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# Competitiveness: Catching the next wave

## Mexico

May 2015

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# 1. Executive summary

Over the past two decades, Mexico has staked a place for itself on the international economic stage. It has claimed important new prominence as a fully integrated manufacturing center with outputs increasingly linked to the broader global economy. In addition to producing sophisticated products for domestic consumption, the country has also evolved to become a robust exporter. Today, more than 80 percent of the vehicles produced by Mexican workers are exported to the United States and Canada.[1]

Competitive labor costs have also helped strengthen the nation's manufacturing base. Thanks to greater openness in the retail and service sectors, the nation's middle class has started to expand. And after signing a series of free-trade agreements (FTAs) encompassing more than 40 countries and developing significant incentive programs to boost exports, nations like Japan, Spain, and Germany have become important trading partners, as well as important foreign direct investors into the local market.

Slated reforms of telecommunications, energy, broadcasting, and labor laws have the potential to accelerate innovation, attract additional foreign investment, and boost the nation's productivity and economic growth to as much as 4 percent per year over the next 15 years.

The scheduled opening later this year of Mexico's oil and gas industry to foreign investment, after decades of protectionist policies, is an important sign that the country is finally confident enough to embrace greater competition in a number of key sectors. Slated reforms of telecommunications, energy, broadcasting, and labor laws have the potential to accelerate innovation, attract additional foreign investment, and boost the nation's productivity and economic growth to as much as 4 percent per year over the next 15 years. Important financial sector reforms focused on insolvency and greater enforcement actions for secured creditors during corporate reorganizations are likely to facilitate credit expansion and expand the banking sector's ability to make loans.

However, it is important for Mexico's leadership to recognize that the country can easily slip back into stagnation if it does not fully embrace its new roadmap, which boldly articulates a commitment to reform and economic transformation. Drug violence, political corruption, and the sudden collapse in oil prices could create a climate of austerity and further erode political confidence and trust.

*Competitiveness: Catching the Next Wave in Mexico*, a new report by Deloitte Touche Tohmatsu Limited, examines the industries that are slated to propel Mexico's future growth over the next 25 years. It also highlights important policy considerations that will be crucial in helping the country to significantly improve its economic performance long-term.

[1] Asociación Mexicana de la Industria Automotríz, Press Release, February 2015 http://www.amia.com.mx/descargarb.html

# 2. Introduction

When the United States signed the North American Free Trade Agreement (NAFTA) on 8 December 1993, Mexican business leaders greeted the news with a heady combination of excitement and anxiety.

For some Mexican companies, the opening of the world's largest consumer market, as well as that of Canada's market, offered a clear path for rapid growth. New factories and increased exports would offer Mexican workers more reasons to stay in the homeland. Foreign know-how and investment could spur rapid productivity gains.

Others wondered about the impact of a hard-charging American-style business culture on the Mexican system. Would NAFTA shake up the political arrangements that routinely governed economic interests? Would increased global exposure rapidly improve governance in a country that had historically been burdened by patronage and political influence?

Exports account for more than 30 percent of the country's economic output, and overall trade as a percentage of GDP now exceeds 60 percent, far more than Brazil and outpacing even China.

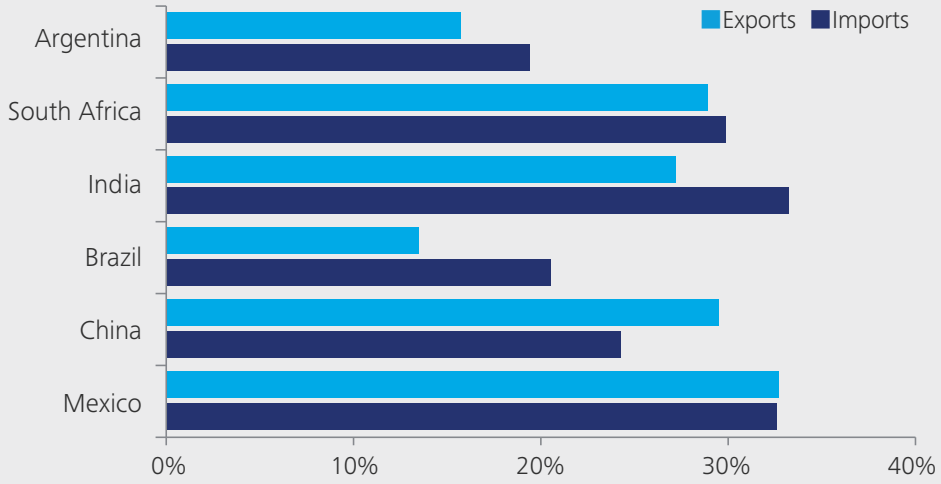
Fast forward two decades. In 2015, Mexico has become the world's seventh-largest auto producer. Exports account for more than 30 percent of the country's economic output, and overall trade as a percentage of GDP now exceeds 60 percent, far more than Brazil and outpacing even China. And thanks to increased openness and greater opportunities in the retail and manufacturing sectors, about 40 percent of Mexico's total population, or some 44 million people, now enjoy a middle-class lifestyle, government statistics show.

Despite these dramatic shifts, Mexico has yet to realize the full promise that deeper global integration proposed. Over the past decade, GDP growth has hovered around 2 percent. Nearly 3 in 10 Mexican workers remain part of the informal economy where wages, job security, and productivity lag. Growth has been stymied by state controls in the energy production and power generation sectors, as well as a lack of competition in the nation's telecommunications industries. Governance remains contentious, and Mexico's educational system, though improved, still lags many of its important regional peers.

The 2012 election of Enrique Peña Nieto and the return to power of the Institutional Revolutionary Party (PRI) on a platform promising fundamental reform suggested that transforming the system—one the PRI had largely designed—could significantly raise the nation's longer-term growth potential. Indeed, the Mexican people seem ready to accept more dramatic restructuring for greater prosperity. That is reflected in the Peña Nieto government's success at getting important pieces of a reform agenda approved, often with the support of many of the PRI's historic political opponents. But allegations of corruption, the continued scourge of the narcotics trade, and the sudden collapse in oil prices have raised questions about the government's ability to implement its bold reform plans. A failure to carry out the anticipated restructuring could damage Mexico's longer-term economic trajectory.

## Fig. 1: Growing trade as a share of GDP

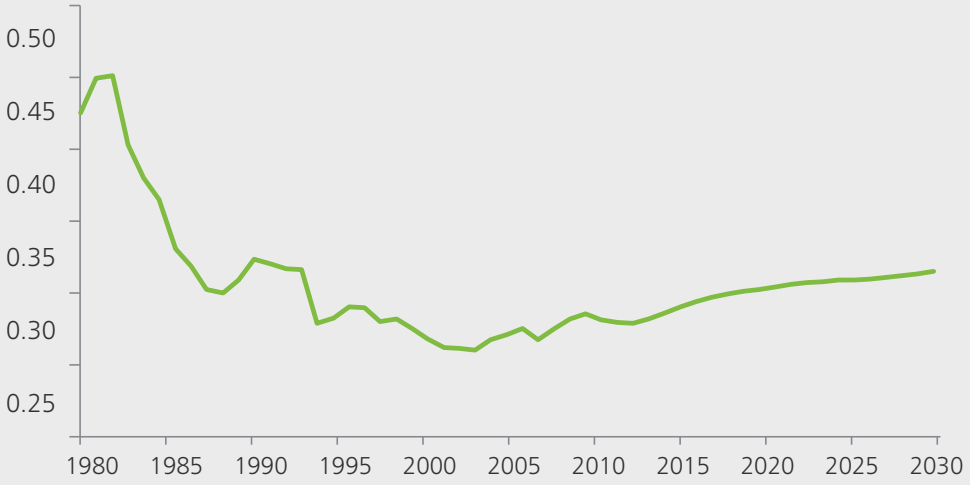
% of GDP in 2014




Source: Oxford Economics

## Fig. 2: GDP per capita*

US=1 (at PPP exchange rates)




Source: Oxford Economics

* 2034 is Oxford Economics' projection

# 3. The promise of NAFTA

Mexico's accession to the NAFTA agreement seemed tailor-made to catalyze the rebirth of the Mexican economy, attract cutting-edge technology and foreign direct investment (FDI), and create millions of secure jobs for Mexicans finding their way through the nation's informal economy. But the best-laid plans for Mexico's expansion were rapidly undermined by political instability at home. The Zapatista uprising in the state of Chiapas was timed to coincide with the launch of the trade agreement and counter the assertion of then-president Carlos Salinas de Gortari that Mexico was on the verge of becoming a modern industrial state.

Among other worries, the indigenous Mayan people's concern that cheap corn imports from the United States would disrupt their traditional way of life led to an armed guerrilla campaign against the government, which stoked the concern of foreign investors that the nation's political stability was not assured. These concerns were aggravated by the assassination of the presidential candidate Luis Donaldo Colosio in May 1994, which diminished investor confidence. In addition, a sharp rise in the value of the peso and in the nation's current account deficit increased Mexico's financial vulnerability when U.S. interest rates began to spike in 1994, raising the costs on dollar-denominated debt.

By 1995, the economy had collapsed—wages plummeted, soaring interest rates caused millions to lose their homes, and unemployment soared. GDP declined by 6.2 percent, and the United States had to send a US$50 billion bailout to stem the so-called "Tequila crisis."[2] The economic crisis helped trigger a change of political leadership. After running the nation continuously for 70 years, the PRI was defeated by the National Action Party (PAN) and President Vicente Fox in 2000. Still, over the next decade, income per person grew less than 1 percent annually, less than half the growth rate for the rest of Latin America. Volatile financial and energy markets and continued government protections in the energy, financial, and telecommunications sectors constrained growth, while the global financial crisis of 2008–09 further damaged the country's growth trajectory.

The result is that while Mexico, as a less-developed economy, might be expected to consistently outpace the United States in terms of economic growth, this has not always been the case. Between 1980 and 2014, for example, Mexico's per capita growth measured only 0.7 percent per year versus 1.7 percent in the United States, meaning living standards between the two countries failed to converge meaningfully. Since 2004, however, Mexico has begun to "catch up," as growth in per capita terms, at 1.2 percent, outpaced the 0.7 percent growth achieved by the United States.

[2] Mishkin, Frederic S. "Lessons from the Tequila Crisis" Journal of Banking & Finance, volume 23 (1999) http://www.bates.edu/Prebuilt/10LatinA-Mishkin.pdf

# 4. Mexico's access to global trade channels

Today, Mexico's manufacturing sector is heavily integrated into the supply chain of many U.S. manufacturers, as many American factories have relocated south of the border to take advantage of cheaper wage rates.

This process started in earnest during the late 1970s, when industrial firms began to set up shop along the U.S.-Mexican border as part of the *maquila* program, which permitted duty-free import of equipment needed to develop factories producing for export.

While more extensive liberalization with the United States began in 1994, Mexico also concluded a free-trade pact with the European Union in 1997, which went into effect in 2000. It helped give Mexican-made goods, like machinery and electronic equipment, a higher profile across Europe. Still, the United States remains the most important of Mexico's economic partners. While the United States receives 80 percent of Mexico's exports and accounts for 50 percent of Mexico's imports, it also accounts for more than half of Mexico's portfolio liabilities and FDI. The IMF has estimated that a one percentage point increase in U.S. GDP boosts Mexico's economy by 0.8 percentage points.[3]

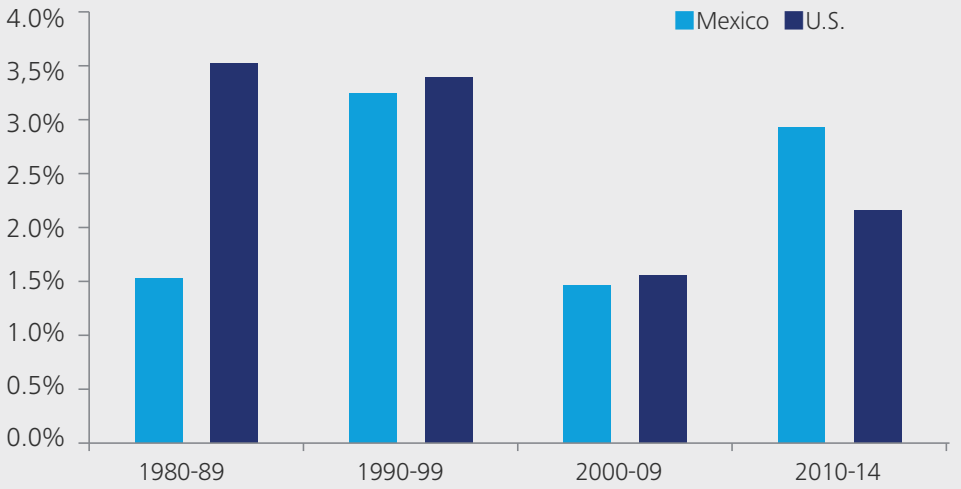
Naturally, this also means that when the U.S. economy sniffles, Mexico can catch a serious cold. In the wake of the global financial crisis of 2008-09, as U.S. consumers drastically cut their spending, Mexican GDP fell by 4.5 percent and merchandise exports to the United States fell by more than 20 percent. The accelerating U.S. recovery through mid-2014 boosted Mexico's economic performance, however, and from 2010 to 2014, the Mexican economy grew by an average of 2.9 percent per year.

[3] Rennhack, Robert and Vivek Arora. International Monetary Fund: Staff Report for the 2014 Article IV Consultation, Mexico 24 October 2014 http://www.imf.org/external/pubs/ft/scr/2014/cr14319.pdf

**Fig. 3: Mexico's GDP tracks U.S. more closely**

GDP Growth

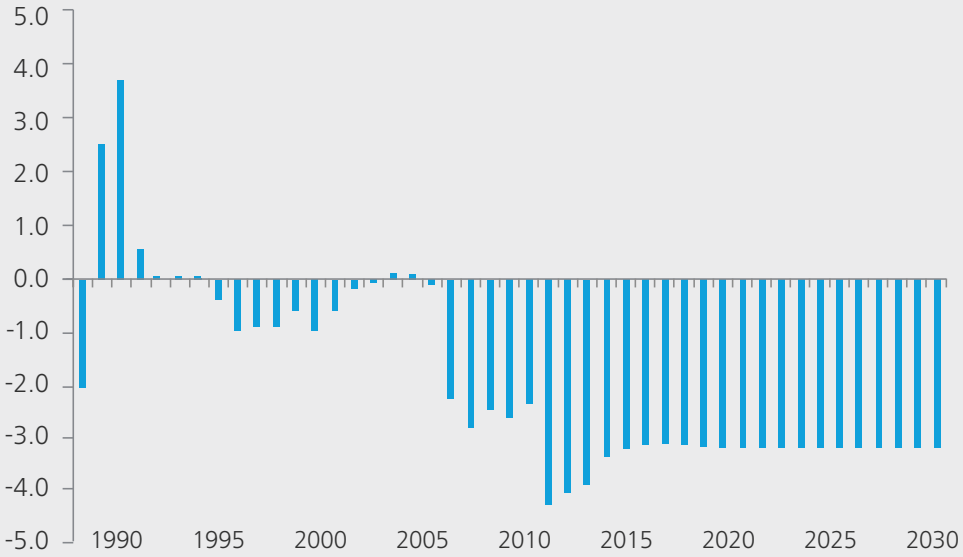
%, CAGR




Source: Oxford Economics/Haver Analytics

**Fig. 4: Mexican government budget balance**

%, of GDP




Source: Oxford Economics/Haver Analytics

In the near term, strength in the U.S. economy should help drive a solid recovery in the Mexican economy.

Oxford Economics projects U.S. GDP is expected to rise by approximately 3.3 percent in 2015 and 2.9 percent in 2016, with even stronger growth in industrial production. Mexico's economy, in turn, is expected to grow by 3.1 percent in 2015 and faster in later years if hoped-for reforms kick into gear.

Fiscal policy is also expected to be mildly supportive over the next few years. Last April, the government unveiled a US$316 billion six-year plan to boost infrastructure spending across several key sectors of the economy encompassing communications and transport, energy, water, health, urban development and housing, and tourism.[4] The program targets more than 740 different projects with investment spending split between the public and private sectors.

The recent collapse of oil prices, however, has cast a shadow over Mexico's short-term prospects and slightly reduced short-term growth projections. Mexico's economy is far too diversified to be considered a petroleum state; oil accounts for just 13 percent of all goods exports, compared with more than 80 percent for manufactured goods. Still, the recent tumble of oil prices is likely to worsen the nation's fiscal and external deficits. On the other hand, lower oil prices and shrinking energy costs will result in higher manufacturing output and should boost consumer spending in the United States, a boon to Mexican factories.

The main short-term risk for Mexico from the collapse in oil prices is on the fiscal front, as oil and gas revenues comprise more than 30 percent of total government revenues. In 2015, the government hedged its oil revenue at a price of US$76 a barrel, mitigating some of the impact of lower prices. Should prices hover near US$50 per barrel for a long time, however, the government might be forced to significantly reduce its investment plans. A planned infrastructure project to build a new high-speed rail line between Mexico City and Queretaro has already been suspended, reflecting concerns about the impact of oil on the government's debts and the possibility of new austerity measures.[5] The government has already announced spending cuts projected to be worth about 0.7 percent of GDP.

Despite the recent turmoil in energy markets, there is ample reason for optimism that Mexico can achieve a faster pace of growth over the next decade. The challenge lies in the ability of the Peña Nieto government to implement its platform for wide-ranging reforms of the nation's energy, telecommunications, education, and financial sectors to unlock the country's potential, move labor into the more formalized sectors of the economy, boost productivity, and trigger accelerated growth.

[4] Webber, Jude. "Mexico Plans US$316 billion for Infrastructure" FT.com, 16 July 2013. http://www.ft.com/cms/s/0/df02d3d4-ed9e-11e2-8d7c-00144feabdc0.html

[5] Estevez, Dolia. "Mexico Suspends Multibillion Dollar High-Speed Rail Project At Center of Political Scandal" Forbes 10 February 2015. http://www.forbes.com/sites/doliaestevez/2015/02/10/mexico-suspends-multibillion-dollar-high-speed-rail-project-at-center-of-political-scandal/

# 5. Catching the next wave

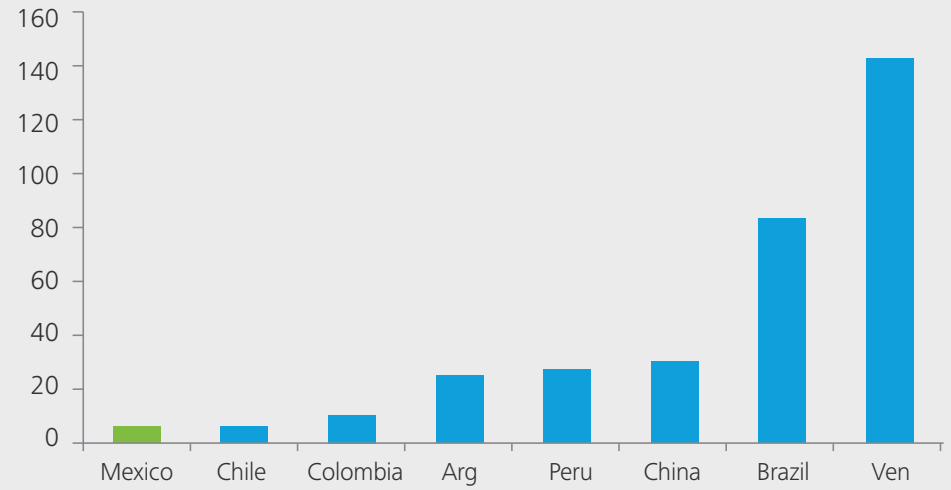
Economic experts and the Peña Nieto administration seem to agree on one fundamental premise: the longer-term outlook for Mexico is broadly favorable if the government can restructure key sectors.

It is expected that Mexico's medium-term growth could average 4.5 percent per year, up from a projected 3.1 percent real annual growth rate for 2015-34, if the government can deliver its broad reform initiatives.

Moreover, Mexico is considered a very good place to do business. The World Bank estimates that it takes just six days to start a business in Mexico, far less than China, Brazil, or most of Latin America.[6] Mexico also fares well in other categories in the World Bank's 2015 Ease of Doing Business survey, such as number of days required to obtain construction permits and time required to enforce commercial contracts, where it takes about half as long in Mexico compared with its Latin American neighbors. The report notes, however, that a wide variation remains in the way policies are implemented across metropolitan regions of the country.[7]

Combine a thriving manufacturing base, ample energy reserves, a growing labor pool, and a potentially sizeable expansion of access to global markets should the Trans-Pacific Partnership (TPP) trade agreement be enacted, and Mexico stands poised to deliver a future that raises national living standards and dramatically reduces the nation's historic inequality. There is much cause for optimism. However, the country's ability to effectively implement these significant reforms in the face of concerns over political corruption, domestic lawlessness, drug cartels, and overall governance will remain key hurdles that will ultimately determine the path of the nation's economic trajectory.

**Fig. 5: Ease of doing business**
Time required to start a business
Days




Source: World Bank

[6] The World Bank, "Doing Business 2015: Going Beyond Efficiency," 12th Edition 2014. http://www.doingbusiness.org/~/media/GIAWB/Doing%20Business/Documents/Annual-Reports/English/DB15-Chapters/DB15-Report-Overview.pdf

[7] Ibid

# 6. Future growth sectors

Looking ahead, some key sectors of the Mexican economy offer solid opportunities for growth, especially manufacturing, telecommunications, energy exploration, and power generation.

## Manufacturing

No sector of the Mexican economy has benefited more directly from the country's accession to NAFTA than the nation's manufacturers, which attracted a significant amount of FDI to help expand their productive capacities and ramp up exports. The manufacturing sector accounts for almost 50 percent of total FDI in Mexico and 80 percent of total trade.

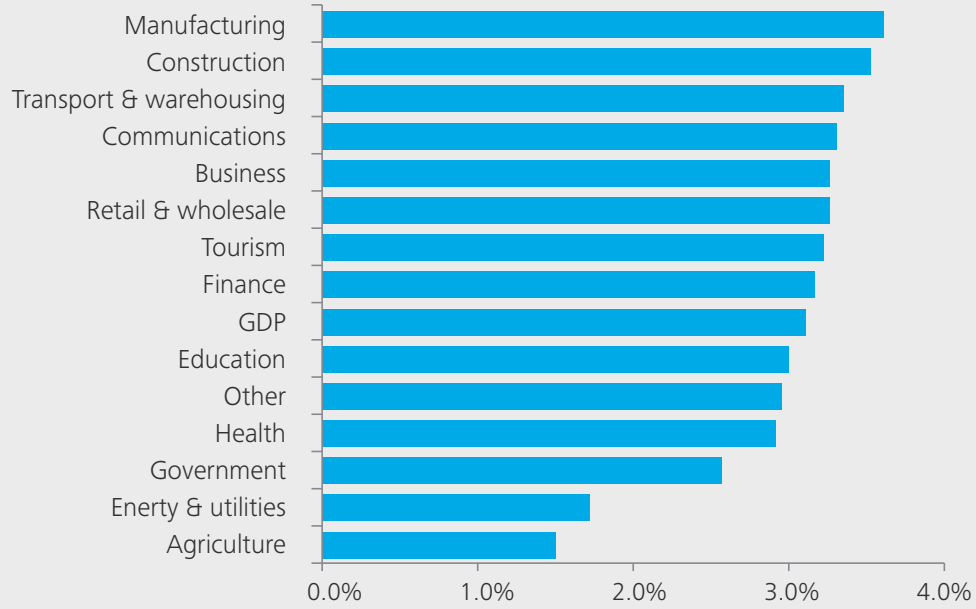
Today, manufacturing accounts for 32 percent of the nation's economic output, more than double the 15 percent figure in 1993 before NAFTA took hold.

FDI from European and Asian car manufacturers is also growing, as recent investments from Nissan and Volkswagen—whose global delivery center in Mexico is the company's largest production site outside of its German headquarters—demonstrate.

While some sectors of the nation's productive capacity (such as the automotive sector) are efficient, globally competitive, and well-integrated into global supply chains, other major segments of the economy (those focused primarily on the domestic market, like food and transport) remain far less productive. They often are hampered by zoning, labor, and other regulatory practices that hinder their growth relative to competitors in the "informal" sector, which evade such regulations. Recent tax reform measures have also increased the operating and administrative costs for many companies.

**Fig. 6: Projected growth by sector, 2015-34**

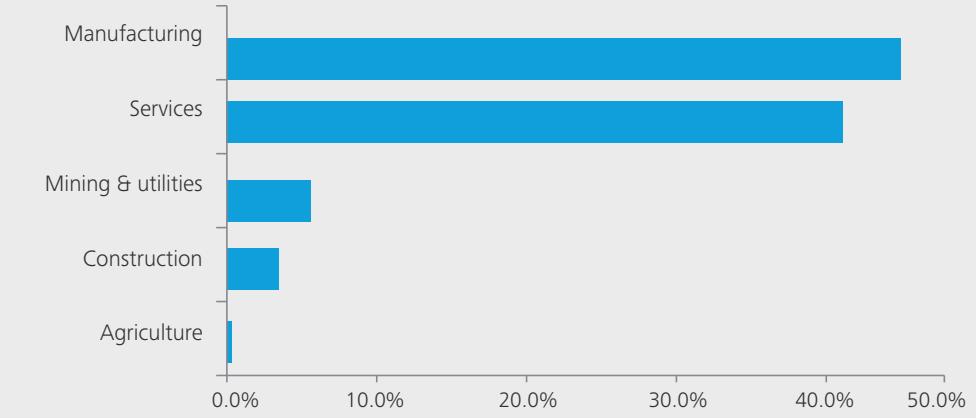
(CAGR, %)




Source: Oxford Economics

**Fig. 7: Foreign direct investment, by sector**

% FDI, 2000-13 average




Source: Oxford Economics

## Automobiles

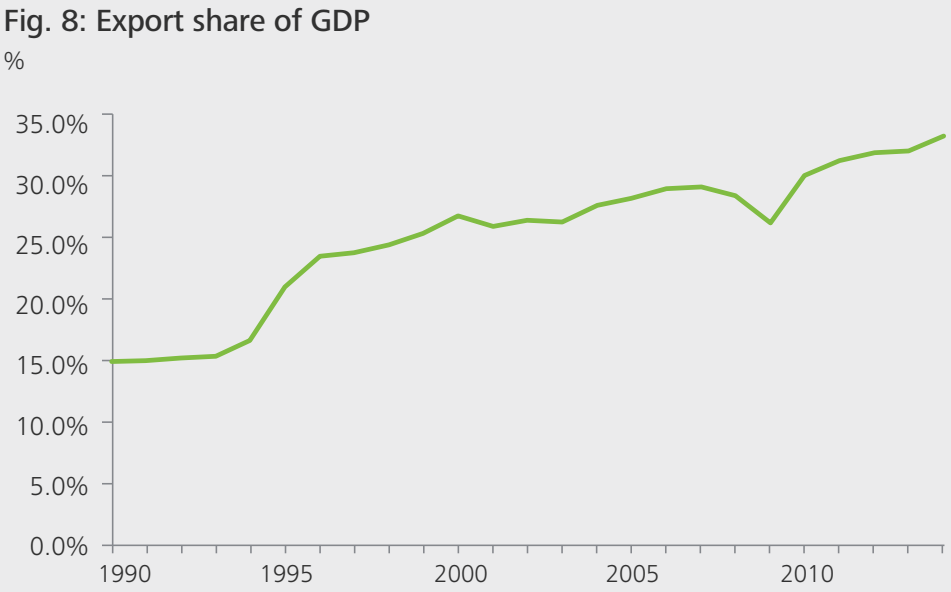
Among globally competitive sectors, the automotive industry stands out as an especially solid performer. It now produces more vehicles than Brazil and is projected to be the world's fifth-largest vehicle producer by 2020.

In all, some US$15 billion of additional investment in automotive capacity is anticipated before the end of the decade.

In December 2014, for example, General Motors announced plans to invest US$5 billion in Mexico to double its production capacity.[8] Nissan has boosted production at its plant in the central state of Aguascalientes and will invest US$1.5 billion in conjunction with Daimler to produce 300,000 Infinity and Mercedes Benz luxury vehicles beginning in 2017.[9] Meanwhile, Honda and Mazda have begun production at factories in the state of Guanajuato, combining to produce more than 400,000 vehicles each year. Kia Motors, the South Korean automaker, is building a plant in the northern city of Monterrey that it expects will produce some 300,000 vehicles annually,[10] while Audi AG is planning a new plant in San Jose Chiapa, Puebla that will produce export-focused luxury SUVs with the capacity to build 150,000 vehicles.[11] And Volkswagon's Puebla-based production site is the company's second largest worldwide, exporting vehicles not only to North America, but globally.

Further, a wave of Japanese parts suppliers also are investing in the region as the entire auto parts sector expands to support the panoply of manufacturers. These firms have combined leading-edge technology and production methods with lower-cost labor to create highly efficient operations. In fact, unit labor costs have declined by some 40 percent since NAFTA, a pattern that has been repeated in other export-intensive sectors like machinery and electronics.

Fig. 8: Export share of GDP




Source: Oxford Economics

[8] Althaus, Dudley. "GM to Invest US$5 Billion to Expand Facilities in Mexico" The Wall Street Journal, 11 December 2014. http://www.wsj.com/articles/gm-to-invest-5-billion-to-expand-facilities-in-mexico-1418323909

[9] Boston, William. "Daimler, Nissan Investing US$1.4 Billion in Mexico to Jointly Produce Cars" The Wall Street Journal, 27 June 2014. http://www.wsj.com/articles/daimler-nissan-to-invest-1-4-billion-in-mexican-plant-to-produce-compact-cars-1403877132

[10] http://www.kiapressoffice.com/Release/38508

[11] http://www.audiusa.com/newsroom/news/press-releases/2013/05/audi-plant-foundation-mexico-san-jose-chiapa

Although wages in the automotive sector are high by Mexican standards, they are barely 20 percent of the wage commanded by workers in the United States. So it should not be surprising that the share of Mexican-produced vehicles entering the U.S. market has grown significantly. In 2013, for example, 27 percent of all U.S. imports of motor vehicles and parts came from Mexico—wresting the top position from Canada. As the dollar has strengthened significantly and the peso depreciated, the competitiveness of the Mexican auto sector is likely to improve further.

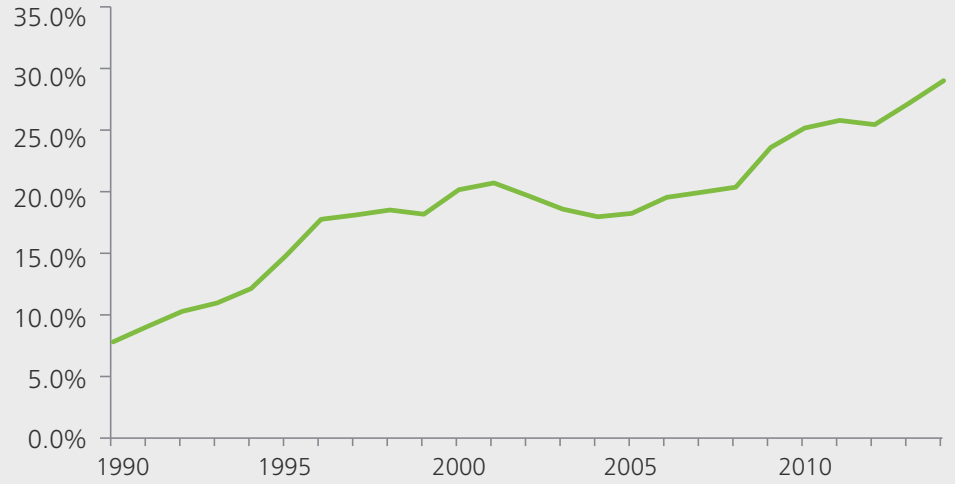
There is still significant room for expansion in Mexican automotive manufacturing. First, the ongoing recovery in the United States should spur new automotive sales. Second, reforms of the electricity and power sector within the country should reduce production costs for Mexican car plants. Meanwhile, the growth of the middle class in a number of Latin American markets and the possibility of Mexico becoming a signatory of the TPP could open additional markets to Mexican-made cars and car parts.

Further, while production of cars for export is booming, Mexico's domestic car sales remain weak. Mexico imported 7.3 million used cars from October 2005 – February 2015, almost all from the United States, compared with sales of 9.47 million new cars during that same period.[12] The cost advantages of purchasing a used U.S. vehicle is too enticing for Mexicans; the average new car in Mexico is US$24,000 while used local cars cost an average of US$6,000 and imported used cars cost US$3,000.[13]

However, the government is adopting measures to slow down this tendency. In August 2014, the Servicio de Administración Tributaria (SAT, Mexico's internal revenue service) launched new rules requiring cars from the U.S. to have the original selling note and shipper export, a sticker from U.S. Customs required before importing a car into Mexico. Perhaps this contributed to the reduction of used car imports. The Mexican Association of Automobile Dealers (AMDA) reported in January 2015 that imports of cars to Mexico fell 32 percent from the prior month and 71.7 percent compared to January 2014.[14]

## Fig. 9: U.S. imports of motor vehicles from Mexico

% of motor vehicle imports




Source: Oxford Economics/Haver Analytics

[12] Reporte de Mercado Interno Automotor, March 2015. Asociación Mexicana de Distribuidores de Automotores (AMDA). P. 14. http://d1siz4j9sp99t0.cloudfront.net/images/stories/estadisticas/coyuntura/2015/ventas/1503Reporte_Mercado_Automotor.pdf

[13] http://www.theyucatantimes.com/2015/01/production-of-cars-for-export-is-booming-in-mexico-but-domestic-sales-have-stagnated-2

[14] Reporte de Mercado Interno Automotor, March 2015. Asociación Mexicana de Distribuidores de Automotores (AMDA). P. 13. http://d1siz4j9sp99t0.cloudfront.net/images/stories/estadisticas/coyuntura/2015/ventas/1503Reporte_Mercado_Automotor.pdf

Additionally, the Mexico City metropolitan area program, "Hoy No Circula"—which imposes restrictions based on the age of the car—has changed recently. Now, cars between nine and 15 years old will not be allowed to circulate for two Saturdays each month or for one day of the week; those older than 15 years will have to rest every Saturday, and one day of the week.

This measure, meant to not only increase the sales of new cars, but also decrease pollution in the city, will likely take a toll on used car sales. It is expected that domestic sales will increase by 2 percent throughout the implementation of this law.[15]

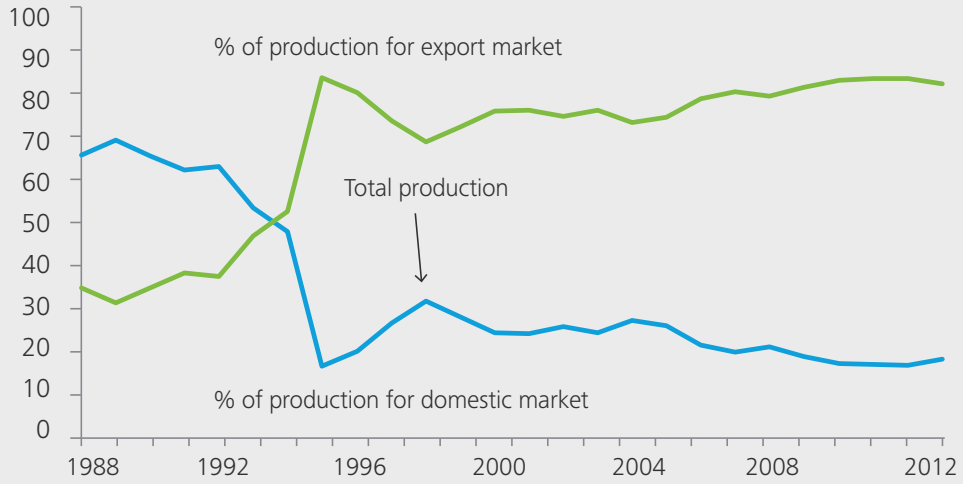
Meanwhile, dealers have seen 2015 first-trimester sales increase 22 percent, which may be attributed to more accessible credit, available discounts, and other incentives created to encourage car ownership.

## Electronics and aerospace

Electronics and aerospace industries are also likely to benefit from closer Mexican linkages to the U.S. economy and strong foreign investment in the manufacturing sector, especially as productivity gains and a depreciating peso offset rising industrial wages. This will help continue to grow the large-scale electronics manufacturing in Mexico pioneered by foreign-owned maquiladoras—factories close to the U.S. border that take advantage of generous tax exemptions.

Today, the electronics sector is concentrated in 10 main clusters focusing on a diverse set of products. A cluster in the northwest largely focuses on supplying parts used in the nearby aerospace and automotive plants. Clusters in the northeast produce components used in computers, high-tech goods, and appliances. The largest cluster is set up around Guadalajara, home to more than 400 manufacturers and employing about 50,000 workers. In Ciudad Juarez alone, international firms like Epson, Toshiba, and Flextronics employ some 35 percent of the area's 360,000 manufacturing workers.[16]

**Fig. 10: Vehicle production for export and domestic market**
Total vehicle production
% of total production




Source: AMIA

[15] http://www.theyucatantimes.com/2015/01/production-of-cars-for-export-is-booming-in-mexico-but-domestic-sales-have-stagnated-2/

[16] Sacchetto, David and Martin Cecchi. "On the Border: Foxconn in Mexico" OpenDemocracy.net, 16 January 2015 https://www.opendemocracy.net/devi-sacchetto-mart%C3%ACn-cecchi/on-border-foxconn-in-mexico

The aerospace manufacturing sector, though still relatively small, has also emerged as a growth area for high-value production. About 300 manufacturers operate across five Mexican states, and critical economies of scale have been established that should allow the sector to keep growing. A large cluster of factories producing engine components for aviation has been constructed around Guaymas. Big U.S. companies with operations in Mexico include Gulfstream Aerospace/General Dynamics, General Electric, Textron, and Honeywell. France's Safran Group, Canada's Bombardier Aerospace, Netherlands-based Fokker, and Spain's Aernnova—a major supplier to Airbus, Bombardier, and Brazil's Embraer—also have set up production in Mexico.

The aerospace sector enjoys many key advantages, including proximity to the United States, access to foreign technology, and relatively low wages. Mexican officials are keen to boost vocational training for potential aeronautical workers to help the sector expand. Since many of the skills required for production of automotive parts are applicable to aviation, some precision automotive manufacturers have also created aviation-related engineering groups. Moreover, Mexico already graduates 130,000 engineers per year—more than Canada, Germany, or Brazil—and there is confidence that well-trained graduates can easily find work. The percentage of Mexican students who graduate with degrees in science, engineering, and technology is significantly higher than in the United States.[17]

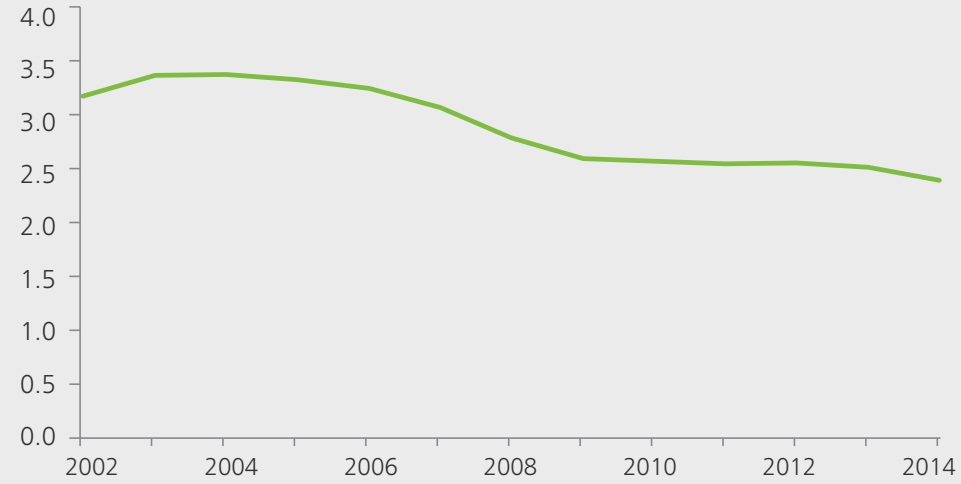
## Energy: Oil

No action is symbolically more important to demonstrate Mexico's commitment to economic reform than ending the nation's long monopoly over oil production.

When finally implemented, the reform program will allow foreign companies to drill for oil in Mexico for the first time since 1938, powerfully reversing years of nationalistic political rhetoric.

Fig. 11: Mexico oil production

MB/d




Source: PEMEX

[17] Booth, William. "Mexico is Now a Top Producer of Engineers, but Where Are Jobs?" The Washington Post, 28 October 2012 http://www.washingtonpost.com/world/the_americas/mexico-is-now-a-top-producer-of-engineers-but-where-are-jobs/2012/10/28/902db93a-1e47-11e2-8817-41b9a7aaabc7_story.html

Before the sudden collapse of global oil prices, the planned reforms in the energy sector and the potential for new competition with state-owned giant Petróleos Mexicanos (Pemex) seemed likely to attract a heady surge of foreign investment—an estimated US$50 billion in FDI by 2020.[18] Even with oil currently trading near US$50 a barrel (as of this writing), it remains likely that serious competition will materialize for the 14 blocks in the Gulf of Mexico that the government has opened for bid in 2015.

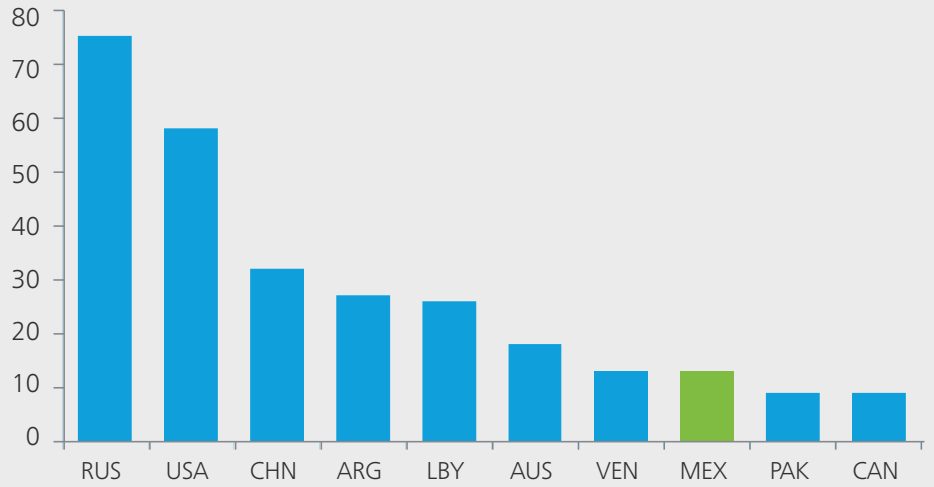
Bigger risks are associated with investment in Mexico's nonconventional energy sources. The government will likely be forced to shelve the auction of some shale oil blocks scheduled for later this year since the cost of shale extraction is higher than that for conventional oil. In addition, the technical challenges in Mexico, including the lack of key infrastructure and adequate water, could further discourage investors from buying into these blocks. There is also some political risk, especially at the state and municipal level, associated with opening up these new blocks for exploration since state corruption has been endemic in certain areas and security concerns cannot be overlooked.

Energy sector reforms are not limited to exploration alone. As a result, significant FDI is anticipated in "midstream" pipeline transportation and storage of petroleum products. This will also include expanding downstream refining and manufacturing capacity in addition to upstream investment in exploration and extraction.

To be sure, reforms in the energy sector are long overdue. Comisión Nacional de Hidrocarburos (CNH), the Mexican hydrocarbon regulator, has estimated that there are more than 260 fields in Mexico that are either in decline or underdeveloped.[19] Indeed, oil production in Mexico has been declining over the last decade and in 2014, amounted to 2.4 million barrels per day, down from a peak of 3.4 million barrels in 2004. Meanwhile, Pemex's costs have been rising rapidly—production costs rose by 15.6 percent in 2013 over 2012.[20]

## Fig. 12: Shale oil potential

Billion barrels




Source: EIA

[18] De Imus, Phil, Fabian Valencia, Jorge Alvarez, Jianping Zhou, Han Fei and Jasmine Xiao. International Monetary Fund: Mexico, Selected Issues. 23 October 2014, page 12. http://www.imf.org/external/pubs/ft/scr/2014/cr14320.pdf

[19] http://www.eia.gov/countries/cab.cfm?fips=mx

[20] Webber, Jude. "Pemex rises to the challenge of reinventing itself" FT.com, 12 November 2014. http://www.ft.com/intl/cms/s/0/973784ea-586a-11e4-a31b-00144feab7de.html#axzz3VvO9SQqF

Reforms will boost efficiencies in currently operating oil fields, but Mexico also offers potentially exciting reserves of both conventional oil and shale gas. The scope for deep-water drilling may be especially vast—only 57 wells have been drilled in the Mexican portion of the Gulf of Mexico,[21] compared with 1,600 on the U.S. side.

The reforms approved last year introduce three new types of contracts that should make foreign investment in the energy sector more attractive. These include profit-sharing contracts that allow companies to receive a share of the profits from oil and natural gas development; production-sharing agreements that allow companies to own a percentage of the resource volumes produced; and licenses that allow companies to be paid in the form of the oil and gas extracted from each project. The production and licensing changes will effectively allow foreign energy companies to account for reserves identified in Mexico, an attractive inducement for foreign investment, as the U.S. Energy Information Agency has noted.[22]

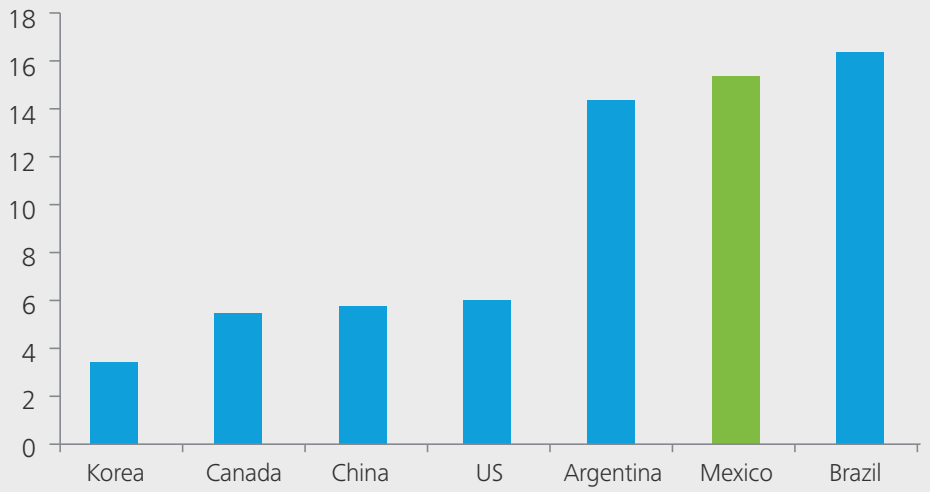
## Energy: Electricity generation

The energy reform program extends to the electricity sector, as well. Comisión Federal de Electricidad (CFE), the state electricity company, has held an effective monopoly on production and distribution of electricity and was long considered the second-most-powerful state-owned enterprise after Pemex. The supply constraints in natural gas networks meant that CFE has relied on costlier and less environmentally friendly fuel sources. CFE's relatively high cost of production has adversely affected the economy by eroding the cost competitiveness of Mexican manufacturers and increasing the costs of power to consumers. These high production costs have also eroded the profitability of the utility, leading to an underinvestment in infrastructure.

As a result of this creaking infrastructure and the illegal siphoning of electric power, Mexico loses some 15 percent of the electricity it generates.[23] This figure is comparable to other Latin American countries but considerably less efficient than in the Asian manufacturing powerhouses.

### Fig. 13: Electric power losses

Current % of production




Source: World Bank

[21] Seelke, Clare Ribando, M. Angeles Villarreal, Michael Ratner, Phillip Brown. "Mexico's Oil and Gas Sector: Background, Reform Efforts, and Implications for the United States" Congressional Research Service, 27 January 2015. https://www.fas.org/sgp/crs/row/R43313.pdf

[22] Doman, Linda and Laura Singer. "Energy reform could increase Mexico's long-term oil production by 75 percent" U.S. Energy Information Administration, 25 August 2014. http://www.eia.gov/todayinenergy/detail.cfm?id=17691

[23] Grattan, Robert. "It's Not Just Oil, Power Due to be Overhauled in Mexico" Fuelfix.com, 5 September 2014. http://fuelfix.com/blog/2014/09/05/its-not-just-oil-electricty-due-to-be-overhauled-in-mexico/

Although the state retains its monopoly on the transmission and distribution of power, the reform program will allow private firms to sell electricity back to the national grid.

Moreover, seven power-generation plants are being upgraded to run on natural gas rather than fuel oil, which should lead to reduced generation costs.

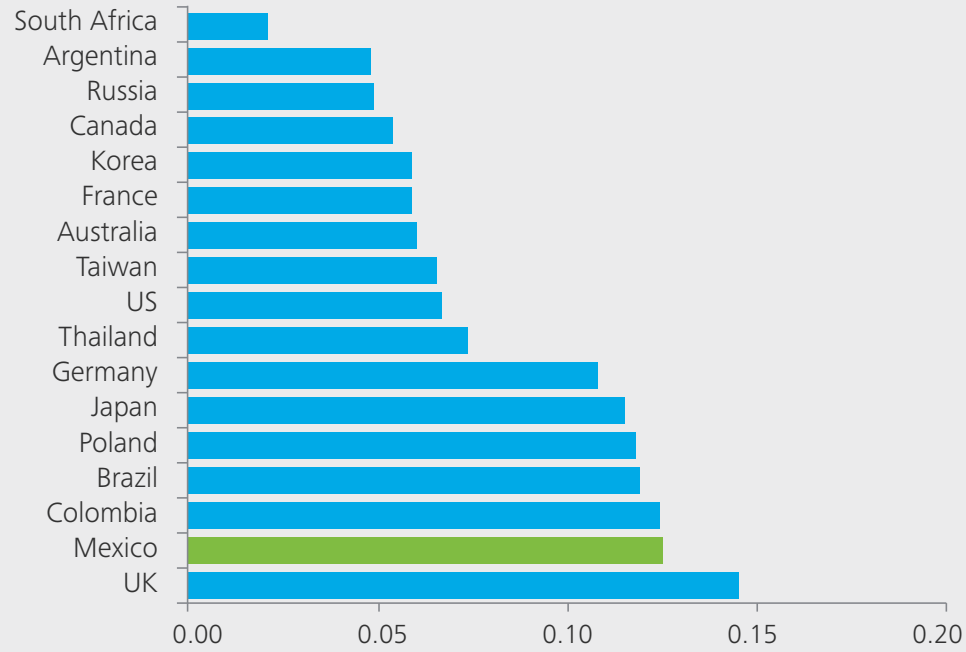
These reforms should open up the long-protected sector to foreign competition and lead to greater efficiency as well as lower domestic energy prices. Recently, for example, the giant cement manufacturer, CEMEX, disclosed plans to invest some US$30 million in energy projects across Mexico within the next half decade, including 1,000 megawatts of power to be derived from wind turbines, as the country moves to emphasize renewable energy.[24]

Furthermore, there is reason for optimism that rising U.S. exports of natural gas into Mexico will also help drive down energy rates. Between 2008 and 2013, U.S. pipelines to Mexico doubled their capacity, and plans for at least seven new pipelines to take gas across the border from Texas and Arizona have already been announced.[25] Recently, both Pemex and CFE have signed onto partnerships with U.S. firms to help expand Mexico's pipeline capacity even further. According to statistics from the U.S. Energy Information Administration, U.S. natural gas exports to Mexico doubled between 2010 and 2013 to a total of 658 million cubic feet.[26]

Naturally, significant reductions in electricity rates brought on by an influx of cheap gas will serve as a major spur to Mexican manufacturing and improve competitiveness in both the manufacturing and chemical industries. It is also important to mention that the increased volume from the start of construction on major pipelines—such as Los Ramones natural gas pipeline that will import up to 2.1 billion cubic feet a day of natural gas from shale gas locations in the United States to Mexico—will reduce industrial tariffs, especially for big energy users such as steel mills, mining, automotive, copper production, aluminum, and producers of plastics and resins.

## Fig. 14: Industrial electricity prices

US$/kWh*




*2009 price or latest available
Source: EIA

[24] Barrera, Cynthia, Gabriel Stargardter and Jeffrey Benkoe. "Update 1- Mexico's Cemex Creates Electricity Unit to Tap Into Energy Reform" Reuters.com, 19 February 2015. http://www.reuters.com/article/2015/02/19/mexico-cemex-idUSL1N0VT14J20150219

[25] Ailworth, Erin. "U.S. Natural-Gas Exports Fuel Mexican Manufacturing Boom" The Wall Street Journal, 7 September 2014. http://www.wsj.com/articles/u-s-natural-gas-exports-fuel-mexican-manufacturing-boom-1410132721

[26] "U.S. Natural Gas Pipeline Exports to Mexico" U.S. Energy Information Administration, Natural Gas Data, 27 February 2015. http://www.eia.gov/dnav/ng/hist/n9132mx2A.htm

## Telecommunications

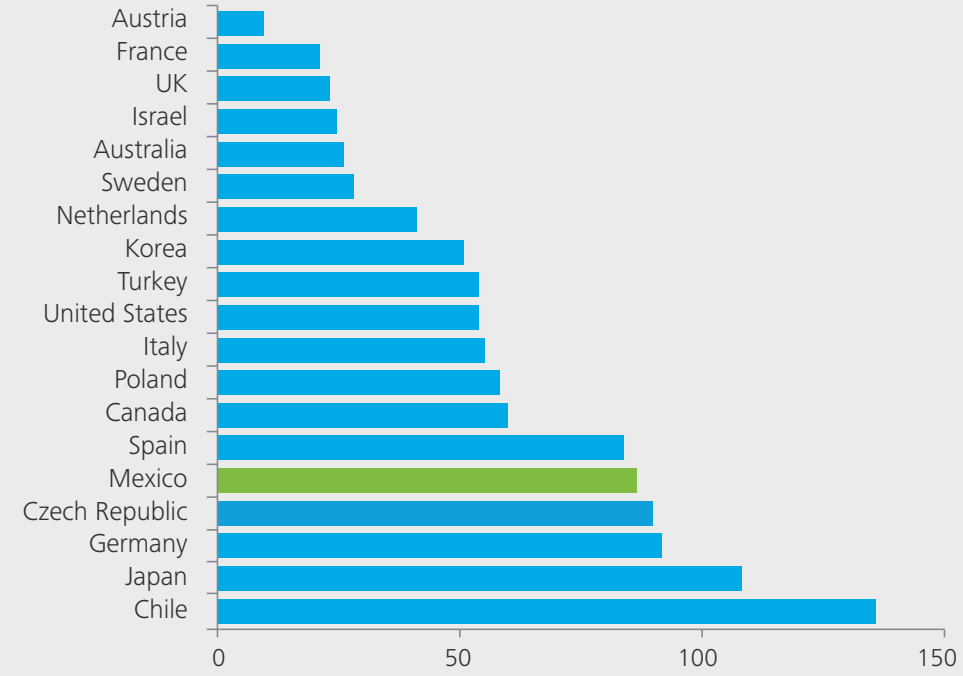
In a world where economic opportunities are being rapidly transformed by fast broadband connections and cheap mobile phones, Mexico is behind the curve. Mexican cellphone prices are nearly as expensive as those in Japan, and today, Mexican consumers pay among the highest prices for mobile phone and broadband services in the OECD. One company, America Móvil, controls 70 percent of the mobile phone market and 80 percent of the nation's fixed lines.[27] The same cartelized structure has existed for television as well; one company, Televisa, controls about 60 percent of the free-to-view market.[28]

As a result of the reforms passed in July 2014, however, firms like America Móvil and Televisa will be limited to a 50 percent share of the market or be subject to a series of strict new regulations, including being forced to share their infrastructure with rivals. In response, America Móvil's owner, Carlos Slim, has agreed to sell a significant part of his holdings.

Further, AT&T has agreed to buy Nextel Mexico for nearly US$1.9 billion as part of its campaign to expand its Latin American presence. The deal is the second struck in Mexico by the telecommunications giant since November 2014, when the company bought the big wireless service provider, Iusacell, for US$2.5 billion.[29]

The entry of new market players, the elimination of long-distance telephone rates, and reductions in cellular fees have reduced overall inflation. The hope is that these reforms will open competition and reduce costs for consumers while undermining long-entrenched media monopolies.

**Fig. 15: Mexican cell phone prices**
Cell phone price for 300 calls & 1GB data
(USD, at PPP)




Source: OECD

[27] "Slim's Chances" The Economist, Telecoms in Mexico, 1 March 2014. http://www.economist.com/news/business/21597894-carlos-slim-faces-biggest-challenge-yet-his-dominance-telecoms-and-golden

[28] Reuters, "Mexico's Televisa reports slighty higher 4th-qtr profit" 26 February 2015. http://www.reuters.com/article/2015/02/27/mexico-grupo-televisa-results-idUSL1N0W100C20150227

[29] http://about.att.com/story/att_to_acquire_nextel_mexico.html

## Tourism

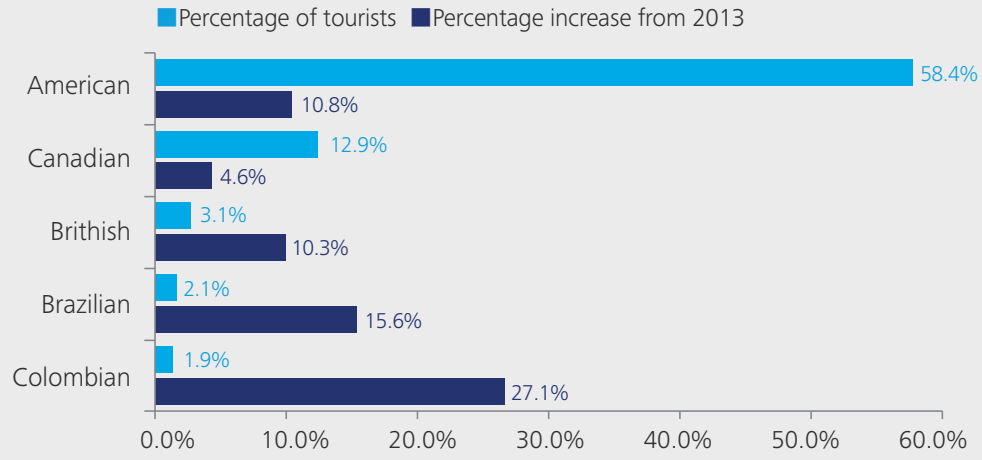
Tourism continues to be an important growth driver for Mexico. In 2014, it returned to the top 10 in the ranking of countries attracting foreign visitors. The number of international tourists traveling to Mexico surpassed 29 million in 2014, up 20.5 percent from 2013. Moreover, these visitors spent more than US$16 billion dollars.[30]

Due to its close proximity to the United States, Mexico has also become a top medical tourism destination; 40,000 to 80,000 American seniors spend their retirement there, with a considerable number receiving nursing home and health care.[31] Many doctors in Mexico are trained in the United States, and some advanced equipment and procedures are more accessible in Mexico than in the United States. For example, lap-band surgery was being performed in Mexico long before the U.S. FDA approved it in 2001. Costs also can be attractive. Mexican dentists charge one-fourth to one-fifth of U.S. prices, and cosmetic surgery offers 30 percent to 40 percent savings. Because of these factors, the Mexican government expects the number of U.S. medical tourists to reach 650,000 by 2020.[32]

The Mexican tourism economy very much depends on the U.S. market, so the recovery in the American economy could help deliver additional growth over the next few years. Also, the recovery in the housing market could lead to new investment in second home and retirement properties, especially in traditionally popular locations such as Baja California, Puerto Vallarta, and San Miguel de Allende.

### Fig. 16: International tourists who visited Mexico by air in 2014

%




Source: Consejo nacional empresarial turistico (CNET)

[30] http://www.cnet.org.mx/sites/default/files/panorama_14_completo_2.pdf

[31] Medical Tourism Statistics and Fact Sheet, 2015. https://www.health-tourism.com/medical-tourism/statistics/

[32] Jacob, Steve. "Why International Medical Tourism is Growing" D Magazine, Special Report, Medical Directory 2013. http://www.dmagazine.com/publications/d-magazine/2013/special-report-collin-county-medical-directory/why-international-medical-tourism-is-growing

# 7. The informal economy and small business

While NAFTA has clearly helped attract business investment into segments of the Mexican economy, about 28 percent of the Mexican workforce is employed today in the informal economy. The informal economy is made up of companies that hire workers "off the books," may not be registered with authorities, may under-report their receipts to reduce tax obligations, and often find ways to evade environmental, health, or other regulations. Wages in these informal businesses tend to be stagnant or declining, even as those in the more productive formal industries are rising, leading to increased inequality.

If set up as formal businesses, however, the regulatory regime in Mexico offers small companies several key advantages, such as preferential electricity rates and tax exemptions. Removing disincentives for small businesses to grow, while improving the infrastructure and distribution networks for them, could boost growth further.

But a number of other issues constrain the growth of small business. For many small and medium-sized enterprises (SMEs), accessing credit remains difficult. The World Bank estimates that 53 percent of Mexico's SMEs are underserved by the financial system.[33] Other data suggest that the interest rate on loans to SMEs in Mexico are typically about 15 to 20 percentage points higher than those charged in the United States, while microcredit loans in Mexico command about a 60-point premium over those in the United States. This makes it difficult for Mexican SMEs to finance the purchase of large capital goods. Starved of sufficient capital, they can't effectively boost their productivity.

Mexican business is also burdened by infrastructure bottlenecks. Although the quality of Mexico's infrastructure compares reasonably well with many of its Latin American peers, there is still considerable room for improvement. According to the World Economic Forum's infrastructure quality index, Mexico ranks 69th (out of 144 countries), ahead of other major Latin American countries such as Brazil and Argentina, but still below China.[34] Heavy investment in infrastructure under the recent reform program announced by the government should begin to alleviate these problems.

[33] Davis, Cameron. "Downscaling Financial Services to Latin American SMES" idbdocs.org, 22 April 2011. http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=36642019

[34] World Economic Forum, The Global Competitiveness Report 2014 – 2015. http://reports.weforum.org/global-competitiveness-report-2014-2015/

# 8. Policy challenges and opportunities

There are a few key policy considerations to consider that will be crucial in helping Mexico to significantly improve its economic performance and competitive positioning in the long-term.

## Education

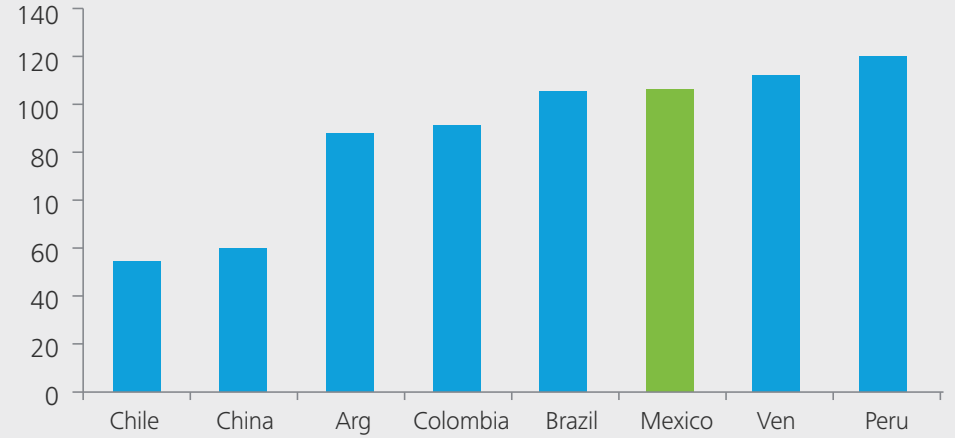
As Mexico hopes to use its economic reforms to foster new competition, create new opportunities for robust growth, and boost its sagging productivity, it must also improve the skills of its workers. Today, the quality of Mexico's education system lags many of its Latin American peers. An assessment by the World Economic Forum ranks Mexico below Brazil, Argentina, and Colombia. In its 2014 report, the Manpower Group estimates that 44 percent of employers in Mexico had difficulty filling jobs.[35] As the oil and gas sectors open to new investment and automotive and other manufacturing industries expand, employers are expressing concern that they will have difficulty finding workers with the right technical skills.

For decades, a symbiotic relationship existed between the governing PRI and the powerful teachers' unions, which left many of the nation's schoolchildren behind. Only 47 percent of Mexican children graduate from the equivalent of high school, and Mexico has the OECD's highest student/teacher ratio—25 pupils to every teacher, on average.[36] Meanwhile, many "ghost teachers" receive salaries without setting foot in the classroom, and teachers often sell or inherit their positions. The educational environment in rural areas is especially poor, with many lacking adequate infrastructure. The initial stages of the reform will upgrade rural schools and provide tablet computers to more than 700,000 schoolchildren through a "Digital Literacy" program.

Getting education right is the key to establishing Mexico's economic future. The working-age population is projected to rise at a CAGR of 0.9 percent during 2015–34, and supply side reforms to the labor market will help boost participation in the workforce. New flexibility in hiring and firing of workers should also help companies expand employment, as they are now free to hire workers for a specified training period of three or six months, after which they can terminate the contracts without being required to pay severance.

### Fig. 17: Comparative education quality

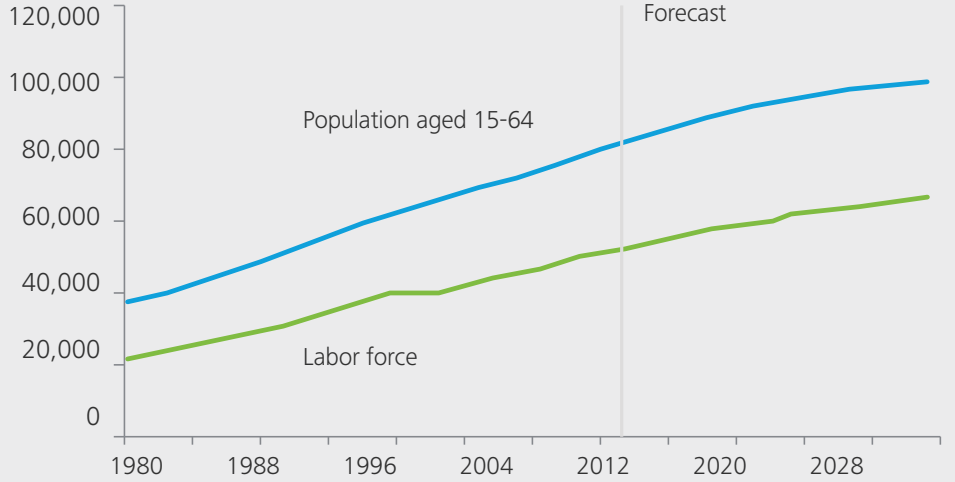
Global rank




Source: World Economic Forum, 2014-15 rankings

### Fig. 18: Labor force and population growth

Thousands




Source: Oxford Economics/United Nations

[35] "The Talent Shortage Continues: How the ever changing role of HR can bridge the gap" Manpower Group 2014, page 4 http://www.manpowergroup.com/wps/wcm/connect/0b882c15-38bf-41f3-8882-44c33d0e2952/2014_Talent_Shortage_WP_US2.pdf?MOD=AJPERES

[36] OECD, *Education at a Glance 2011* http://www.oecd.org/edu/skills-beyond-school/48631144.pdf

## Anti-corruption

Corruption and bribery continue to plague Mexico. A considerable part of the population relies on economic practices that are tolerated, but outside the law; selling goods on the street is the prime example. However, informal economies are often regulated with petty corruption (e.g., bribing police to look the other way).[37] The sheer size of the informal economy in Mexico represents a significant challenge for economic growth and development.

Recently, a number of high-profile government procurement corruption cases drew attention to the need for more stringent anti-corruption policies and the Mexican government has recently taken meaningful steps to combat corruption.

### Mexico's anti-corruption policies

The Mexican government has taken legislative and administrative measures to prevent, penalize, and eradicate corruption in relation to government procurement. In 2012, the Mexican Congress passed the Federal Anti-corruption in Public Procurement Act (*Ley Federal Anticorrupcion en Contrataciones Publicas*), which affects both public officials and individuals participating in competitive biddings with public entities.[38] This law ensures that the public bidding procedures are carried out legally and transparently, compelling companies to bid on equal terms.

The law also imposes responsibilities and administrative sanctions on domestic and foreign natural persons or legal entities for violations incurred while participating in federal public bidding procedures and for violations incurred in international commercial transactions.[39] The punishable acts under this law include: offering of giving money or any kind of gift to a public official or third parties; influence peddling; fraud; and providing false documentation to participate in tenders.[40]

This law constitutes a significant step in the right direction and serves as a basis for the compliance of commitments made by the Mexican state by signing three international anti-corruption treaties: the Inter-American Convention against Corruption (Organization of American States); the Convention for Combating Bribery of Foreign Public Officials in International Business Transactions (Organization for Economic Cooperation and Development); and the United Nations Anticorruption Convention).[41]

Among the administrative measures taken by the Mexican federal government is the creation of the Special Agency of the Attorney General's Office for Crimes Related to Corruption Activities (*Fiscalia Especializada en Materia de Delitos Relacionados con Actos de Corrupcion*). This agency will be in charge of investigating and persecuting federal jurisdiction crimes involving acts of corruption, as well as any other crime committed by federal public servants.[42] This initiative was referred to the Justice and Legislative Studies Commission of the Senate on 27 November 2014, and its approval is currently pending.

Reducing the level of corruption and bribery will likely not be immediate and without challenges, but recent reforms look very promising. With the legal framework in place, future steps may include finding ways to reduce incentives to accept bribes.

[37] "Three Causes Behind Mexico's Crisis of Corruption and Impunity," by Claudio Lomnitz (http://www.huffingtonpost.com/claudiolomnitz/mexico-corruption-causes_b_6186682.html), accessed 14 April, 2015.

[38] U.S. Department of State, 2013 Investment Climate Statement – Mexico, Bureau of Economic and Business Affairs Report. February 2013. http://www.state.gov/e/eb/rls/othr/ics/2013/204693.htm

[39] Federal Anti-corruption in Public Procurement Act (http://www.diputados.gob.mx/LeyesBiblio/pdf/LFACP.pdf) accessed on 14 April, 2015.

[40] Ibid

[41] Congressional Declaration of Purpose of the Federal Anti-corruption in Public Procurement Act (http://www.diputados.gob.mx/LeyesBiblio/proceso/lxi/252_DOF_11jun12.pdf) accessed on 14 April, 2015.

[42] Ibid

# 9. Conclusion: Prospects for future growth

As Mexico begins to break up longstanding monopolies and push forward with a number of significant reforms, they will continue to open its economy more fully to global trade and competition. There are a number of opportunities that suggest the country's competitive future should be bright.

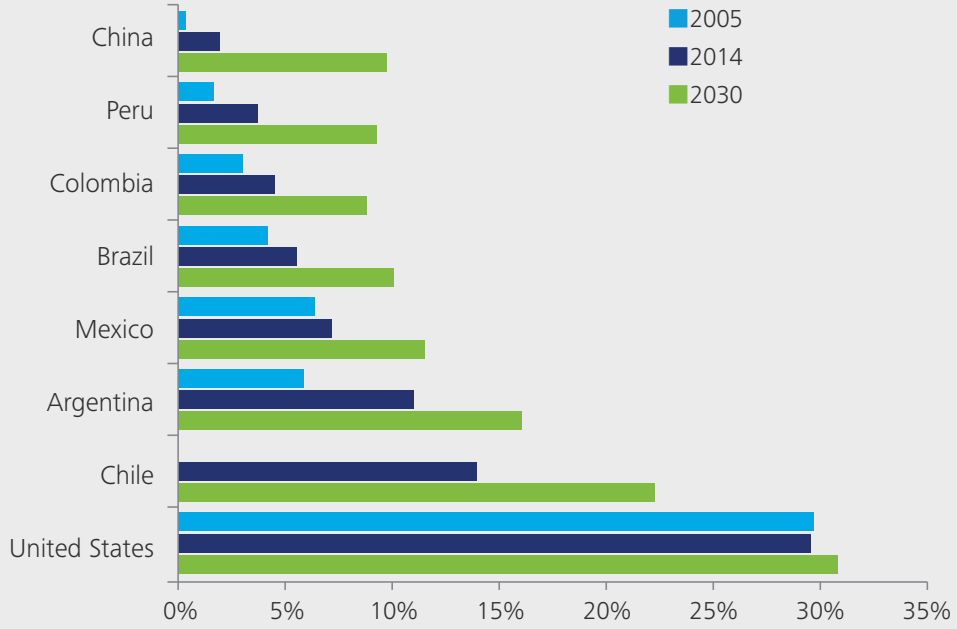
Although Mexico's trade with the rest of Latin America is relatively small compared with trade with the United States (which accounts for about 7 percent of total merchandise exports), an enormous opportunity exists for this trade to increase over the next two decades.

Across Latin America, the growth in households with incomes of US$35,000 or more is expected to at least double from 2014 to 2030. This should create a new source of demand for some of the high-value manufactured goods in which Mexico has a comparative advantage, such as automobiles.

Moreover, Mexico may be able to greatly expand its access to foreign markets if the TPP takes hold. This treaty would more closely link 12 Pacific economies,[43] including Mexico, Australia, Japan, Peru, and the United States, but would not include China. If approved, the deal would likely give Mexican companies cheaper access to capital goods from Japan and South Korea, could foster even greater foreign investment, and could raise Mexico's longer-term growth rate by close to 1 percentage point.

Another, more modest trade opening could come from the normalization of relations between the United States and Cuba. Though Cuba is a relatively minor economic player today in the Latin American region, with an economy just one-sixteenth the size of Mexico's, a major economic transformation cannot be ruled out if the U.S. government, lifts a trade embargo and U.S. firms are welcomed to invest and sell in Cuba. This rapprochement could offer a residual boost to Mexico's manufacturers.

**Fig. 19: Comparative household income levels**
Households with an income greater than US$35,000
Household share population




Source: Oxford Economics/Haver Analytics

[43] The 12 countries currently negotiating are the US, Canada, Mexico, Japan, Australia, New Zealand, Chile, Singapore, Brunei, Peru, Vietnam, and Malaysia. In addition, South Korea has expressed an interest to join the group, and other countries such as Indonesia, the Philippines, and Thailand are also possible members.

But Mexico should not ignore the border it already has. U.S.-Mexico trade has grown six-fold since NAFTA was implemented in 1994, however, border crossings and transportation infrastructure have not kept pace. Public-private partnerships and binational planning regimes can help increase efficiency and speed trade flows between the two countries. Proposed reforms can also boost infrastructure as the government attempts to improve transportation, energy, and telecommunications—actions that can also help grow the construction sector.

In the end, confidence in government—the enforcement of rules, the ability to reduce crime, and trust that the system will work fairly for all its citizens—will remain key in propelling Mexico onto a faster growth trajectory. Companies that know they are likely to be caught and prosecuted for nonpayment of taxes are more likely to join the "formal" economy. Higher salaries for inspectors and police officials can mitigate the influence of bribery and corruption and raise the prospects that polluters or those who violate workers' rights will be prosecuted. A more unyielding collection of taxes will also boost the states' coffers and give Mexico's government the additional resources to invest in the infrastructure the country needs to catalyze further growth.

## Fig. 20: Economic Forecast for Mexico*

CAGR, unless otherwise specified

| Forecast for Mexico | | | | | |
|---|---|---|---|---|---|
| | 2010-14 | 2015-19 | 2020-24 | 2025-34 | 2015-34 |
| Real GDP growth | 2.9% | 3.9% | 3.0% | 2.7% | 3.1% |
| CPI inflation | 3.8% | 3.2% | 3.1% | 3.1% | 3.2% |
| Industrial production | 1.8% | 4.7% | 3.3% | 3.3% | 3.6% |
| Unemployment rate (%) | 5.0% | 4.5% | 4.5% | 4.5% | 4.5% |
| Current account balance (% of GDP) | -1.5% | -2.5% | -2.4% | -2.3% | -2.4% |
| Government balance (% of GDP) | -2.9% | -3.5% | -3.1% | -3.2% | -3.2% |
| Working age population growth | 1.8% | 1.4% | 1.1% | 0.6% | 0.9% |
| GDP per capita (2010 $ at PPP exchange rates) | 15750 | 17470 | 19739 | 22858 | 20731 |

* Oxford Economics

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