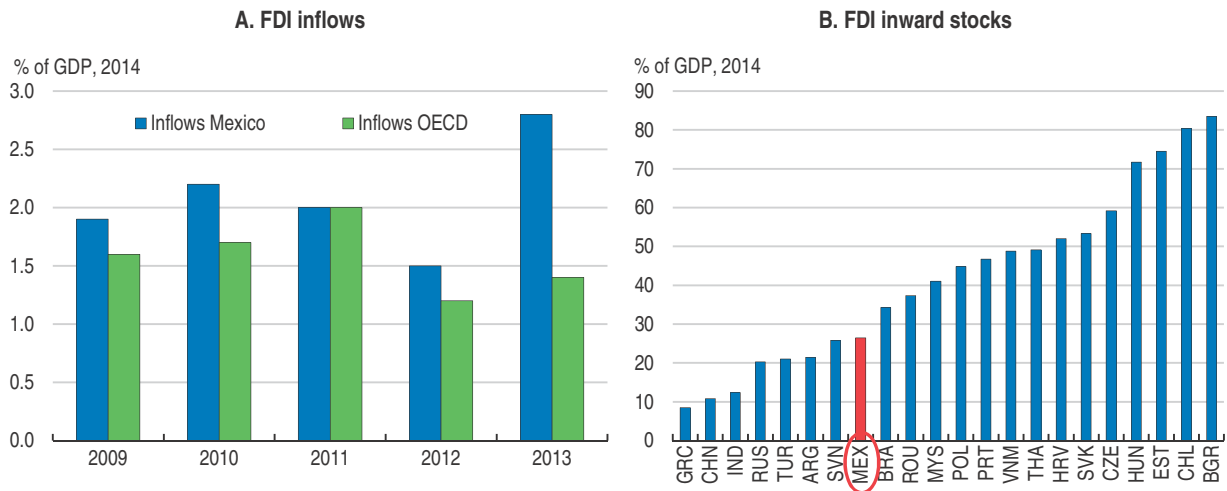
Source: OECD International Direct Investment Statistics.

StatLink 🖳🖵 *http://dx.doi.org/10.1787/888933444822*

sourcing are associated with positive changes in the per capita domestic value added in exports, which suggests that a greater use of foreign inputs is complementary to a growing per capita domestic value added in exports (OECD, 2015; Taglioni and Winkler, 2015). Javorcik (2008) reports that the presence of multinationals can lead to knowledge spillovers to local firms in the same industry or to local firms in the supplying sectors, which can facilitate product upgrading. However, the spillover effects of FDI inflows are not straightforward to capture and estimation results are mixed, with some studies reporting negative spillovers. For Mexico, the stock of FDI is positively correlated to both import content (ICE) and labour productivity levels at the sector level (Figure 2.15). Sectors more exposed to FDI are therefore more integrated into GVCs and show higher labour productivity.

Figure 2.15. **FDI, backward integration to GVCs and labour productivity**

A. FDI stock vs ICE

B. FDI stock vs labour productivity
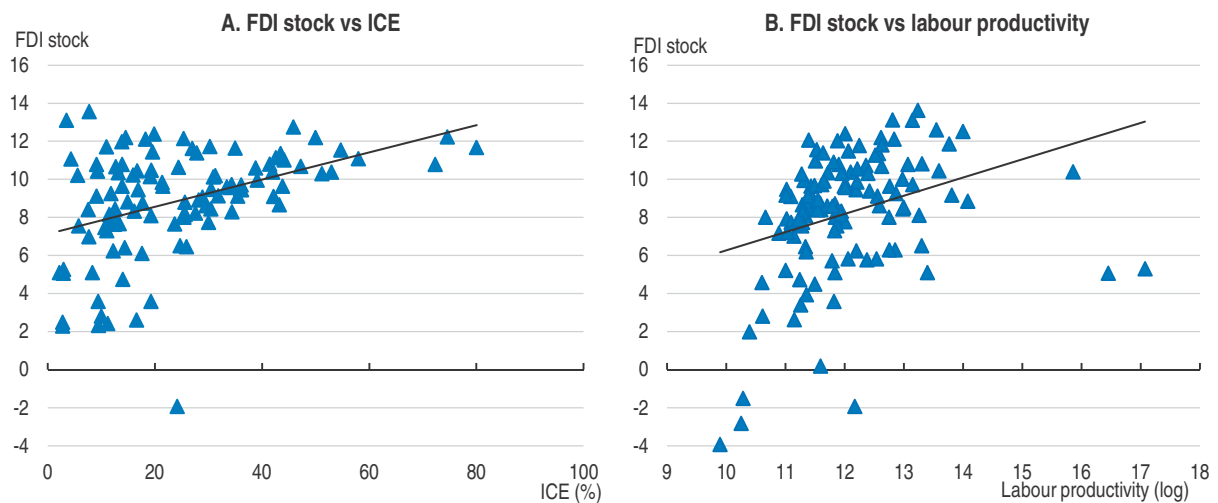
Note: Backward participation to GVCs is proxied by import content in exports (ICE). Labour productivity is defined as the sector's value added per worker, in log. FDI is cumulated FDI over 2008-14 in current pesos, in log.
Source: OECD calculation with INEGI data.

StatLink 🖳🖵 *http://dx.doi.org/10.1787/888933444837*

Mexico is among the most open large economies in the world, thanks in part to its free-trade policies. Much progress has been achieved to reduce trade barriers, make it easier to do business, and improve regulation. Barriers to foreign investment and services trade have been reduced in key sectors (Figure 2.16) – notably media and telecoms – but a substantial gap remains to OECD best practice in sectors such as in air and road transport (Figure 2.16, Panels A and B). In particular, sectors that are key determinants of GVC integration have stringent regulation, such as logistics (Figure 2.16, Panel B). Those barriers could be reduced further in nearly all sectors, through systemic reforms.

Figure 2.16. **Foreign investment and service trade barriers remain high in some sectors**
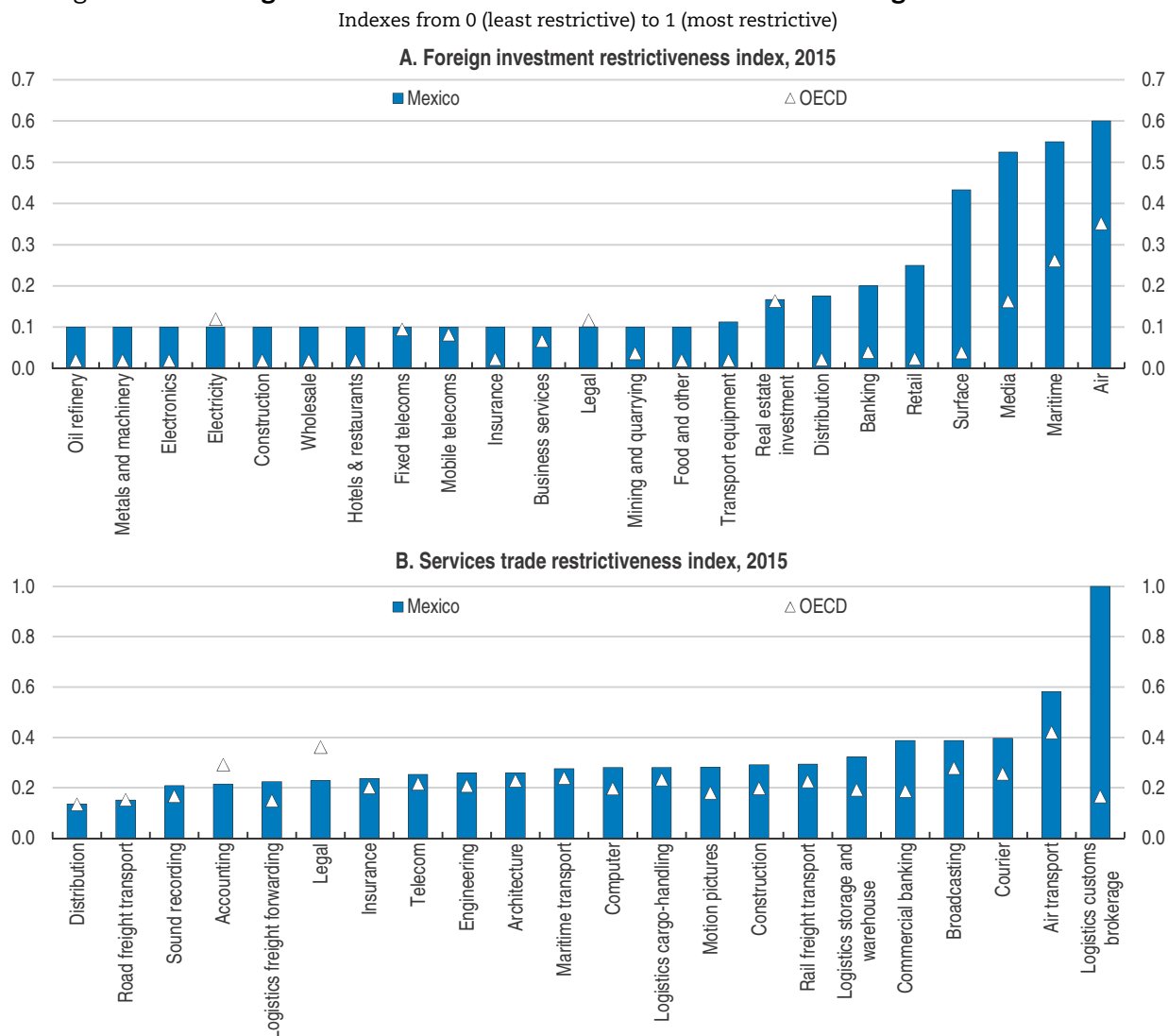
Indexes from 0 (least restrictive) to 1 (most restrictive)

A. Foreign investment restrictiveness index, 2015

B. Services trade restrictiveness index, 2015

Source: OECD FDI and Services Trade Restrictiveness Databases.

StatLink ⟨⟨⟨ *http://dx.doi.org/10.1787/888933444578*

Research and Development (R&D) and innovation

Overall spending in R&D is relatively low in Mexico. Private sector R&D investment is well below that of nearly all OECD and BRICS countries (Figure 2.17, Panel A). Public sector spending is also low, although catching up OECD average (Figure 2.17, Panel B). Low R&D

spending is partly a result of Mexico's industrial structure, as over one-third of manufacturing R&D is carried out in low and medium-technology sectors. However, obstacles to boosting the country's innovative potential include a weak domestic research and skills base, an underdeveloped knowledge-based start-up environment and institutional challenges. Raising R&D intensity further is one of the priorities of the current administration, which intends to double R&D spending from the current 0.54% of GDP to 1%. A tax credit on R&D will start in 2017, which will allow participating firms a 30% tax credit on their R&D expenditures. However, in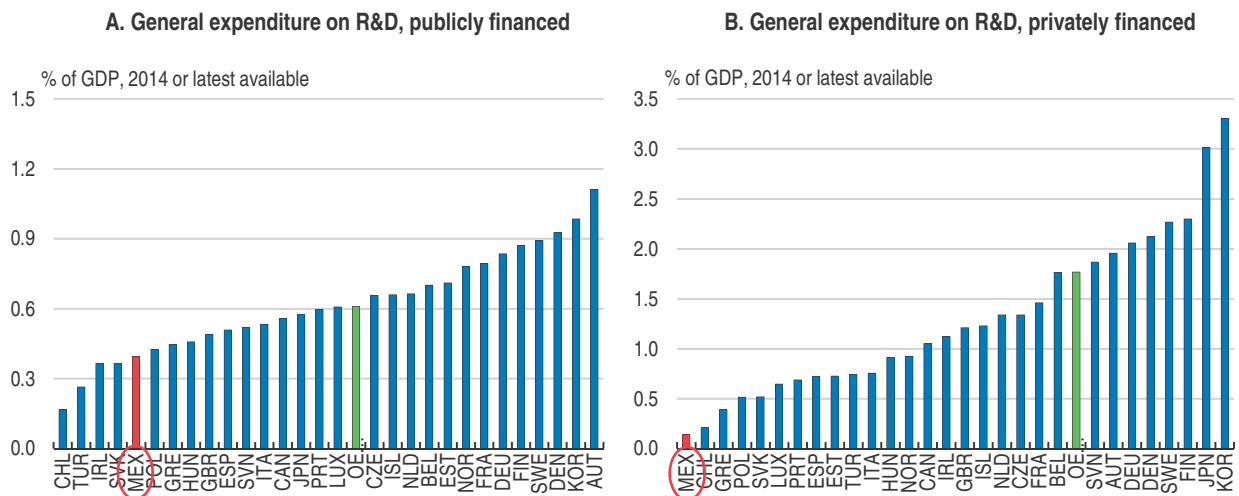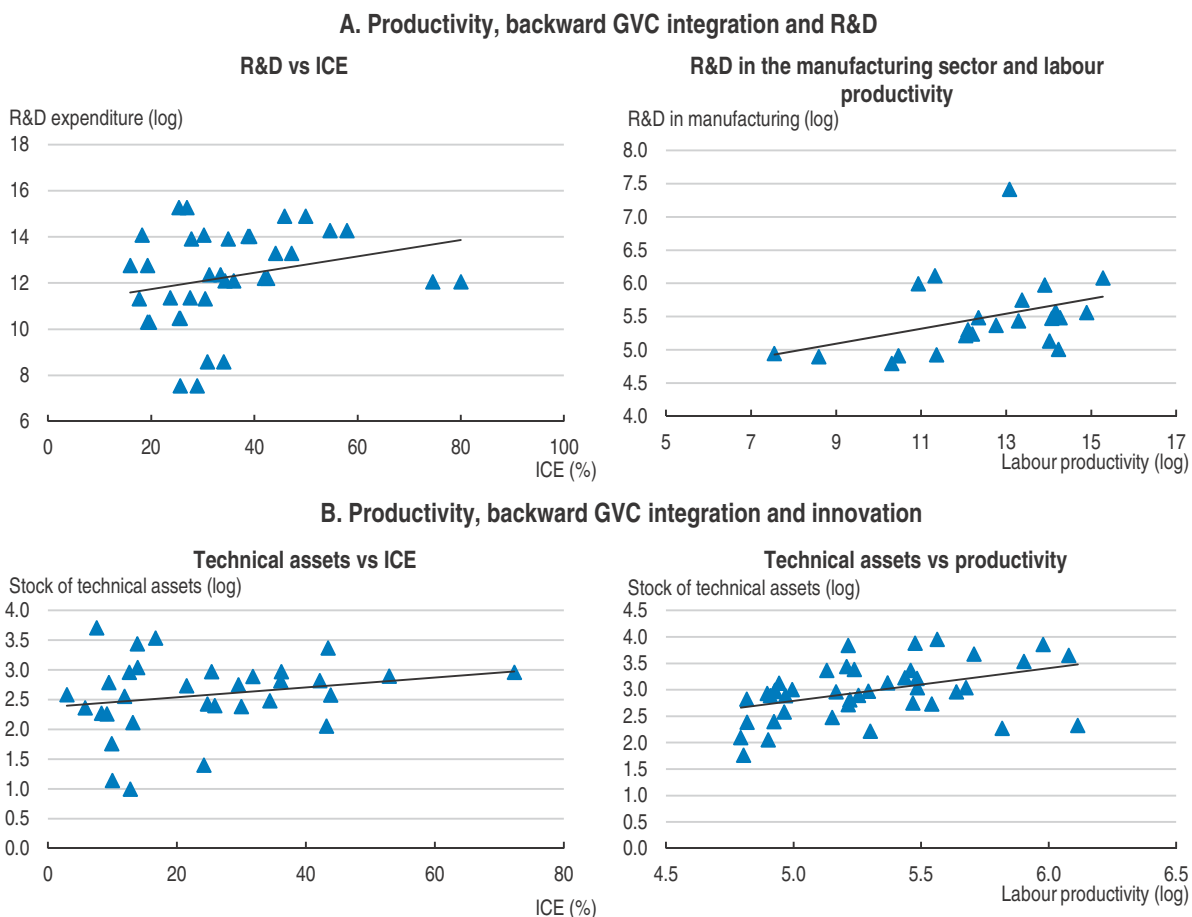 order to support the private sector to integrate and climb up GVCs, the government and states need to foster co-operation between public and private research centres, as the tertiary education system supported the formation of students for specific sectors such as aeronautics clusters in the state of Querétaro.

Figure 2.17. **Research and development (R&D) expenditure**

A. General expenditure on R&D, publicly financed

B. General expenditure on R&D, privately financed

Source: OECD Science, Technology and Industry Scoreboard (2015).

StatLink ᐧᔕᒥ *http://dx.doi.org/10.1787/888933444842*

Productivity growth relies on the diffusion of innovation from firms at the global frontier to other firms, which is facilitated by trade openness and participation in GVCs (OECD, 2015). Knowledge is also transmitted through spending on R&D. Innovation is seen by firms as one important requirement for their successful participation in global value chains (OECD, 2008). Process and organisational innovation increases firm productivity by reducing production costs and allowing firms to achieve the minimum level of efficiency required to cover fixed exporting costs. Product innovation creates learning-by-doing effects and helps firms offer new and upgraded products, while marketing innovation and innovative branding strategies allow firms to differentiate their products from those of their competitors and gain market share in GVCs. Innovative firms are more likely to participate in international markets than non-innovative firms (OECD, 2015). Industries that source intermediates that embody a higher R&D knowledge content tend to have higher productivity (Nishioka and Ripoll, 2012), suggesting embodied R&D can be a form of technology transfer to local firms. In the case of Mexico, the relation between spending in R&D at the industry level is positively correlated to backward integration (ICE) and productivity levels (Figure 2.18, Panel A). Typically, industries based on information and

communications technologies (ICTs) are more productive and tend to be more integrated to GVCs due to their innovation content (OECD, 2015). In Mexico, more innovative industries, i.e. industries with more technical assets, are not found to be more integrated into GVCs but the correlation with labour productivity is positive (Figure 2.18, Panel B).

Figure 2.18. **Sectors spending more in R&D are more integrated in GVCs and enjoy higher labour productivity**
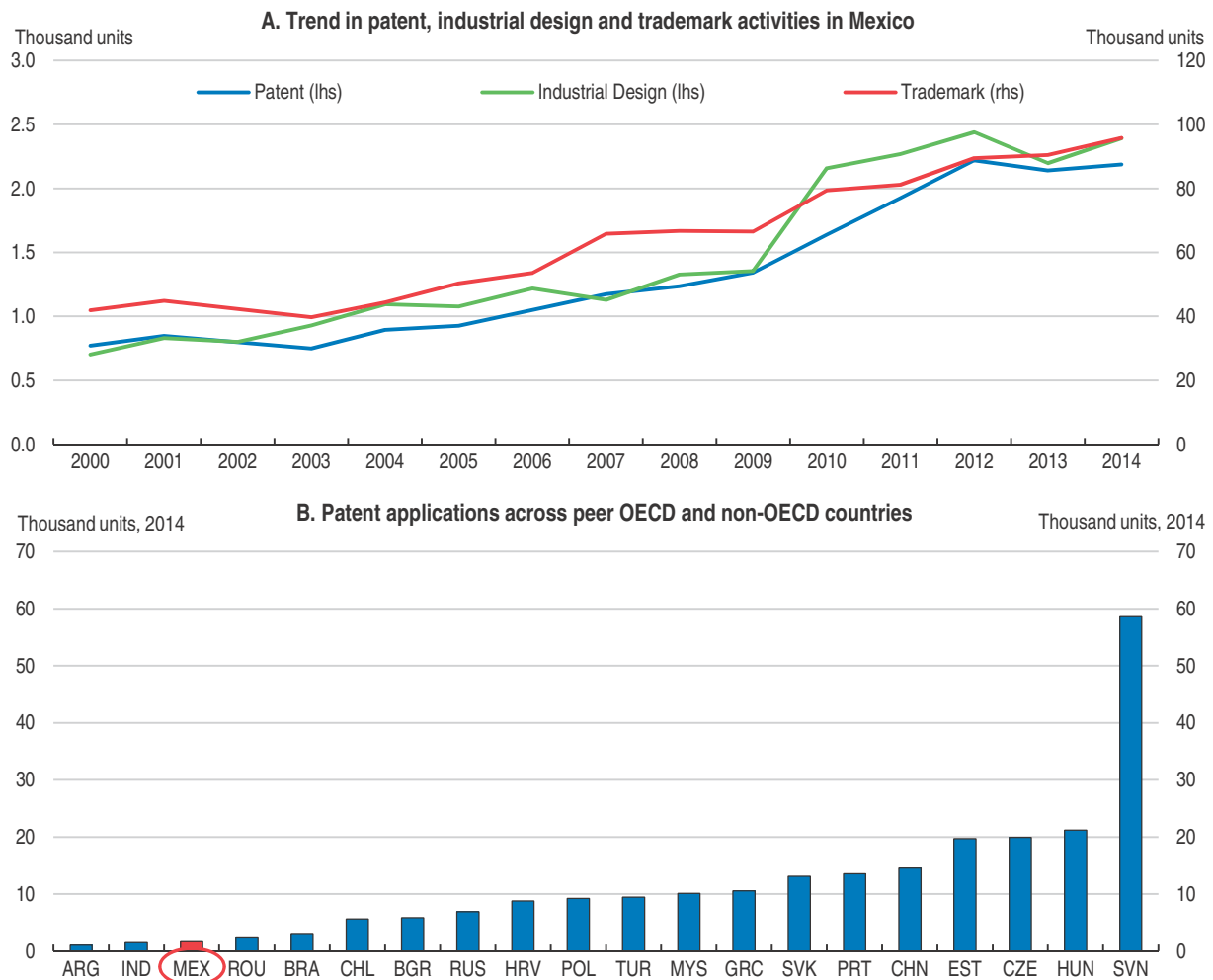
A. Productivity, backward GVC integration and R&D

R&D vs ICE

R&D in the manufacturing sector and labour productivity

B. Productivity, backward GVC integration and innovation

Technical assets vs ICE

Technical assets vs productivity

Note: Labour productivity is defined as the sector's value added per worker, in log.
Source: OECD calculation with INEGI data.

StatLink ⬛🗐💻 *http://dx.doi.org/10.1787/888933444857*

One particularly important dimension related to innovation is the ability of companies to protect their intellectual assets (OECD, 2011). Intellectual property rights (IPR) are instrumental for firms for a number of reasons: (i) to protect their innovations; (ii) to position themselves competitively vis-à-vis larger enterprises in global markets; (iii) to signal current and prospective value competitors and partners, which can help enhance access to finance; (iv) to access knowledge markets and networks; (v) to open up new commercial pathways; and (vi) to segment existing markets. Patenting in Mexico has increased steadily over the last decade, together with industrial design and trademarks (Figure 2.19, Panel A). Yet, in international comparison, patenting activity in Mexico remains low (Figure 2.19, Panel B).

Figure 2.19. **Intellectual property activity**

A. Trend in patent, industrial design and trademark activities in Mexico

B. Patent applications across peer OECD and non-OECD countries

Source: WIPO, 2015; OECD Science and Technology Scorecard, 2015.

StatLink *http://dx.doi.org/10.1787/888933444867*

Knowledge spillovers in forward linkage typically take place through qualification and certification processes for suppliers such as ISOs (Figure 2.20). Indeed, increased production for foreign markets requires convergence of product standards toward international best practices and triggers virtuous feedback loops between productivity, innovation, human capital endowments and living standards. Governments can also play an important role in ensuring a productive environment for qualification and certification. In 2007, Mexico and the United States signed the Bilateral Aviation Safety Agreement (BASA). This agreement recognised the technical capabilities of Mexico's Directorate of Civil Aeronautics to certify the safety of components made in Mexico and replaced the usual re-certification need from the US Federal Administration. Thus, the agreement eliminated a step in the supply-chain since products no longer need to be examined internationally before being shipped off to consumers to undergo further assembly operations.

Figure 2.20. **ISO certified industries are more backward integrated in GVCs**

ISO certifications vs ICE
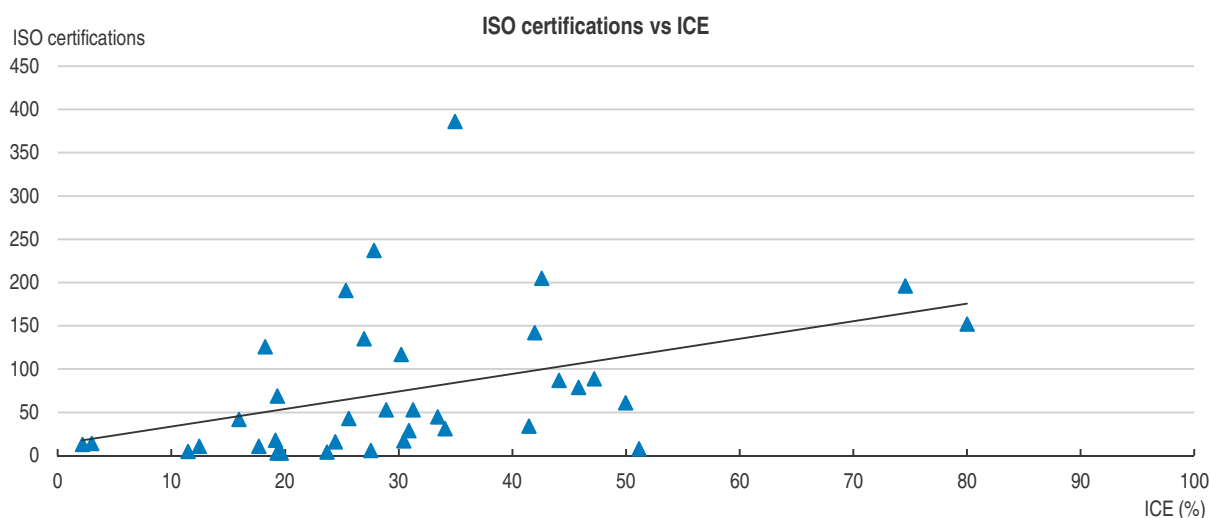
Source: Latest available year. OECD analysis using ISO and INEGI data.

StatLink ⬛🔗 *http://dx.doi.org/10.1787/888933444871*

Skills

One of the most important obstacles for further developing the country's knowledge base capital (KBC) potential are skills gaps and mismatches. A population with higher levels of skills is a major driver of productivity growth, thereby supporting economic prosperity and higher living standards. Across Mexican industries, the skill base, proxied by the share of workers with higher education per sector, is positively related to backward GVC integration and productivity (Figure 2.21). However, despite many efforts, Mexico still faces several challenges. Students' foundation skills remain weak, not many Mexicans reach and complete tertiary education, student expenditure remains low, scientific production is low, and linkages between the business sector and education institutions is among the lowest in the OECD. Currently a Skills Strategy review is being undertaken with the support of the OECD. The Action Plan will be used by the National Productivity Committee as an input to formulate binding public-private recommendations with specific milestones, designated agencies, set deadlines and performance indicators.

Tertiary education is an important link between education policies and the labour market. In Mexico, as in most OECD countries, the employment rate of adults tends to increase with educational attainment. In 2015, only 16% of adults in Mexico had attained tertiary education, the lowest share across OECD countries (Figure 2.22, Panel A). Still, tertiary attainment has increased considerably in recent years (OECD, 2016). With the aim of tackling these challenges, the government enacted the recent education reform which included a constitutional amendment and the design of new regulatory laws for education. These changes included the legal framework for the processes of professional development of teachers, principals and supervisors, and mandate a National Evaluation System which is now in effect. Teacher evaluations have been performed and a new education model has been announced. In addition, new programs have been introduced to improve school infrastructure such as "Escuelas al CIEN". The strategy "Escuela al Centro" was presented in early 2016 to reduce the administrative burden of schools, allowing them greater management autonomy and transferring resources directly to schools to allow them to

Figure 2.21. **Sectors with higher educated workers are more productive and more integrated in GVCs**

A. Share of upper secondary educated workers vs ICE

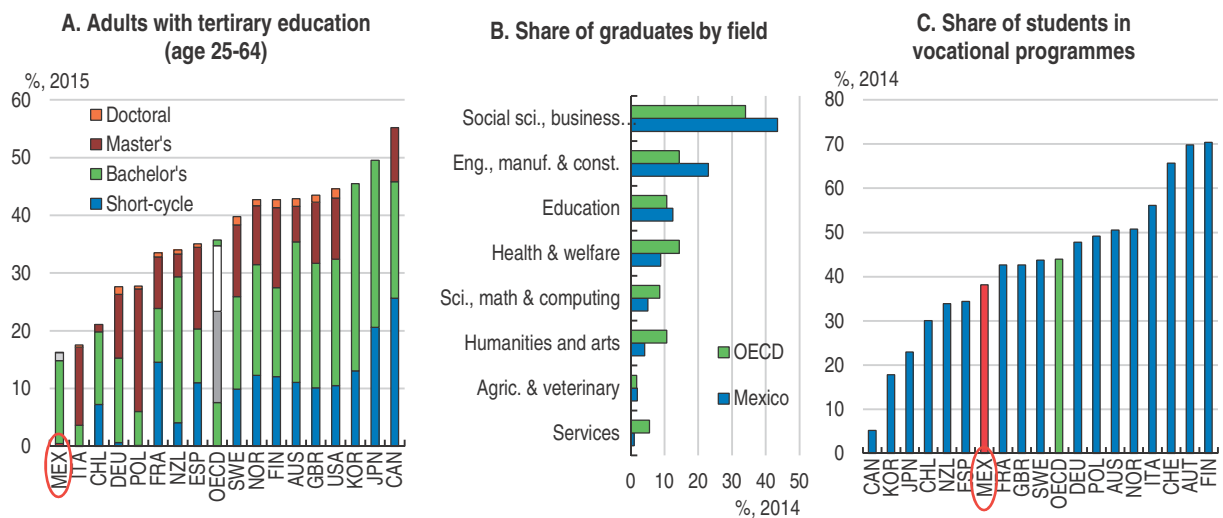**B. Share of upper secondary educated workers vs productivity**
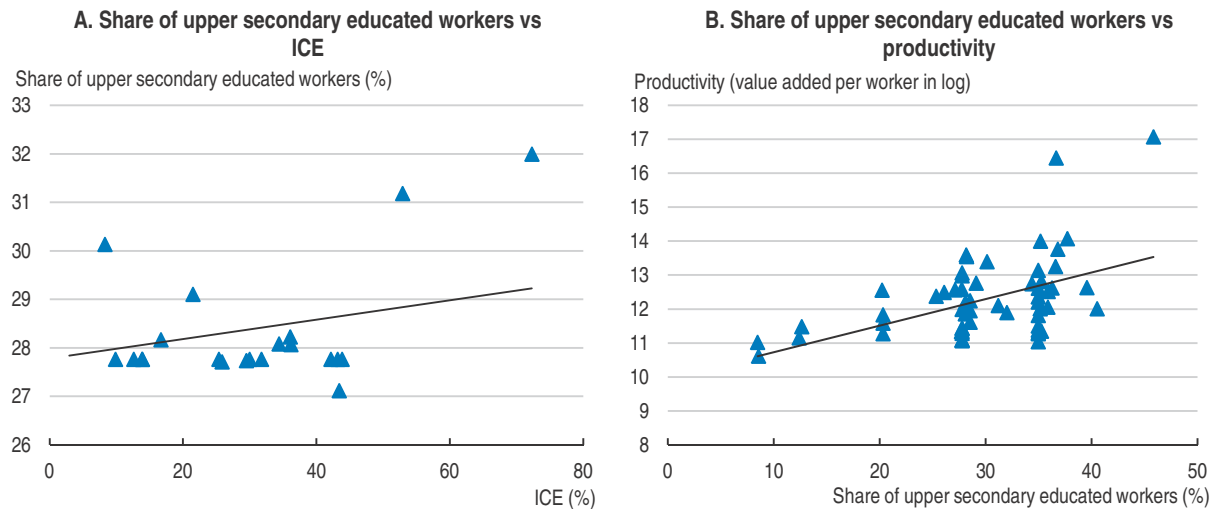
Note: Latest available year. Labour productivity is defined as the sector's value added per worker, in log. Data points refer to the manufacturing sector.
Source: OECD calculations with INEGI data.

StatLink ⬛🔗 *http://dx.doi.org/10.1787/888933444886*

Figure 2.22. **Mexico's share of engineering graduates is high but lags behind in tertiary and vocational**

A. Adults with tertiary education (age 25-64)

B. Share of graduates by field

C. Share of students in vocational programmes

Note: Panel A: 2013 data for Chile and 2014 data for France.
Source: Education at a Glance 2016 (OECD, 2016).

StatLink ⬛🔗 *http://dx.doi.org/10.1787/888933444894*

meet its priorities faster. It is important for the government to continue with the full implementation of the reform, emphasising and rewarding the merit of teachers who do well in their job and by providing courses and training for those requiring support in order to guarantee the quality of education.

Fully unleashing the country's potential requires a comprehensive programme to better equip students with the skills demanded by employers. Mexico has a high number of firms reporting difficulties in finding the skills they require. Based in the Manpower 2015

Talent Shortage Survey, more than half of the Mexican employers (54%) report difficulties filling jobs due to lack of available talent, a proportion that increased from previous years. Interestingly, skilled trades, engineers and production operators/machine operators are within the top five jobs employers report having difficulty filling (Manpower Group, 2015). One way to tackle skill shortages is through vocational education and training, work-based programmes and further promoting the training of students in subjects related to science, technology, and mathematics. As part of Mexico's current policy of promoting technological education, boosted by the recent Education Reform, the government has taken steps to increase the participation of youth in programmes that offer them technical training while completing their upper secondary education (e.g. CONALEP, Bécate, Modelo de Emprendedores). These programmes allow them to continue to higher education and work if needed. However, in 2014, about 38% of all ages of students in Mexico were enrolled in vocational upper secondary education programmes, lower than the OECD average of 44%. This way, only 19% of young adults in Mexico are expected to graduate from vocational programmes over their lifetime while for the OECD countries average is 46% (OECD, 2016). Likewise, the annual expenditure per student in upper secondary vocational programmes in Mexico was USD 3 300 in 2013, much lower than expenditure for general programmes. In contrast, across OECD countries, expenditure is higher for vocational programmes than for general programmes, amounting to USD 10 000, over three times as high as Mexico's expenditure in absolute terms (OECD, 2016). Overall, considering the low graduation rates and low levels of expenditure in vocational education, the Mexican government still needs to enhance investment to upgrade dual education and training programmes to facilitate allocation of students to the most productive fields. The National Productivity Committee (NPC) is in the process of updating the technical training programmes for high productivity sectors, considering the deep transformations that require qualified labour. The NPC also recently issued a set of recommendations aimed at promoting dual education programmes, which will link workers to firms with the specific skills they require.

Competition is essential to ensure access to GVCs

Fully leveraging GVCs requires efficient domestic markets and the removal of internal barriers to competition (OECD, 2016d). Lifting barriers to competition in goods markets can also promote integration within GVCs, and increase innovation and productivity. Lifting product market regulations can spur productivity growth through increased competition, increasing GVC participation. Productivity growth can be achieved through several channels. Firstly, increased competition and entry of new firms strengthens the efficiency incentives of incumbents and provides incumbents incentives to innovate to maintain their market position (Ben Yahmed and Dougherty, 2013). In addition, by providing easier and cheaper access to inputs, reductions in red tape can also lead to gains in downstream industries utilising these intermediates (Abe, 2013).

The lack of competitive pressure in well-protected markets contributed towards many of Mexico's problems, notably high prices, rent-seeking behaviours, weak innovation activity, and high top income concentration (MGI, 2014; OECD, 2015; Sandoval, 2016). However, the policy environment to enforce competition laws has been improved, with visible results in the areas of energy and telecoms. Examples are lower electricity and telecoms prices, successful oil auction tenders, and more intensive competition in

telecoms and broadcasting. There is still much to be done, in particular the fine-tuning of new regulators' legal frameworks.

While competition agencies rely on detailed market analysis to determine presence of competition problems, some proxies of concentration by sector can also be useful heuristics to compare countries and regions. An important question is whether dominant firms can maintain their market shares over time. Standard concentration ratios based on the largest four firms appear to be highly fluid, suggesting that market dominance is not especially persistent, and has changed relatively frequently over recent periods, even tending slightly towards decreasing on the whole.

Another measure of concentration is the Herfindahl-Hirschman index (HHI), which can be computed using economic census microdata from INEGI. The HHI is calculated by squaring the market share of each firm competing in a sector and summing, yielding a statistic ranging from 0 (low concentration) to 1 (high concentration). Sometimes the HHI is multiplied by 10 000 for convenience:

$$HHI_s = 10\,000 \sum_{i=1}^{M_s} \left(\frac{Sales_{si}}{Sales_s} \right)^2$$

Where $Sales_s$ is the size of the market and M is the total number of firms, for each sector s. Following traditional US Department of Justice (DOJ) and Federal Trade Commission criterion, sectors are categorised in three groups: i) Highly Concentrated sectors if their HHI is above 0.25 (or above 2 500), ii) Moderately Concentrated sectors if their HHI is between 0.15 and 0.25 (or between 1 500 and 2 500), and Unconcentrated sectors if their HHI is below 0.15 (or under 1 500). Competition Agencies often use the HHI for evaluating potential mergers issues to be examined with additional tools.

Figure 2.23. **High sectoral concentration is an issue in the south**
Share of four-digit sectors by concentration level
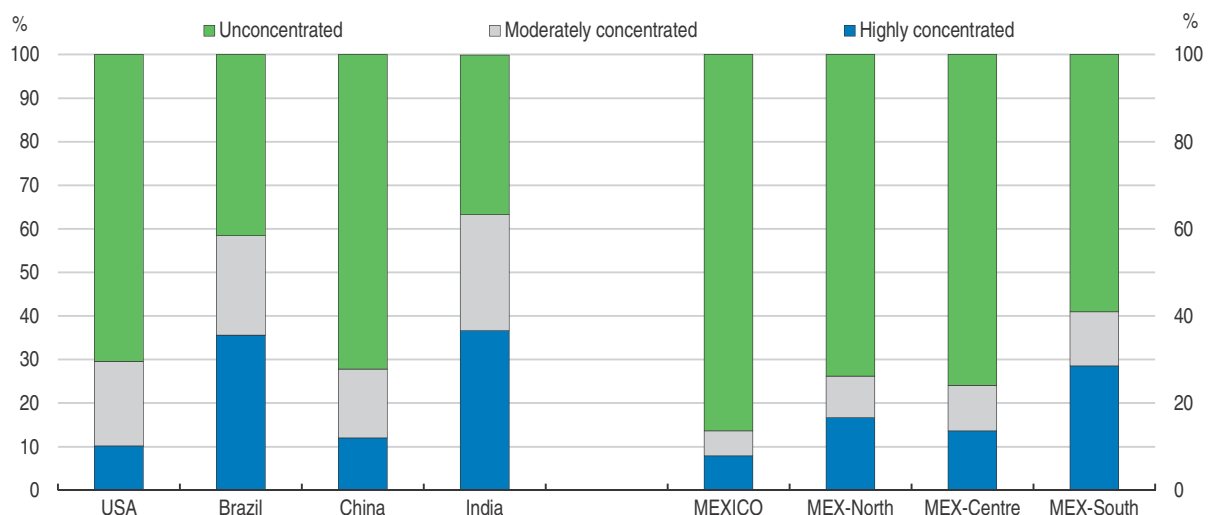
Note: Share of four-digit sectors by US Department of Justice concentration threshold using the Herfindahl-Hirschman Index (HHI). Mexico overall: 279 sectors; North region: 275 sectors; Centre region: 278 sectors; South region: 266 sectors. Note that regional indexes show higher concentration than national ones, due to market size effects on the HHI index.
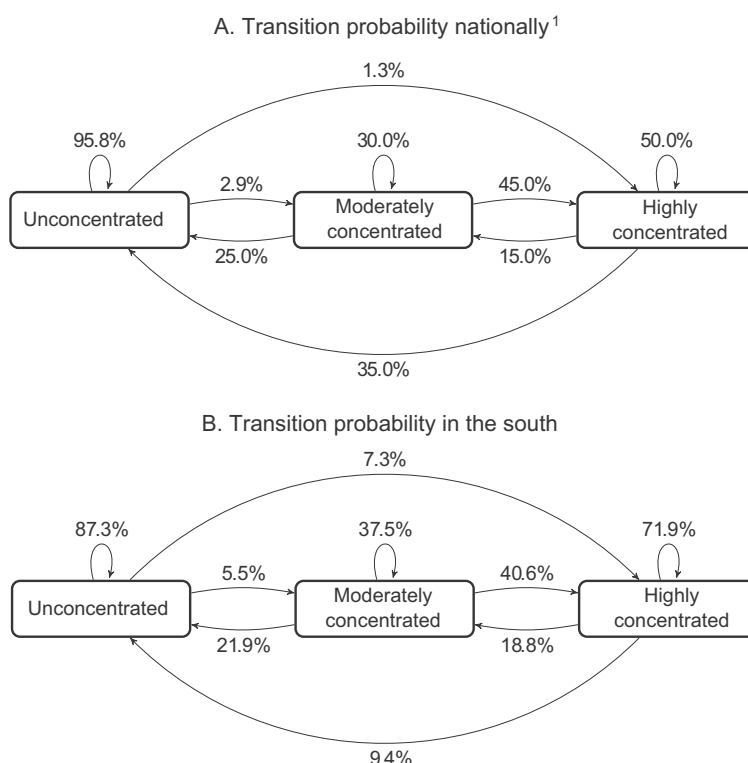*Source:* OECD calculations using economic censuses; OECD (2013b); Dougherty et al. (2009).

StatLink 🔗 *http://dx.doi.org/10.1787/888933444908*

The results suggest that, nationally, Mexico has a relatively small share of Highly and Moderately Concentrated sectors, even fewer than in the United States (Figure 2.23). Since what matters in many markets (such as telecoms) is regional competition, the indexes are also shown for three regions of the country. While not directly comparable due to market size effects, they give an indication of how much concentration may be an issue below the national level. Notably, concentration in the South of the country (especially for Highly Concentrated sectors) is more similar to Brazil or India, where high concentration is commonplace – in part due to sparse distribution of economic activity – while the centre and north of the country are more like the United States or China, where high sectoral concentration is much less common.

In order to ensure that the market share shifts do not disguise underlying persistence, the probability of a single sector transitioning from one HHI/DOJ threshold to another is measured, over the 2008-14 period (Figure 2.24). Nationally, the probability of Highly Concentrated sectors remaining so is 50%; only 35% became unconcentrated. In addition, almost half (45%) of Moderately Concentrated sectors became Highly Concentrated over this period, while 30% remained so.

Figure 2.24. **High sectoral concentration can be persistent**

A. Transition probability nationally [1]

B. Transition probability in the south

1. Probability of a four-digit sector changing US Department of Justice concentration thresholds using the HHI concentration index, over the period 2008 to 2014.
*Source:* OECD calculations using INEGI economic census data.

These results suggest that concerns remain about high concentration among fixed groups of customers, and within regions. For instance, what matters the most in a sector such as telecoms is whether all customers have choices, rather than the overall number of

competitors in the national marketplace. Strengthened vigilance regarding *regional* anti-competitive practices could encourage higher productivity, further reallocation of resources to the most efficient sectors, and also help to protect consumers.

More broadly, a wide range of local regulatory barriers exist that impair entrepreneurial activity, including delays to start a business (Figure 2.25), which reduces effective competition. While substantial progress has been made in reviewing and identifying barriers to competition at the Federal level, much more progress is needed at the local and state levels to achieve a level playing field and ensure that new entrants are not deterred, particularly those high-productivity young firms with the potential to expand rapidly and create jobs.

Figure 2.25. **Entry barriers vary widely across localities**

Cost to start a business
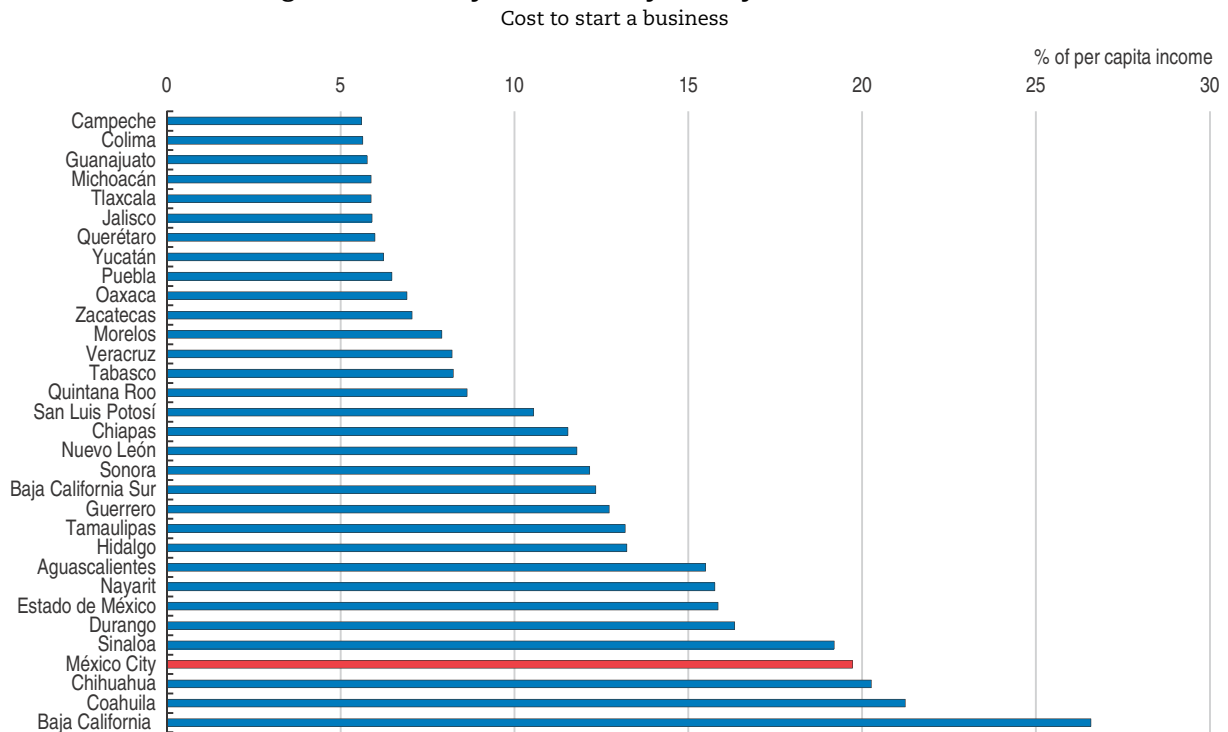
Source: Subnational Doing Business (World Bank, 2016).

StatLink 🔗 *http://dx.doi.org/10.1787/888933444916*

Are GVCs inclusive in Mexico?

Participation of Mexican SMEs to GVCs is very limited (Figure 2.26, Panel A). More than 60% of domestic value added in exports is done by large firms in Mexico, most than any other OECD country. The indicator rises to 88% in the manufacturing sector, the more export oriented part of the economy (Figure 2.26, Panel B). Yet SMEs are the largest employers in Mexico (Figure 2.26, Panel C). While SMEs are vastly under-represented in GVCs when looking at direct exports only, most SMEs are plugged into GVCs as domestic suppliers of exporters. Evidence from the World Bank and the OECD shows that the indirect contribution of SMEs is sizable in most OECD countries, yet the share of both direct and indirect contributions to exports value-added of SMEs in Mexico is among the lowest across OECD countries.

Figure 2.26. **Contribution of SMEs to GVCs in Mexico**

A. Domestic value added in exports by firm size

B. Domestic value added in manufacturing exports by large firms
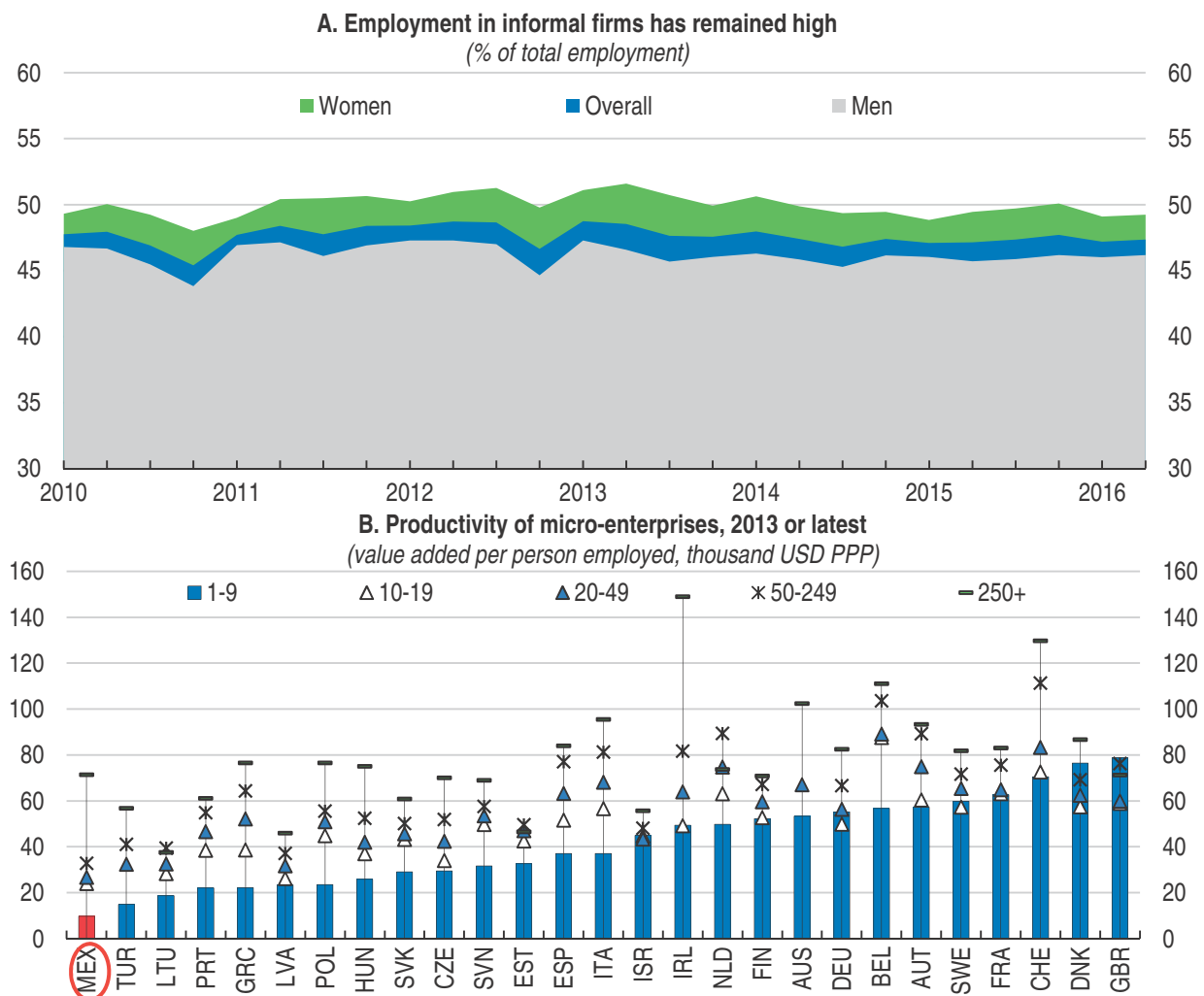

C. Employment in SMEs

Source: OECD (2016b), OECD/Eurostat Trade by Enterprise Characteristics (TEC) database, OECD Structural and Demographic Business Statistics (SDBS) database, OECD-WTO TiVA database.

StatLink ᘛᘛ *http://dx.doi.org/10.1787/888933444924*

GVCs operate in formal markets. Yet, the majority of firms in Mexico are informal (Figure 2.27, Panel A), similar to many other emerging economies. Informality is a problem for productivity, to the extent that resources are misallocated. Almost half of Mexico's informal workers are employed in extremely small, informal firms (Figure 2.27, Panel B), which suffer from especially low productivity. The challenge to make GVCs more inclusive in Mexico should therefore focus on policies to support the formalisation of firms and workers. These small firms' productivity could potentially be boosted substantially if these firms were induced to grow or exit. OECD analysis supports the idea that a wide range of policies can have an impact on informality, including boosting labour skills, tackling corruption, increasing foreign investment, enhancing tax enforcement and reducing entry barriers (Dougherty and Escobar, 2013; OECD, 2013b, 2015).

Figure 2.27. **Informality and productivity by firm size**

A. Employment in informal firms has remained high
(% of total employment)

B. Productivity of micro-enterprises, 2013 or latest
(value added per person employed, thousand USD PPP)

Note: Panel B: MEX: data refer to 2014, IRL: 2011, ISR: 2012. Data for the GBR exclude an estimate of 2.6 million small unregistered businesses. CHE: data refer to employees. MEX data refer to establishments.
Source: INEGI and OECD calculations; OECD and World Bank (2015); OECD SDBS database.

StatLink ⌨ *http://dx.doi.org/10.1787/888933444931*

One of the main causes of the productivity gaps by firm size are gaps in management skills and management practices between small and large firms. A recent OECD study shows that gaps in management skills and practices between small enterprises (less than 50 employees) and large companies (over 250 employees) are substantial across five dimensions: manager's experience; ownership of a business website; performance of in-house worker training; international quality certifications; and audited financial statements (OECD, 2016c). Performance on each of these dimensions is positively linked to labour productivity at the firm level. While Mexico does score relatively high for most of the dimensions of management skills, it does score relatively low for audited financial statements, which is linked to informality, the dimension estimated to have the largest contribution to productivity.

Effective enforcement of laws is crucial for a good business environment, ensuring that contracts are reliably enforced, and in order to engage in trade. Empirical estimates suggest that a low-quality judiciary makes contract enforcement and insolvency procedures problematic, lowering the average size of firms and their capital intensity (Palumbo et al., 2013), thus reducing aggregate productivity substantially (Dougherty, 2014). Revised estimates with the latest data confirm these relationships, and lend particular support for the importance of strengthening budgetary resources for the judiciary (Gann, 2016). Moreover, the quality of the legal system is more than twice as important for small firms' growth as for larger firms', since the later often have the option to vertically integrate.

Major legal reforms of the civil and commercial justice are still to be fully acted upon, although a start has been made for larger cases. The OECD has estimated that such reforms could add ½ of a percentage point to GDP growth in the medium term (OECD, 2015). Large efficiency gains from transitioning from written to oral trials could also help to improve the outcomes of economic disputes such as those related to contract enforcement. The new procedures are now only applied to the largest cases, and not in all jurisdictions. The concerted efforts that have been made to adopt the new procedural reforms for criminal cases need to also be fully extended to apply for all civil and commercial cases.

Estimates of misallocation help to see the potential upside of reform

The ability of an economy to reallocate resources to the most efficient firms that translates the efficiency gains obtained at the frontier into higher aggregate productivity levels and growth rates (Andrews et al., 2015). Recent research suggests that the contribution of the efficiency of reallocation to aggregate productivity levels could be sizeable, and is linked to informality in the case of Mexico (Box 2.3). In a healthy economy the firms that are initially most productive or successfully innovating should be able to

---

Box 2.3. **How does Mexico's productivity dispersion compare with China's?**

Spectacular growth during the 1990s and early 2000s in China made it the envy of the World. Yet more recently, relative labour costs have risen substantially in China, and economies such as Mexico's, which lost export market share for some time, have made a partial comeback. However, Mexico's increasing competitiveness masks one of the country's fundamental concerns, which is weak productivity. Dougherty and Escobar (2016a) examined the evolution of multifactor productivity in Mexico's manufacturing sector, as compared to China's. Firm-level micro-data were used to examine the distribution of productivity across Mexico's states, and also to track the misallocation of resources. Multi-factor productivity differs considerably across firms and regions. While Mexico's most productive firms are performing relatively well, and can compete

Box 2.3. **How does Mexico's productivity dispersion compare with China's?** *(cont.)*

across firms and regions. While Mexico's most productive firms are performing relatively well, and can compete with China's, the vast majority of firms are struggling to perform better with limited success, leading to a growing dispersion in productivity (Figure 2.28). An analogous situation is observed in other OECD countries there is a rising gap in productivity between the most advanced firms and the laggards, and the gains in productivity of the most advanced firms are not enough to improve aggregate productivity.

Mexico's federal structure can be used to identify drivers of productivity, using econometric techniques to address potential reverse causality issues using instruments. Findings suggest that among various factors, a stronger rule of law increases productivity in Mexico. This is robust to previous OECD evidence, which suggests that firms in Mexico's states with more effective legal systems tend to be substantially larger and more productive (Dougherty, 2014).

The results also show that among the institutional quality-related variables, informality has the strongest effect on productivity for Mexico. Moreover, informality is seen as a source of distortions that contribute to the misallocation of resources. The results imply a strongly negative relationship between informality and productivity. Among different sized firms, informality in microenterprises (up to 10 workers) has the strongest negative effects on productivity. This evidence also suggests – in a new finding – that more productive states and industries suffer more from informality than less productive ones. This is likely due to resources being perversely tied up in informal activities, akin to the "Zombie firms" problem. Tackling informality is a complex challenge, and one that requires a multi-faceted approach (OECD, 2013b, 2015).

Research findings also suggest that the presence of foreign investment improves productivity – with the exception of *Maquiladora* industries, which are missing out on productivity gains. This is likely due to *Maquila's* undue emphasis on low-end, low-skill assembly operations, which have often not fared very well in competition with China. Moreover, weak education quality simultaneously acts as a major restraint on productivity and aggravates informality.

Figure 2.28. **Aggregate TFP growth and firm-level dispersion**

Mexico's states are shown in red and China's provinces in blue
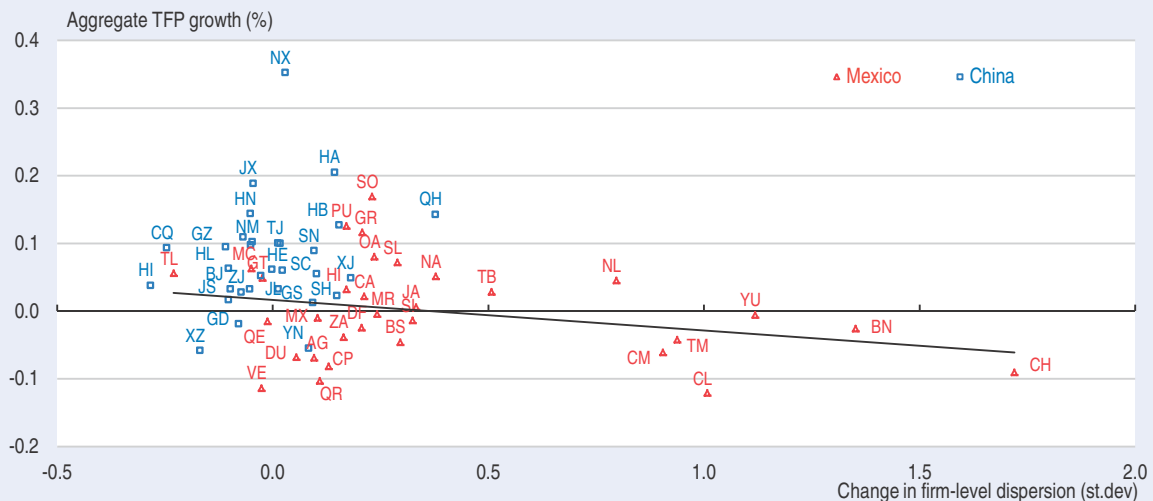
Note: Dispersion is measured as the standard deviation of firm-level productivity.
Source: OECD calculations based on INEGI data.

StatLink ⟨⟨⟩⟩ *http://dx.doi.org/10.1787/888933444947*

attract a larger and increasing share of employment and capital to finance their investment relative to their less productive and stagnating peers. Recent and ongoing research shows that this ability varies widely across countries and can also change over time.

Earlier OECD simulations based on time-series relationships at the industry-state level suggest that economy-wide total factor productivity growth could be boosted by up to ½ percentage point, if informality were reduced by 10 percentage points (OECD, 2015; Dougherty and Escobar, 2016a). However, such estimates are rough, based on only one type of distortion (informality), and do not explain the mechanisms behind these economic distortions. In order to better understand what could drive such large shifts in productivity, a more micro-grounded general equilibrium analysis is needed. Thus, the extent of capital and labour misallocation across firms in Mexico, and the effect on total factor productivity is estimated in this section, using "cutting-edge" techniques with the latest microdata (Box 2.4), following the approach of Hsieh and Klenow (2009).

Results of the analysis imply that misallocation is extreme in Mexico, close to that of India. Moreover, productivity was stagnant from 2008 to 2014, mainly because of factor

---

Box 2.4. **Modelling misallocation**

The Hsieh and Klenow (2009) model of monopolistic competition with heterogeneous firms is employed, and adapted to Mexico's case. Let the value added Y production function for each plant i of industry s be a Cobb-Douglas function of firm TFP A, capital K, and labour L:

$$Y_{si} = A_{si} K_{si}^{\alpha_s} L_{si}^{1-\alpha_s}$$

where capital and labour shares are allowed to vary across industries, but not plants within an industry.

Following Foster et al. (2008), a distinction is made between physical productivity (TFPQ) and revenue productivity (TFPR). TFPQ can be obtained when using a plant-specific deflator, whereas TFPR can be computed using an industry deflator. Although plant-specific deflators are not available (per usual), we can focus on TFPR, which can be defined as follows:

$$TFPR_{si} = P_{si} A_{si} = \frac{P_{si} Y_{si}}{K_{si}^{\alpha_s} L_{si}^{1-\alpha_s}}$$

where P_{si} is a firms' output price.

Plants face output and capital distortions that influence both their output and factor allocation. Output distortions (T_Y) are those that increase the marginal products of both capital and labour. For instance, T_Y would be high for plants facing government restrictions, but low for those benefiting from government subsidies. Capital distortions (T_K) are those that increase the marginal product of capital relative to labour. For instance, T_K would be high for plants facing problems to access to credit, but low for those plants that have access to cheap credit. Since these distortions influence resource allocation within each firm, there would be differences in the marginal revenue products of labour and capital across firms. Assuming that all firms face the same wage (w), Hsieh & Klenow (2009) show that, before taxes, plant i's marginal revenue product of labour ($M\,RP\,L$) and marginal revenue product of capital ($M\,RP\,K$) can be expressed as a function of these distortions. Hsieh and Klenow (2009) also show that we can define TFPR as a function of marginal revenue products of capital and labour, and thus as a function of distortions:

$$TFPR_{si} = \frac{\sigma}{\sigma - 1} \left(\frac{MRPK_{si}}{\alpha_s} \right)^{\alpha_{ss}} \left(\frac{MRPL_{si}}{1 - \alpha_s} \right)^{1-\alpha}$$

where σ is the elasticity of substitution.

Box 2.4. **Modelling misallocation** *(cont.)*

Similarly, we can define the average TFPR of the industry s as a geometric average of the average marginal revenue product of capital σ and labour in the sector. In the absence of distortions TFPR does not vary across plants within an industry, and then

$$\sum_{i=1}^{M_s} TFPR_{si} / \overline{TFPR}_s = 1$$

In this case, more capital and labour should be allocated to plants with higher TFPQ until their increase in output results in a reduction of price and the exact same TFPR as at smaller plants. On the other hand, output and capital distortions generate differences in the marginal revenue products, favouring an allocation of resources in firms that benefit from subsidies and cheap access to credit. Thus, the term

$$\sum_{i=1}^{M_s} TFPR_{si} / \overline{TFPR}_s$$

increases as output and capital distortions increase.

Treating the microdata

To analyse TFPR and the extent of resource misallocation in Mexico, one can focus on the distribution of a variable defined as term $\log\left(TFPR_{si} / \overline{TFPR}_s\right)$. If the standard deviation of this variable decreases, we can then deduce that the allocation of resources has become more efficient. On the contrary, an increase of the standard deviation of this variable is a sign of an increase of resource misallocation.

In order to measure output and capital distortions, the approach of Hsieh & Klenow (2009) is used, and the rental price of capital without distortions is set to R = 1, and the elasticity of substitution to σ = 3. First, output distortions are inferred when the labour's share is low relative to what one would expect from the industry elasticity of output with respect to labour:

$$1 - \tau_{Y_{si}} = \frac{\sigma}{\sigma - 1} \frac{wL_{si}}{(1 - \alpha) P_{si} Y_{si}}$$

Second, a capital distortion is assumed when the ratio of labour compensation to the capital stock is high relative to what one would expect from the output elasticities with respect of capital and labour:

$$1 - \tau_{Y_{si}} = \frac{\sigma_s}{1 - \sigma_s} \frac{wL_{si}}{RK_{si}}$$

To compute marginal revenue products and estimate the elasticity of output with respect to capital (α_s), data are needed on wage payments, output, units of labour, and capital stock. Plant-level data on wage payments, output, units of labour, and capital stock are from INEGI's 2009 and 2014 economic censuses. Economic censuses are conducted every five years, and cover all economic units in the country. From this survey, we use information on plants' value-added (Y_{si} in the model), wage payments (w_{si}), hours worked (L_{si}), capital stock (K_{si}), and industry (s) at the NAICS four-digit level.

In order to understand the overall effects of misallocation, the productivity distribution is compared with one without distortions. According to the model, $TFPR_{si} \approx \overline{TFPR}_s$ in the absence of output and capital distortions. The effects of an efficient factor allocation of plants' value added are then estimated as $\widehat{P_{si}Y_{si}} = \overline{TFPR}_s K_{si}^{\alpha_s} L_{si}^{1-\alpha_s}$.

misallocation. The distribution of factor allocation has not improved, and there is a slight increase in the dispersion of total factor productivity within the manufacturing sector. This dispersion is mainly due to the increasing gap between the most and the least productive firms, where the ratio of TFP for firms in the 90th percentile to the bottom 10th percentile has increased from 15.4 to 18.4. Contrastingly, the economy-wide 90/10 dispersion has declined slightly, from 23.7 to 21.5, driven by services.

In order to understand the full scope for structural reforms to have an impact, a comparison of Mexico's economy is made to one without allocative distortions, in Table 2.2. This suggests that the overall gain could be an increase of 200% of firm-level value added, which is truly enormous, although in a similar range to other recent studies (Busso et al., 2012). Moreover, the smaller firms (the bottom quartile in terms of value added) would experience even larger average gains, of almost 400%. In the manufacturing sector, the average increase would be almost as large (390% gain), with 45% of firms experiencing gains of more than 200%. Also in manufacturing, smaller firms could benefit the most from efficient factor allocation, with estimated gains of 748% (an eight-fold gain).

Table 2.2. **Gains from a more efficient allocation of production factors**

	Average gain (% of value added)	Share of firms with gains of			
		Under 50%	Between 50% and 100%	Between 100% and 200%	More than 200%
All the economy					
Top size quartile	96.4	63.0	9.4	10.8	16.7
2nd quartile	130.4	58.6	10.0	11.8	19.7
3rd quartile	197.9	50.3	10.6	13.1	25.9
Bottom quartile	393.4	32.4	9.8	14.5	43.4
All	205.1	51.0	10.0	12.6	26.5
Manufacturing					
Top size quartile	206.3	43.4	10.6	14.5	31.5
2nd quartile	244.7	37.6	11.2	15.6	35.5
3rd quartile	359.0	25.6	10.0	16.7	47.7
Bottom quartile	748.4	16.6	6.0	11.4	66.1
All	390.6	30.8	9.4	14.5	45.2

Source: OECD analysis of INEGI economic census microdata.

Put differently, within manufacturing, more efficient allocation of productive factors across the bottom three-quarters of manufacturing firms could amount to some 2.4 percentage points of GDP (taking account of their relative weight); a similar more efficient allocation of factors across all types of firms could boost GDP by 5.9 percentage points (see Dougherty and Escobar, 2016b).

The actual distribution of plants can be compared with the "distortion-free" distribution for the most recent year, using the Hsieh-Klenow approach (Figure 2.29). In the overall economy, the exercise suggests that there should be more large plants, in terms of value-added. However, in the manufacturing sector, Mexico could experience a significant reduction of smaller firms and an important increase in middle-sized ones. Such a reallocation of resources from low to high-productivity industries would boost Mexico's economic prospects substantially.

Figure 2.29. **More efficient factor allocation could shift out the productivity distribution**

Estimated density using plant-level data
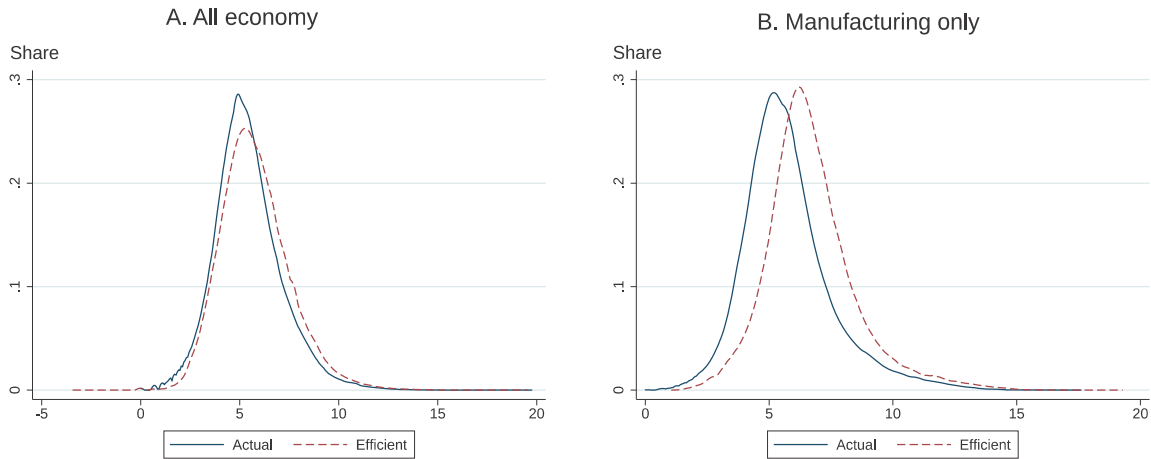
Note: Figures illustrate the kernel density distribution functions of *log*(value added) using 2014 economic census data, where the efficient distribution is estimated using the Hsieh & Klenow (2009) approach.
Source: OECD calculations using INEGI economic census microdata.

The dark side of GVCs

This chapter ends with a caveat. Globalisation has made it easier for local risks to become global. Global value chains (GVCs) have recently acted as important channels of

Figure 2.30. **Vulnerability to demand shocks in GVCs, by economy**
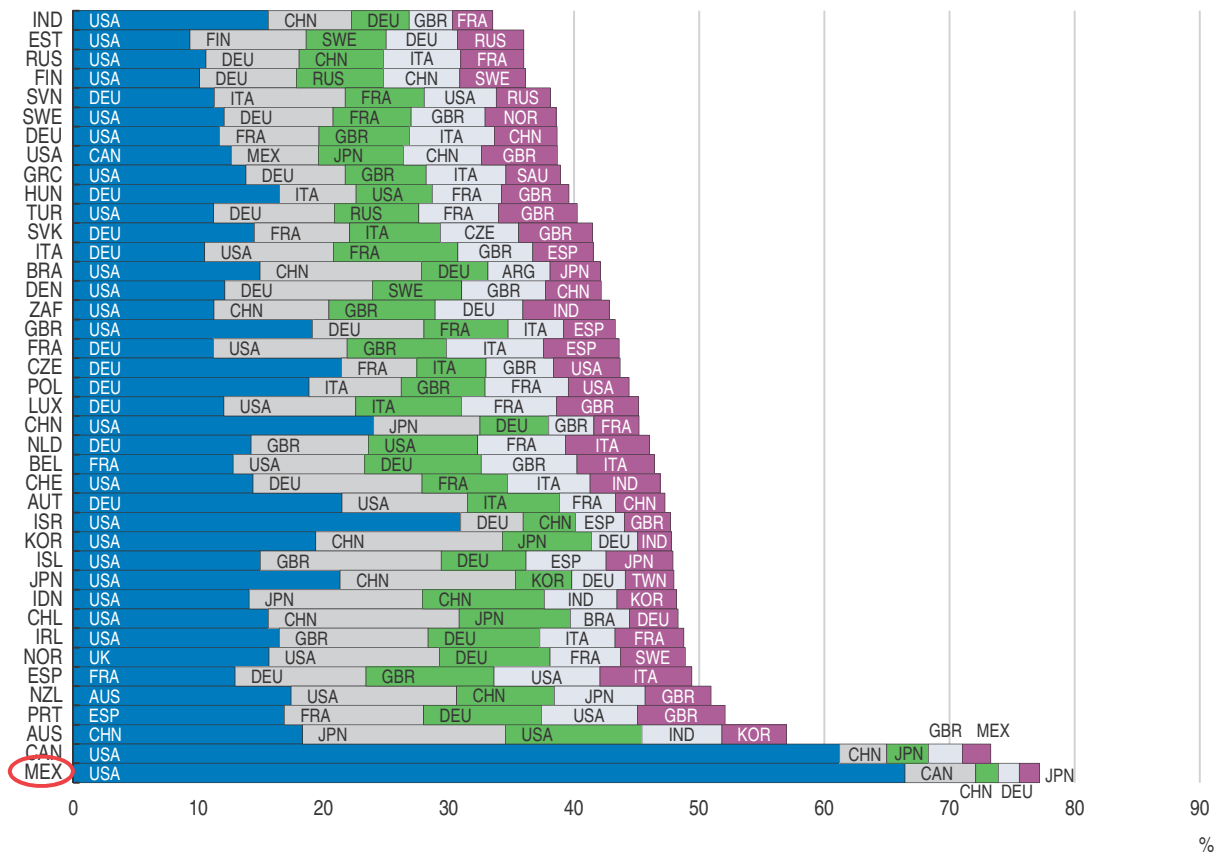
Source: OECD-WTO (2009): Statistics on Trade in Value Added database.   *StatLink* ⌔📊 *http://dx.doi.org/10.1787/888933444956*

contagion, because of their global network character. Local demand and supply shocks that start in one part of the global economy can spread rapidly to the entire world. While firms are the first in line to manage the risks of GVCs, governments also have an important role, since disruptions in GVCs can have major political, economic and security implications for national economies. Because of its high integration with the United States value chain, Mexico is highly exposed to demand shocks (Figure 2.30). During the Great Recession, sectors and states more integrated to GVCs were hit the most. But they ultimately rebounded stronger. In this respect, the government is supporting, e.g. through the investment promotion agency PROMEXICO, further diversification of export markets.

Policy recommendations to boost productivity

Key recommendations

● Strengthen awareness of in-work subsidies for formal workers. Focus enforcement on large formal firms employing informal workers.

● Focus financing on early stages of co-operation of public research institutes and innovative private businesses. Continue to improve the business environment, including for foreign innovative firms.

● Build capacity of the sub-national level entities involved in the new anti-corruption system.

● Extend oral trials to all civil and commercial cases. Boost training, resources and technology for the judiciary.

● Make transfers to Mexican states conditional on implementing the national standard-setting for primary and secondary teacher performance.

Other recommendations

● Reduce barriers to foreign investment and services trade in important sectors for GVC integration such as logistics. Limit non-tariff measures (NTMs).

Notes

1. The latest TiVA data for the years 2008 onwards are based on Mexico 2008 Input/Output table. The national statistical agency (INEGI) recently released the 2012 Input/Output table which we are using. While it allows us to capture the most recent backward linkages, we are not able to get an update measure of forward linkages because it would require Mexico's trade partners' updated Input/Output tables too.

2. The KEI is calculated based on the average of the normalised scores (on a scale of 0 to 10 relative to other countries in the comparison group; with 10 is the top score for the top performers and 0 the worst for the laggards) of the country or region on all four pillars related to the knowledge economy - economic incentive and institutional regime, education, innovation and ICT. For the purposes of calculating KEI, each pillar is represented by three key variables: The Economic Incentive and Institutional Regime (tariff & nontariff barriers, regulatory quality, rule of law); Education and Human Resources (adult literacy rate, secondary enrolment, tertiary enrolment); the Innovation System (royalty and license fees payments and receipts, patent applications granted by the US Patent and Trademark Office, scientific and technical journal articles); and Information and Communication Technology (telephones per 1 000 people, computers per 1 000 people, Internet users per 10 000 people). Source: World Bank (2013).

References

Abe, M. (2013), "Global supply chains: why they emerged, why they matter, and where they are going", in D.K. Elms and P. Low (eds.), *Global value chains in a changing world*, WTO Publications.

Adalet McGowan, M. and D. Andrews (2016a), "Insolvency Regimes and Productivity Growth: A Framework for Analysis", *OECD Economics Department Working Papers*, No. 1309.

AMIA (2014), "Inventario de capacidades nacionales para el desarrollo tecnológico automotriz".

Andrews, D. and C. Criscuolo (2013), "Knowledge based capital, innovation and resource allocation", *OECD Economics Department Working Papers*, No. 1046.

Ben Yahmed, S. and S. Dougherty (2013), "Import Competition, Domestic Regulation and Firm-Level Productivity Growth in the OECD", *Paris School of Economics G-MonD Working Papers*, No. 38.

Boston Consulting Group (2008), "Mexico's Evolving Sweet Spot in the Globalization Landscape", BCG.

Boston Consulting Group (2014), "The Shifting Economics of Global Manufacturing: How Cost Competitiveness Is Changing Worldwide", The Boston Consulting Group, Inc.

Busso, M., Fazio, M. V., & Algazi, S. L. (2012). "(In) Formal and (Un) Productive: The Productivity Costs of Excessive Informality in Mexico", *IADB Working Papers*, No. IDB-WP-341.

Chavez Martin del Campo, J.C. and K. Garcia Loredo (2015), "Identificación de Clusters Regionales en la Industria Manufacturera Mexicana", *Banco de Mexico Working Papers*, No. 2015-19.

De Backer, K. and S. Miroudot (2013), "Mapping Global Value Chains", *OECD Trade Policy Papers*, No. 159.

Dougherty, S. and O. Escobar (2013), "The determinants of informality in Mexico's states", *OECD Economics Department Working Papers*, No. 1043, revised.

Dougherty, S. (2014), "Legal reform, contract enforcement and firm size in Mexico", *Review of International Economics*, Vol. 22, No. 4.

Dougherty, S. and O. Escobar (2016a), "Could Mexico become the new 'China'? Policy drivers of firm-level competitiveness", *OECD Productivity Working Papers*, No. 4.

Dougherty, S. and O. Escobar (2016b), "Misallocation and competition in Mexico", OECD Economics Department and Paris School of Economics, Manuscript.

Foster, L., Haltiwanger, J., and Syverson, C. (2008), "Reallocation, firm turnover, and effiency: Selection on productivity or profitability?", *American Economic Review*, Vol. 98, No. 1.

Gann, A. (2016), "The Impact of Judicial Quality on Firm Size in Mexico", Paris School of Economics, Public Policy and Development Master's Thesis.

Griffith, R., S. Redding and J. Van Reenen (2004), "Mapping the two faces of R&D: Productivity growth in a panel of OECD industries", *Review of Economics and Statistics*, Vol. 84, No. 4.

Hidalgo, C. and R. Hausmann (2009), "The building blocks of economic complexity", PNAS, Vol. 106 No. 26.

Hsieh, C-T and P. Klenow (2009), "Misallocation and Manufacturing TFP in China and India", *Quarterly Journal of Economics*, Vol. 129, No. 3.

Inklaar, R., A. Lashitew and M. Timmer (2016), "The role of misallocation and in cross-country differences in manufacturing", *Macroeconomic Dynamics*, January.

Javorcik, B., and M. Spatareanu (2008), "To share or not to share: Does local participation matter for spillovers from foreign direct investment?", *Journal of Development Economics*, Elsevier, Vol. 85, No. 1-2.

Manpower Group (2015), *2015 Talent Shortage Survey,* ManpowerGroup.

Nishioka, S. and M. Ripoll (2012), "Productivity, trade and the R&D content of intermediate inputs", *European Economic Review*, Vol. 56, No. 8.

OECD (2013), Supporting Investment in Knowledge Capital, Growth and Innovation, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264193307-en*

OECD (2013a, 2015), *OECD Economic Surveys: Mexico*, OECD Publishing, Paris, *www.oecd.org/eco/surveys/economic-survey-mexico.htm*

OECD (2013b), OECD Economic Surveys: Brazil 2013, OECD Publishing, Paris, *http://dx.doi.org/10.1787/eco_surveys-bra-2013-en*

OECD (2015a), "Developing countries participation in global value chains and its implications for trade and trade related policies", OECD Trade Policy Papers, No. 179, OECD Publishing.

OECD (2015b), "Trade in value added: Mexico", OECD-WTO TiVA country notes, OECD Publishing.

OECD (2015c), *The Future of Productivity*, OECD Publishing, Paris, *http://oe.cd/GFP*.

OECD (2016a), "Participation in Global Value Chains in Latin America: Implications for Trade and Trade-Related Policy", *OECD Trade Policy Papers*, No. 192.

OECD (2016b), *Entrepreneurship at a Glance 2016*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/entrepreneur_aag-2016-en*

OECD (2016c), *Increasing productivity in small traditional enterprises: Programmes for upgrading management skills and practices*, OECD Publishing, Paris.

OECD (2016d), "The Relationship Between GVCs and Productivity", background paper by Criscuolo, C., J. Timmis and N. Johnstone for the Global Forum on Productivity, *http://oe.cd/GFPLisbon*

OECD (2017), *Integrity Review of Mexico: Taking a Stronger Stance Against Corruption*, OECD Publishing, Paris.

OECD and World Bank Group (2015), "Inclusive Global Value Chains Policy options in trade and complementary areas for GVC Integration by small and medium enterprises and low-income developing countries". Report prepared for submission to G20 Trade Ministers Meeting Istanbul, Turkey, 6 October 2015.

Palumbo, G. et al. (2013), "Judicial performance and its determinants: a cross-country perspective", *OECD Economic Policy Papers*, No. 5.

Sandoval, S. (2015), "The Distribution of Top Incomes in Mexico: How rich are the richest?", Paris School of Economics. Public Policy and Development Master's Thesis, *http://piketty.pse.ens.fr/files/Sandoval2015.pdf*

Taglioni, D. and D. Winkler (2014), "Making Global Value Chains Work for Development", Economic premise No. 143. World Bank, Washington, DC.

UNESCAP (2014), "Trade facilitation and Paperless Trade Implementation in Asia: Highlights from UN ESCAP's research", presentation at 10th East Asian Institutes Forum "Global Value Chains and East Asian Economic Integration", 9 October 2014.

Watkins R. (2007), "El Reto de China a las Manufacturas de México" en Dussel E., Oportunidades en la relación económica y comercial entre China y México, CEPAL.

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

The OECD is a unique forum where governments work together to address the economic, social and environmental challenges of globalisation. The OECD is also at the forefront of efforts to understand and to help governments respond to new developments and concerns, such as corporate governance, the information economy and the challenges of an ageing population. The Organisation provides a setting where governments can compare policy experiences, seek answers to common problems, identify good practice and work to co-ordinate domestic and international policies.

The OECD member countries are: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Korea, Latvia, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, the Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the United States. The European Union takes part in the work of the OECD.

OECD Publishing disseminates widely the results of the Organisation's statistics gathering and research on economic, social and environmental issues, as well as the conventions, guidelines and standards agreed by its members.

OECD Economic Surveys

MEXICO

OECD's periodic reviews of member and non-member economies. Member country reviews are generally done on an 18 month cycle, while non-member reviews are done as agreed with the subject country. A minimum of 18 surveys are done each year. Each issue provides a comprehensive analysis of developments in the subject country, along with individual chapters covering key economic challenges being faced and recommendations for dealing with the challenges.

Ambitious structural reforms and sound macroeconomic policies have ensured the resilience of the highly-open Mexican economy in the face of challenging global conditions. Mexico's productivity growth has recently picked up in sectors that benefitted from structural reforms – energy, financial, and telecoms. Trade openness, foreign direct investment, integration into global value chains and innovation incentives have boosted exports, notably of autos. Yet other sectors lag behind, suffering from overly stringent local regulations, weak legal institutions, rooted informality, corruption and insufficient financial development. Moreover, growth has not been inclusive enough to achieve better living conditions for all Mexican families, many of whom live in poverty, and whose children's opportunities to do better than their parents could be improved. Past policies have already begun to correct these trends, but more needs to be done. The 2017 Survey makes key policy recommendations that could help to boost productivity and make growth more inclusive.

SPECIAL FEATURES: INCLUSIVE GROWTH; PRODUCTIVITY