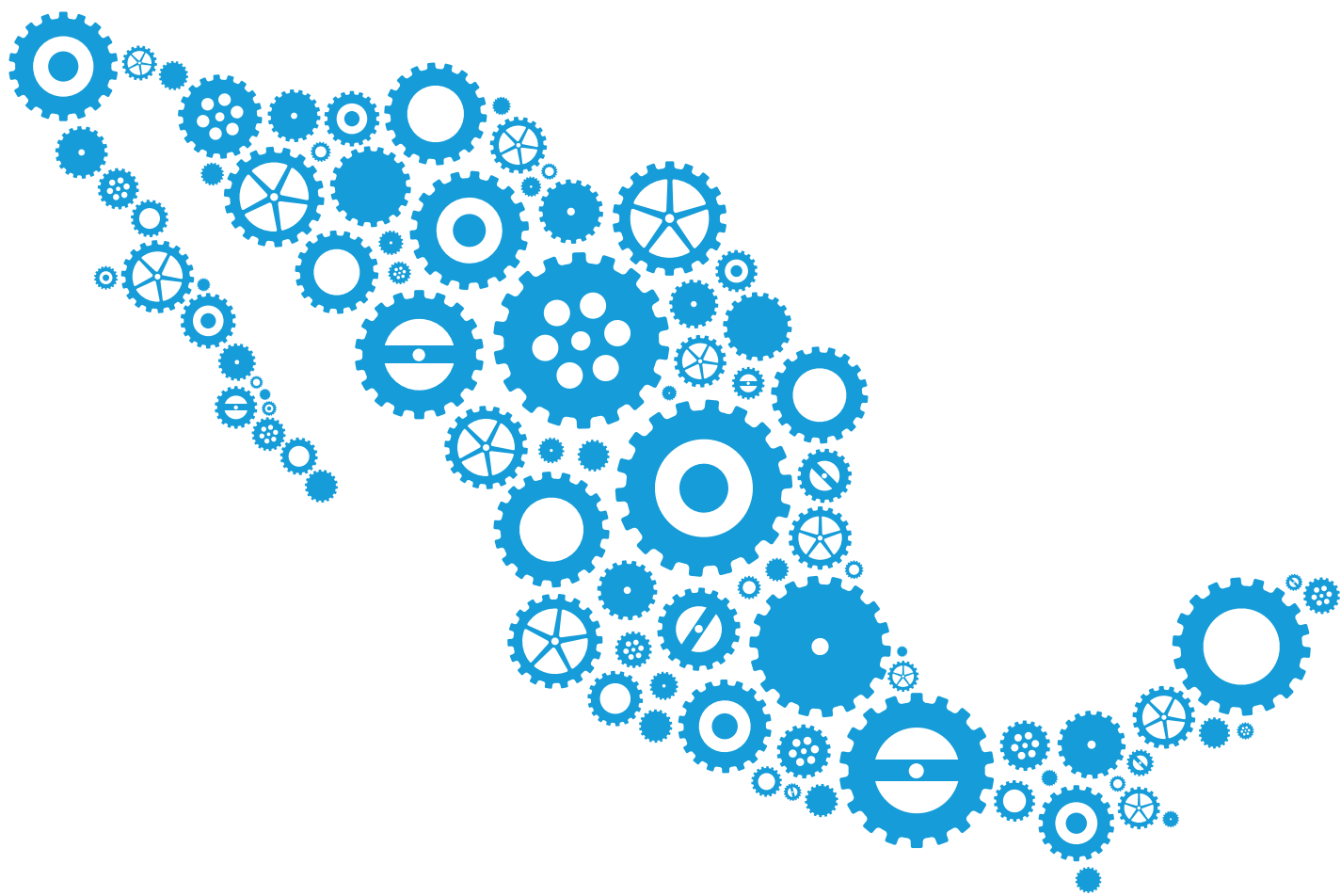


# Mexico Regional Sectorial Outlook

1<sup>st</sup> HALF 2016 | MEXICO UNIT



01  
In 2016, growth in domestic demand could partially and temporarily offset the feeble tone in export sectors

02  
The Mexican aeronautics industry has undergone strong development, even though it still accounts for a relatively small part of the economy

03  
The petrochemicals sector in Mexico may benefit indirectly from higher investment to be channelled into the oil and gas industry in future years

04  
In 2016, the highest economic growth will be in the Touristic region, followed by the industrial states

## Index

1. Summary .....	2
2. Regional and sector analysis	
2.a Sectoral economics .....	4
2.b Sectoral outlook .....	10
2.c In most regions of Mexico, growth rates in 2016 will be on a par with 2015 .....	12
Box 1: The economic impact of lower oil prices on hydrocarbon producing states .....	15
3. Special reports	
3.a The aeronautics industry in Mexico.....	17
3.b The future challenge will be to integrate petrochemicals with the domestic oil and gas industry .....	26
4. Appendix	
4.a Indicators of economic performance by state .....	30
4.b Indicators by state .....	31
5. Special Reports Included in Previous Issues.....	40

Closing date: April 28, 2016

# 1. Summary

## Manufacturing exports from Mexico are expected to be less buoyant in 2016

The foreign sector is vital for the performance of the Mexican economy. A more dynamic export sector and higher inflows of foreign direct investment into Mexico will boost employment and income. While auto exports to the USA rose by 2.4% in 1Q16 vs. 6.3% throughout the whole of 2015, the downturn in exports to the rest of the world continued with corresponding figures of -18.7% vs. -3.7%, respectively. The current lack-lustre external setting was also evident in non-auto exports both to the US and to the rest of the world. Exports to the US were down -2.8% YoY in 1Q16 vs. 0.6% in 2015. Non-auto exports to the rest of the world remained stagnant.

Although estimated sector wide growth for 2016 does not appear to be more dynamic than in 2015, economic activity in most sectors will continue to advance. In coming months, we expect the external sector to gain traction, and this will be eventually passed on to the domestic market. As a result, manufacturers will achieve growth of 1.9% in 2016 vs. 2.7% in 2015. The most dynamic sectors will be activities associated with the manufacturing of transport equipment, consumer electronics products and communications equipment. Economic activity in the services sector, meanwhile, is expected to slow down during 2016, with a forecast of 2.4% vs. 3.3% in 2015.

## In most regions of Mexico, growth rates in 2016 will be on a par with 2015

Our forecast of growth in GDP for 2016 is 2.2%, slightly down on the 2.5% for the previous year. According to our forecasts, three of the five regions into which we have divided Mexico according to economic activity, will report similar economic performances as in 2015. The following forecasts for 2016 are particularly significant: i) the Touristic region will show the highest economic growth; ii) given that Industrial region accounts for the highest weight of national GDP, its growth is expected to slow down by only 0.2 percentage points against 2015; and iii) the Medium Development region is estimated to grow 0.7%, lagging behind the 1.5% growth of last year.

To provide a better understanding of Mexico's economic performance in 2014, 2015 and our forecasts for 2016, we conducted a comparison against the preceding three-year period. Taking only the last three years into account (including 2016), the Mexican economy is expected to grow 2.3% on average, which is behind the average growth of 3.1% reported during the 2011-2013 period. All regions have reported a worse economic performance over the latest three-year period than in the preceding one. A regional impact analysis was performed in order to pinpoint the factors behind the slowdown in national economic growth in 2014-2016 compared with the 2011-2013 period. It was found that the Medium Development region accounts for 42.1% of domestic economic slowdown, while the High Development region accounts for 37.7%. The Industrial region is ranked third, with a contribution of 14.8%, while the Touristic and Low Development, together account for 5.5%.

## Special topics: the Mexican aeronautics industry on the path to consolidation; and the opportunity for bolstering the domestic petrochemicals sector in future years

This edition of *Mexico Regional Sectorial Outlook* includes two analyses of the following subjects: 1) the current setting in the Mexican aeronautics industry and the challenges it faces for consolidation; and 2) the main source of competition (Pemex or foreign) for the private sector in the manufacturing of core petrochemical products made in Mexico and also suggestions on how to boost the domestic petrochemical industry.

The most salient aspects which emerge from our analysis of the Mexican aeronautics industry are: i) the sector's foreign sales represented 1.9% of manufactured exports in 2014 vs. 32.4% for the auto sector; ii) although in fact both sectors were equally robust in terms of growth over the last five years; iii) the aeronautics sector employed almost 24,000 people in 2015, a little over the double of the number observed in 2010; and iv) the most important challenge faced by the industry is the shortage of skilled workers and deficiencies in the supply chain.

The outlook for the Mexican aeronautics industry is bright in view of the global growth in passenger air traffic. According to recent indicators, Mexico is the sixth-ranking supplier of spare parts, engines and ancillary equipment for the United States aeronautics industry, and accounts for 5.3% of its imports market for such products during 2015. The development of the Mexican aeronautics sector has profited from geographical proximity, the quality of the workforce, lower labour costs and the integration with the two most important transport corridors for manufacturing in North America. According to our estimates, Mexico will export 7.5 billion dollars of aeronautics products in 2016.

The energy reform approved by the Mexican State Congress in December 2013 was designed to mainly promote private investment in the oil and gas industry. However, oil and gas extraction will draw investments which will also create opportunities for the petrochemicals industry. In order to bring about a quality integration between these two industries, the minimum percentages of national content in suppliers would have to be relatively low and stay low over the course of time, in order to develop an internationally competitive domestic supply chain of petrochemicals. It is important to note that the integration of the petrochemicals industry with the domestic oil and gas industry will have a few tailwinds to help it in the short- and part of the mid-term, bearing in mind the outlook for oil prices in coming months, with a likely scenario of "much lower prices for longer".

Ultimately, the degree to which the domestic petrochemicals industry is bolstered will depend on a number of different factors: a) favourable commodity prices; b) larger-scale petrochemicals production plants which help to bring down the costs per tonne produced; c) proximity to regions with the highest growth in petrochemicals demand; and d) a first-class physical and institutional infrastructure to mobilise petrochemicals products and grant them legal security, respectively.

## 2. Regional and sector analysis

### 2.a Sectoral economics

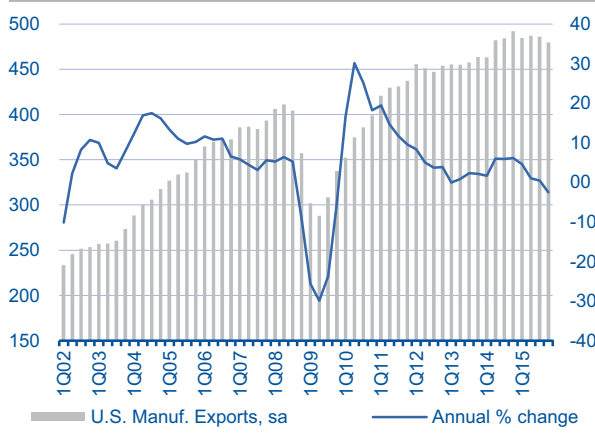
#### External demand, shaped by feeble economic growth and lower growth in international trade

Since 2013, global growth has advanced at a weak pace, constrained by structural problems, macroeconomic imbalances and a fragile international financial system, and this has in turn prompted a significant slowdown in international trade. In the United States, the dollar's appreciation - which began in the third quarter of 2015 -, low oil prices and lower external demand growth have held back exports growth and investment associated with the energy sector.

Lower global demand for goods slowed annual growth in US manufacturing exports (see figure 1), weakening production. During the last three quarters (3Q15-1Q16), production growth in manufacturing –with seasonally adjusted figures cooled still further, with average growth of 0.7% vs. 1.8% YoY in the three preceding quarters (3Q14-2Q15).

Figure 2a.1

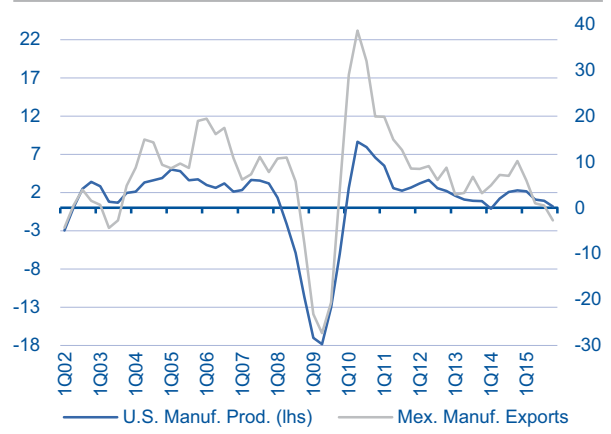
**US total Manufacturing Exports (USD mn and YoY % change, sa)**



Source: BBVA Research with USITC data  
sa=seasonally adjusted

Figure 2a.2

**Mexico Total Manufacturing Exports and US Manufacturing Production (YoY % change, sa)**



Source: BBVA Research with INEGI and U.S. Federal Reserve data  
sa=seasonally adjusted

#### Low growth in Mexican manufacturing exports

Thus, given that the United States and Mexico manufacturing sectors share production chains, the factors which impact the performance of the US manufacturing sector have effects on production and exports of Mexican manufacturers. Hence, a fall in US exports has a significant impact on the trend in Mexican exports.

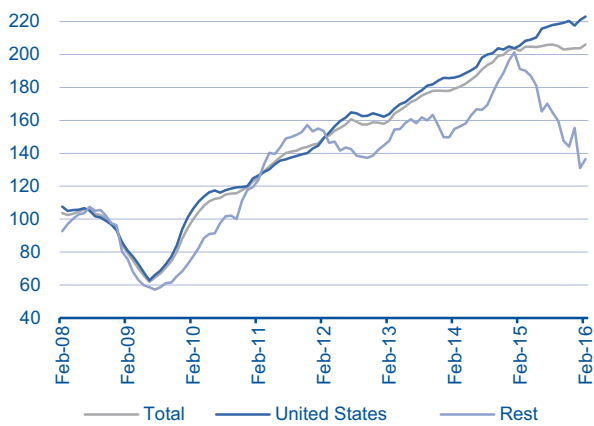
The foreign sector is vital for the performance of the Mexican economy. Exports are a good sign of a manufacturing sector's competitiveness and performance. A dynamic export sector reflects growth in employment and investment flows, particularly foreign investment, received by the country.

Auto exports towards the United States are positive in terms of dollars (in 1Q16 they rose 2.4% YoY after 6.3% throughout 2015), while the downturn in exports to the rest of the world continued (-18.7% in 1Q16 after -3.7% in 2015). However, one recent concern about auto exports is the slowdown in light vehicle units exported to North America. In 1Q16 such exports rose slightly by 0.4% YoY due to a 9.8% fall in March, given that some plants had to receive maintenance, and also because of the Easter seasonal effect, which had an adverse impact on the annual comparison (in the preceding year, Easter had been in April). In 2015, auto exports accounted for 34% of manufactured exports and 30% of the total.

Non-auto exports to the US hardly grew during the whole of 2015 (0.6% YoY), and this trend has been compounded in 1Q16, exports down 2.8% YoY. Non-auto and auto exports to the rest of the world remained stagnant and down, respectively.

Figure 2a.3

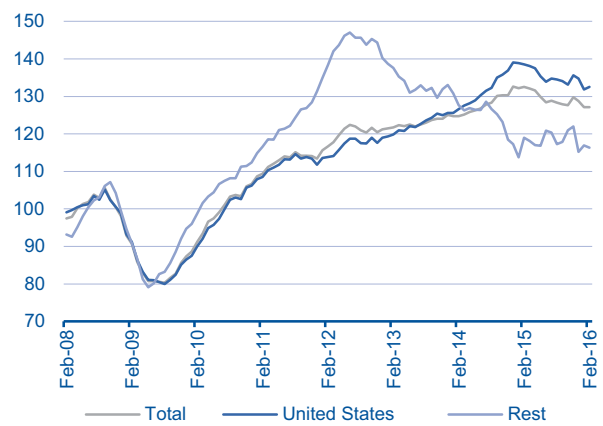
**Mexico Auto Exports according to destination**  
(Index 2008=100, sa 6mma)



Source: BBVA Research with INEGI data  
sa=seasonally adjusted and 6mma=6-month moving average

Figure 2a.4

**Mexico Non-Auto Exports according to destination**  
(Index 2008=100, sa 6mma)

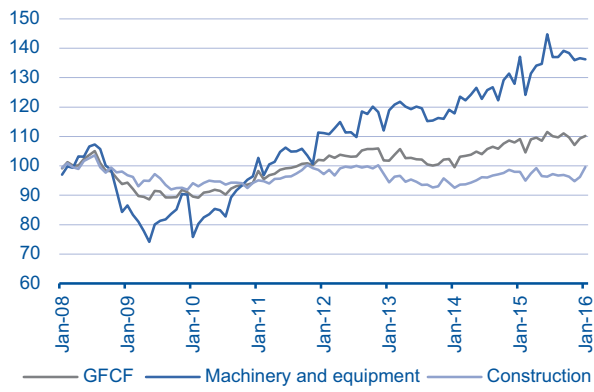


Source: BBVA Research with INEGI data  
sa=seasonally adjusted and 6mma=6-month moving average

**GFCF remains sluggish, above all construction - the most important component**

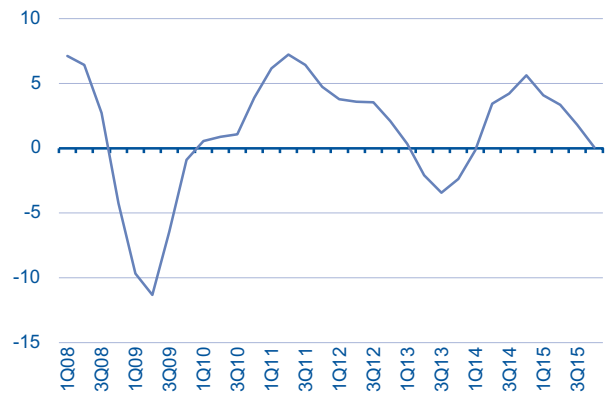
Gross fixed capital formation (GFCF) showed a trend of slowing growth during 2015. The year got under way with growth of 4.1% in 1Q15 and ended at barely 0.1% in 4Q15. In January 2016, GFCF reported modest growth of 1%. The most important part of GFCF is construction, which accounts for 62.2%, while acquisition of machinery and equipment contributes the remaining 37.8%. In recent years, construction has been virtually stagnant. Looking forward into the future, little improvement seems to be likely, especially in construction. Public spending cuts prompted by lower governmental income, due to falls in oil price and production, have not only had an impact in 2015, but will do so in 2016 and 2017. Budget cuts will not only entail lower public spending, but will also have an impact on private investment. It is likely to see both fewer opportunities to generate jobs and lower growth in real income, so private consumption of goods and services will prove less dynamic.

Figure 2a.5  
**Gross Fixed Capital Formation**  
(Index 2008=100, sa)



Source: BBVA Research with INEGI data  
sa=seasonally adjusted

Figure 2a.6  
**Gross Fixed Capital Formation**  
(YoY % change, sa)



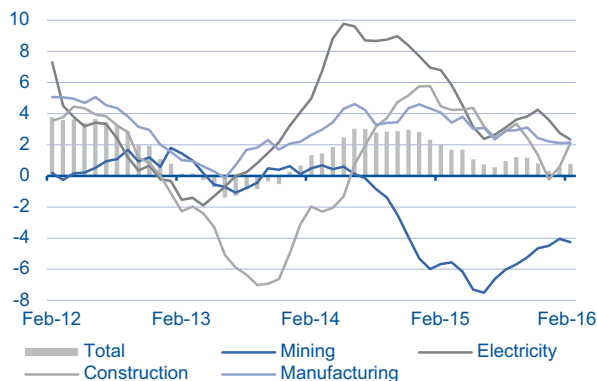
Source: BBVA Research with INEGI data  
sa=seasonally adjusted and 6mma=6-month moving average

**Even though all the components of industrial output were weakened in 2015 and in 1H16, they all ended up in positive territory, except for mining**

If we analyse the different sectors of industrial activity in 2015, we observe growth of 3.8% in electricity generation and supply, water and gas, which represents 7% of the total; construction was up 3.1%, representing 22.1% of the sector; and manufacturing industries, which represented 50.6%, advanced by 2.7%. These three sectors reported a strong performance and would have led to higher growth in the sector as a whole had it not been for mining, which contracted 5.7% with a total weight of 20.3% in secondary activities. The main reason was the fall of around 50% in oil prices, although oil production was also down 7%. In the first two quarters of 2016, industrial activity posted 1.1% growth YoY, underpinned by increases of 2% in manufacturing, 3.9% in construction and 2.6% in electricity. Mining, on the other hand, contracted 4%.

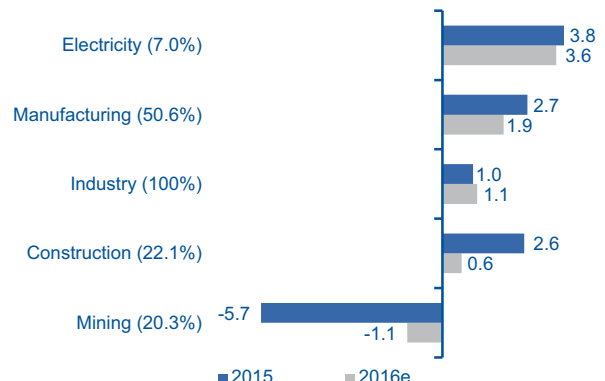
While mining is expected to continue to trend downwards (-1.1%) in 2016, it is not expected to exert such an adverse impact on industrial production. Industrial production is estimated to grow 1.7% in 2016. Growth will be driven most noticeably by electricity, with increases of over 3%. Manufacturers will remain constrained by weak foreign demand, with growth of approximately 2% in 2016. Construction is expected to report growth in the region of 0.6%.

Figure 2a.7  
**Mexico Industrial Output**  
(YoY % change , sa)



Source: BBVA Research with INEGI data  
sa=seasonally adjusted

Figure 2a.8  
**Industrial output**  
(YoY % change)



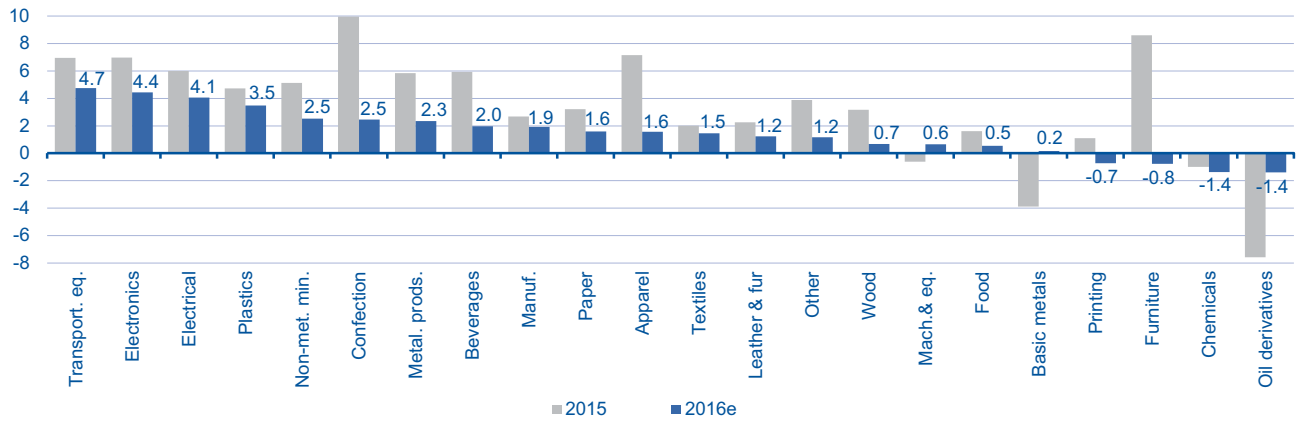
Source: BBVA Research with INEGI data, the information in brackets is the amount contributed by the components in 2015, e=estimated

**In 2015, manufacturing sectors performed positively but will be less dynamic in 2016**

In 2015, thirteen out of the 21 sub-sectors of the manufacturing sector reported average growth of over 2.7%, while four sectors showed weaker growth but were still in positive territory. Machinery and equipment, chemicals, basic metals, oil and derivatives, were all in negative territory - the latter falling most abruptly (-7.6%).

Manufacturing will face further lower foreign demand in 2016. We expect only eight out of the 21 sectors to report above average growth. Nine sectors will lag behind manufacturing in terms of growth and four will be in negative territory. Growth in 2016 will be slow but dynamic.

Figure 2a.9  
**Trend in manufacturing components 2015 and 2016e (YoY % change)**



Source: BBVA Research with INEGI data  
e=estimated

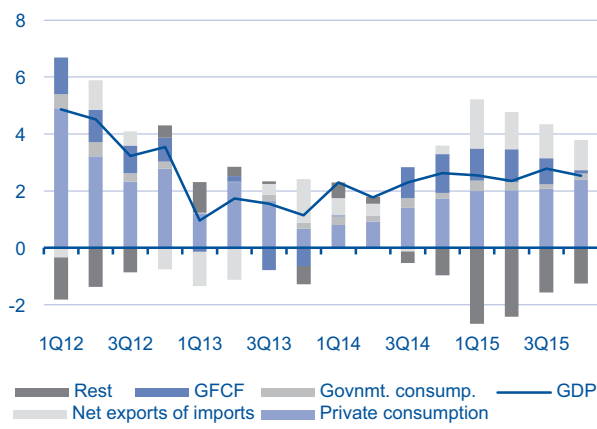
**The big surprise in 2015 and in 1Q16 was that productive activity was driven to a greater degree by private consumption than by exports**

Despite low growth in exports and persistently low gross fixed investment, private consumption saw further improvement - possibly due to a positive remittances trend in real pesos and workers' income in the formal sector (measured by the IMSS total payroll). Another positive factor is the attractive credit terms especially for durable goods such as transport vehicles. Apparently, though, this is not enough to explain the growth in consumption. Another possible cause is constrained demand which is finally materialising.

This has been evident in growth in both domestic auto sales and in sales reported to ANTAD, and also a buoyant tone in the services sector.

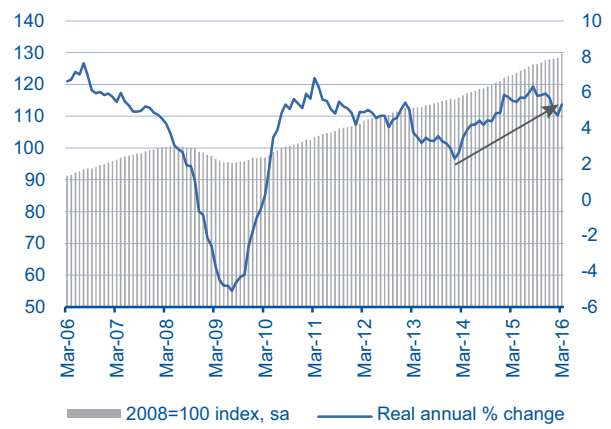


Figure 2a.10  
**Household and business private consumption (YoY % change)**



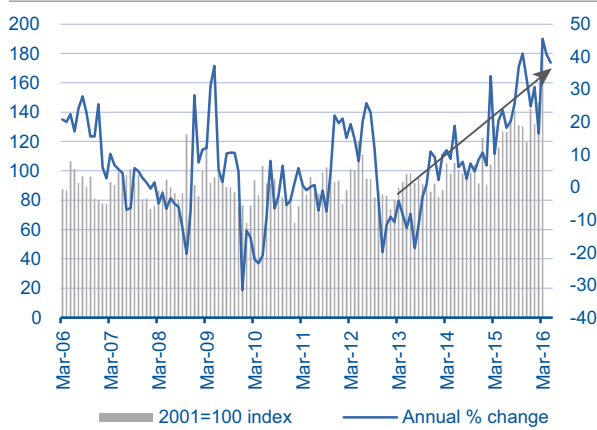
Source: BBVA Research with INEGI data; sa=seasonally adjusted  
The others item consists of change in inventory and statistical discrepancies

Figure 2a.11  
**Total Payroll of workers registered with the Social Security (IMSS) (Index 2008=100, sa and real annual change %)**



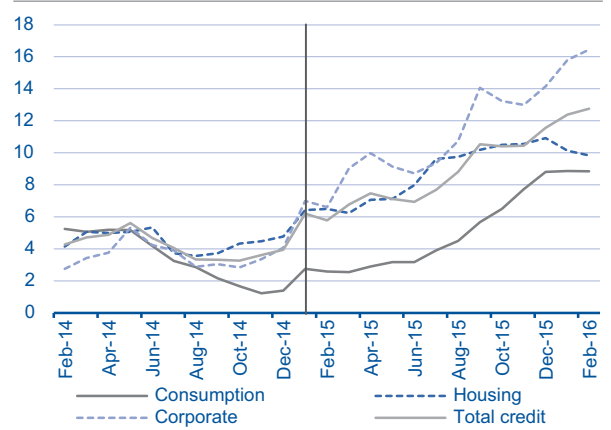
Source: BBVA Research with STPS data  
sa=seasonally adjusted

Figure 2a.12  
**Household Remittances in real pesos (Index 2001=100 and YoY % change)**



Source: BBVA Research with Banco de México data

Figure 2a.13  
**Commercial banking outstanding loans to private sector by segment (real annual change %)**



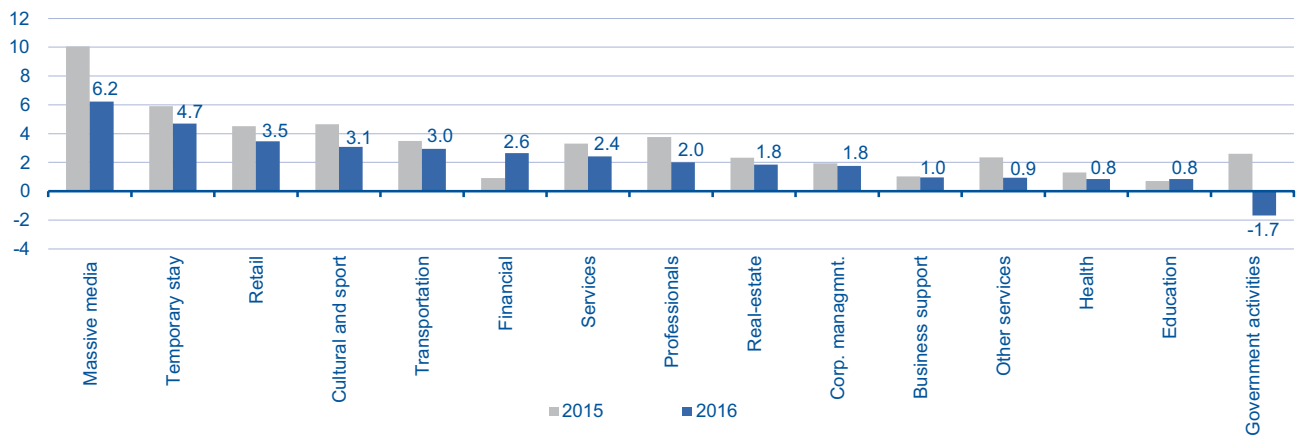
Source: BBVA Research with Banco de México data

**Strong growth in services activity in 2015, though it appears unlikely that this trend can be maintained during the rest of 2016**

In 2015, the services sector as a whole surged 3.3%. All sectors closed the year in positive territory, although six out of the fourteen stood out in particular because of the above-average growth rates: media, with 10% YoY; temporary accommodation (hotels and restaurants), with 5.9%; leisure, 4.7%; retail and wholesale commerce, 4.5%; professional services, with 3.8%; and transport and communications, with 3.5%.

In 2016, growth in the services sector is expected to slow to 2.4% YoY. Once again, growth will be driven by the sectors of media, with 6.2% YoY; tourism, with 4.7%; trade, 3.5%; transport, with 3%; and financial services, up 2.6%. The only sector where we expect negative growth is government spending, which will be down 1.7%. Growth in services would be constrained by a number of factors, which include budgetary cuts which will entail not only lower public investment but also less private investment, as well as feeble growth in non-oil exports. Growth in household and business income, and, consequently, in employment, will be held back by these two factors.

Figure 2a.14  
Trend in services sector components 2015 and 2016e (YoY % change)



Source: BBVA Research with INEGI data  
e=estimated

## Conclusions

Although estimated sector wide growth for 2016 does not appear to be more dynamic than in 2015, economic activity in most sectors will continue to gain traction. In coming months, we expect the foreign sector to recover faster, and this will be eventually passed on to the domestic market. As a result, manufacturers will achieve growth of 1.9% in 2016. In any event, the most dynamic divisions will be activities connected with the manufacturing of transport equipment, consumer electronics products and communications equipment. Private consumption and demand for services will be fuelled by stronger growth in the US economy, sustained growth in remittance shipments in real pesos, total payroll and private sector lending. We actually estimate growth of 2.4% in the services sector, above the estimated growth in GDP for 2016 (2.2% YoY).

The scenario outlined in the preceding paragraph is not without risks, including, in particular: 1) a less buoyant mood in the US economy, thus having an even bigger impact on Mexico's non-oil exports, and, with it, manufacturing, trade and transport services; and 2) a stronger impact on public and private investment stemming from public sector spending cuts.

## 2.b Sectoral outlook

Table 2b.1

## Mexico, Indicators and sectorial forecasts, production base 2008=100, sa

					Annual % change							
	2013	2014	2015	2016	1Q15	2Q15	3Q15	4Q15	1Q16	2Q16	3Q16	4Q16
<b>Total GDP</b>	1.6	2.3	2.5	<b>2.2</b>	2.5	2.4	2.7	2.5	<b>2.0</b>	<b>2.3</b>	<b>2.3</b>	<b>2.1</b>
Primary	0.8	4.6	3.1	<b>4.0</b>	2.9	2.8	4.0	2.9	<b>3.6</b>	<b>5.2</b>	<b>3.5</b>	<b>3.7</b>
Secondary	-0.6	2.6	1.0	<b>1.1</b>	1.7	0.7	1.2	0.2	<b>0.7</b>	<b>0.9</b>	<b>1.5</b>	<b>1.5</b>
Mining	-0.5	-1.5	-5.7	<b>-1.1</b>	-5.3	-7.9	-5.6	-4.1	<b>-1.6</b>	<b>-1.6</b>	<b>-0.6</b>	<b>-0.6</b>
Electricity, water, and supply of gas	0.5	8.2	3.8	<b>3.6</b>	5.7	2.3	3.7	3.6	<b>3.8</b>	<b>3.7</b>	<b>3.9</b>	<b>2.9</b>
Construction	-4.7	1.9	2.6	<b>0.6</b>	4.6	3.0	3.3	-0.5	<b>1.0</b>	<b>0.2</b>	<b>1.1</b>	<b>0.2</b>
Manufacturing	1.3	4.0	2.7	<b>1.9</b>	3.8	2.7	3.0	1.4	<b>1.1</b>	<b>1.8</b>	<b>2.2</b>	<b>2.7</b>
<b>Tertiary</b>	2.7	1.9	3.3	<b>2.6</b>	2.9	3.2	3.4	3.7	<b>2.7</b>	<b>2.9</b>	<b>2.7</b>	<b>2.3</b>
Retail trade	2.8	3.1	4.5	<b>3.8</b>	5.9	3.6	4.7	4.0	<b>3.9</b>	<b>4.3</b>	<b>3.9</b>	<b>3.0</b>
Transportation, mail and storage	2.7	3.2	3.5	<b>3.0</b>	3.3	3.0	4.1	3.5	<b>2.9</b>	<b>4.1</b>	<b>2.5</b>	<b>2.4</b>
Information in mass media	5.1	0.2	10.0	<b>7.2</b>	5.2	4.6	11.7	18.8	<b>8.0</b>	<b>7.2</b>	<b>7.0</b>	<b>6.8</b>
Insurance and financial services	10.5	-0.9	0.9	<b>2.6</b>	-0.4	-0.4	1.9	2.5	<b>2.6</b>	<b>2.9</b>	<b>2.3</b>	<b>2.8</b>
Real estate and leasing services	1.0	2.0	2.3	<b>2.3</b>	1.8	3.2	2.2	2.1	<b>2.1</b>	<b>2.0</b>	<b>2.8</b>	<b>2.2</b>
Prof., scientific, and technical serv.	0.9	1.3	3.8	<b>2.0</b>	2.9	5.8	3.2	3.2	<b>1.8</b>	<b>2.9</b>	<b>2.0</b>	<b>1.4</b>
Corporate and company leadership	-1.4	7.2	1.9	<b>1.8</b>	-2.0	1.0	4.9	3.9	<b>1.3</b>	<b>1.6</b>	<b>1.9</b>	<b>2.2</b>
Business support serv.	4.3	-0.2	1.0	<b>1.0</b>	2.4	0.4	0.7	0.6	<b>1.1</b>	<b>1.0</b>	<b>0.7</b>	<b>1.1</b>
Educational services	0.8	0.1	0.7	<b>0.8</b>	0.1	0.7	0.4	1.6	<b>0.9</b>	<b>0.9</b>	<b>0.8</b>	<b>0.7</b>
Health and social welfare services	0.6	-0.6	1.3	<b>0.8</b>	1.1	1.6	1.1	1.5	<b>0.8</b>	<b>0.9</b>	<b>0.7</b>	<b>0.9</b>
Leisure and relaxation, cult., & sports serv.	4.0	-1.4	4.7	<b>3.1</b>	3.3	5.9	4.5	4.9	<b>3.5</b>	<b>3.0</b>	<b>3.6</b>	<b>2.3</b>
Hotel, motel, lodging & prep. of food & bev.	1.8	2.9	5.9	<b>4.7</b>	3.8	4.6	7.1	8.1	<b>5.6</b>	<b>5.5</b>	<b>5.3</b>	<b>2.5</b>
Other serv. except gov't activities	2.1	1.5	2.4	<b>0.9</b>	3.1	1.7	1.3	3.3	<b>0.7</b>	<b>0.6</b>	<b>1.7</b>	<b>0.8</b>
Government activities	-0.4	2.9	2.6	<b>-1.7</b>	5.4	4.0	0.8	0.3	<b>-1.6</b>	<b>-1.4</b>	<b>-2.7</b>	<b>-1.0</b>
	Share, %				Contribution to growth, pp							
	2013	2014	2015	2016	2013	2014	2015	2016	2013	2014	2015	2016
<b>Total GDP</b>	100.0	100.0	100.0	<b>100.0</b>					1.6	2.3	2.5	<b>2.2</b>
Primary	3.0	3.1	3.1	<b>3.2</b>					0.0	0.1	0.1	<b>0.1</b>
Secondary	33.6	33.7	33.2	<b>32.9</b>					-0.2	0.9	0.3	<b>0.4</b>
Mining	7.6	7.3	6.7	<b>6.5</b>					0.0	-0.1	-0.4	<b>-0.1</b>
Electricity, water, and supply of gas	2.2	2.3	2.3	<b>2.4</b>					0.0	0.2	0.1	<b>0.1</b>
Construction	7.4	7.3	7.3	<b>7.2</b>					-0.4	0.1	0.2	<b>0.0</b>
Manufacturing	16.5	16.8	16.8	<b>16.8</b>					0.2	0.7	0.4	<b>0.3</b>
<b>Tertiary</b>	60.7	60.5	61.0	<b>61.2</b>					1.6	1.1	2.0	<b>1.6</b>
Retail trade	15.3	15.4	15.7	<b>15.9</b>					0.4	0.5	0.7	<b>0.6</b>
Transportation, mail and storage	5.8	5.8	5.9	<b>5.9</b>					0.2	0.2	0.2	<b>0.2</b>
Information in mass media	3.4	3.3	3.5	<b>3.7</b>					0.2	0.0	0.3	<b>0.3</b>
Insurance and financial services	4.6	4.5	4.4	<b>4.4</b>					0.4	0.0	0.0	<b>0.1</b>
Real estate and leasing services	11.9	11.9	11.8	<b>11.9</b>					0.1	0.2	0.3	<b>0.3</b>
Prof., scientific, and technical serv.	2.2	2.2	2.2	<b>2.2</b>					0.0	0.0	0.1	<b>0.0</b>
Corporate and company leadership	0.6	0.6	0.6	<b>0.6</b>					0.0	0.0	0.0	<b>0.0</b>
Business support serv.	3.2	3.1	3.1	<b>3.0</b>					0.1	0.0	0.0	<b>0.0</b>
Educational services	3.7	3.6	3.5	<b>3.5</b>					0.0	0.0	0.0	<b>0.0</b>
Health and social welfare services	2.0	1.9	1.9	<b>1.9</b>					0.0	0.0	0.0	<b>0.0</b>
Leisure and relaxation, cult., & sports serv.	0.4	0.4	0.4	<b>0.4</b>					0.0	0.0	0.0	<b>0.0</b>
Hotel, motel, lodging & prep. of food & bev.	2.1	2.1	2.2	<b>2.2</b>					0.0	0.1	0.1	<b>0.1</b>
Other serv. except gov't activities	2.0	2.0	2.0	<b>2.0</b>					0.0	0.0	0.0	<b>0.0</b>
Government activities	3.6	3.6	3.6	<b>3.5</b>					0.0	0.1	0.1	<b>-0.1</b>

Note: forecasts appear in boldface. All figures are subject to review by the Institute.

sa: Seasonally adjusted; pp: Percentage points

Source: BBVA Research with INEGI data

Table 2b.2

**Mexico: Indicators and sectorial forecasts, manufacturing production base 2008=100, sa**

	Annual % change											
	2013	2014	2015	2016	1Q15	2Q15	3Q15	4Q15	1Q16	2Q16	3Q16	4Q16
<b>Total</b>	1.3	4.0	2.7	<b>1.9</b>	3.8	2.7	3.0	1.4	<b>1.1</b>	<b>1.8</b>	<b>2.2</b>	<b>2.7</b>
Food	1.0	0.5	1.6	<b>0.5</b>	1.9	1.3	2.1	1.1	<b>0.3</b>	<b>0.7</b>	<b>0.6</b>	<b>0.6</b>
Beverages and tobacco	-0.6	4.5	5.9	<b>2.0</b>	4.4	3.5	6.4	9.4	<b>1.9</b>	<b>2.4</b>	<b>2.2</b>	<b>1.4</b>
Textile inputs	-2.7	-3.1	2.0	<b>1.5</b>	-4.0	4.2	5.7	2.5	<b>1.2</b>	<b>1.7</b>	<b>1.6</b>	<b>1.3</b>
Production of textile products	3.5	6.1	10.0	<b>2.5</b>	4.0	16.5	13.5	6.0	<b>3.4</b>	<b>2.7</b>	<b>1.7</b>	<b>2.0</b>
Apparel	3.2	-2.8	7.2	<b>1.6</b>	-1.5	9.2	9.0	12.2	<b>1.2</b>	<b>1.4</b>	<b>1.8</b>	<b>1.8</b>
Leather and fur products	-0.7	-1.7	2.3	<b>1.2</b>	-0.1	4.9	1.4	2.9	<b>0.2</b>	<b>1.3</b>	<b>1.5</b>	<b>1.9</b>
Lumber industry	-2.0	1.1	3.2	<b>0.7</b>	6.6	6.1	0.9	-0.7	<b>-0.2</b>	<b>1.0</b>	<b>0.6</b>	<b>1.3</b>
Paper industry	2.2	3.1	3.2	<b>1.6</b>	4.8	2.6	4.1	1.5	<b>1.8</b>	<b>1.9</b>	<b>1.7</b>	<b>1.0</b>
Printing and related industry	-7.1	-2.4	1.1	<b>-0.7</b>	3.0	-1.4	0.6	2.3	<b>-3.9</b>	<b>-0.5</b>	<b>0.6</b>	<b>1.0</b>
Oil products	3.3	-4.4	-7.6	<b>-1.4</b>	-7.9	-11.7	-8.7	-1.5	<b>-0.8</b>	<b>-1.3</b>	<b>-1.6</b>	<b>-1.9</b>
Chemicals	0.8	-0.8	-1.0	<b>-1.4</b>	-1.6	0.4	-1.5	-1.2	<b>-1.2</b>	<b>-1.5</b>	<b>-1.3</b>	<b>-1.5</b>
Plastic and rubber products	-2.0	5.3	4.7	<b>3.5</b>	5.6	3.5	4.9	4.9	<b>3.3</b>	<b>3.3</b>	<b>3.6</b>	<b>3.6</b>
Non-metal mineral products	-3.1	1.9	5.1	<b>2.5</b>	3.7	4.7	7.7	4.6	<b>4.1</b>	<b>2.1</b>	<b>1.8</b>	<b>2.1</b>
Basic metal products	0.4	8.8	-3.9	<b>0.2</b>	-6.7	-2.1	1.4	-8.0	<b>-0.1</b>	<b>0.4</b>	<b>0.2</b>	<b>0.2</b>
Metallic products	-3.3	6.0	5.8	<b>2.3</b>	7.8	7.6	3.4	4.7	<b>2.2</b>	<b>2.3</b>	<b>2.5</b>	<b>2.4</b>
Machinery and equipment	0.9	-0.6	-0.6	<b>0.6</b>	-0.4	0.9	-2.4	-0.6	<b>1.3</b>	<b>0.2</b>	<b>0.5</b>	<b>0.5</b>
Computers and electronics	3.6	10.5	7.0	<b>4.4</b>	13.4	3.6	6.5	4.9	<b>3.6</b>	<b>4.6</b>	<b>5.1</b>	<b>4.4</b>
Electrical equipment	-2.0	8.4	6.0	<b>4.1</b>	6.8	8.9	5.2	3.3	<b>4.6</b>	<b>5.2</b>	<b>3.5</b>	<b>3.0</b>
Transportation and equipment	5.5	12.0	7.0	<b>4.7</b>	10.7	7.0	5.7	4.6	<b>1.6</b>	<b>4.5</b>	<b>6.5</b>	<b>6.4</b>
Furniture and related products	-6.3	-2.2	8.6	<b>-0.8</b>	10.6	18.0	11.5	-4.0	<b>-4.7</b>	<b>2.2</b>	<b>-0.7</b>	<b>-0.1</b>
Other manufacturing industry	-0.1	6.4	3.9	<b>1.2</b>	4.8	5.2	4.1	1.6	<b>0.5</b>	<b>1.5</b>	<b>0.6</b>	<b>2.0</b>

	Share, %				Contrib. to growth, pp			
	2013	2014	2015	2016	2013	2014	2015	2016
<b>Total</b>	100.0	100.0	100.0	<b>100.0</b>	1.3	4.0	2.7	<b>1.9</b>
Food	21.8	21.1	20.9	<b>20.6</b>	0.2	0.1	0.3	<b>0.1</b>
Beverages and tobacco	5.0	5.0	5.2	<b>5.2</b>	0.0	0.2	0.3	<b>0.1</b>
Textile inputs	0.7	0.7	0.7	<b>0.7</b>	0.0	0.0	0.0	<b>0.0</b>
Production of textile products	0.6	0.6	0.6	<b>0.6</b>	0.0	0.0	0.1	<b>0.0</b>
Apparel	2.5	2.3	2.4	<b>2.4</b>	0.1	-0.1	0.2	<b>0.0</b>
Leather and fur products	0.8	0.8	0.8	<b>0.8</b>	0.0	0.0	0.0	<b>0.0</b>
Lumber industry	1.0	1.0	1.0	<b>1.0</b>	0.0	0.0	0.0	<b>0.0</b>
Paper industry	2.0	2.0	2.0	<b>2.0</b>	0.0	0.1	0.1	<b>0.0</b>
Printing and related industry	0.7	0.7	0.7	<b>0.6</b>	-0.1	0.0	0.0	<b>0.0</b>
Oil products	3.7	3.4	3.0	<b>2.9</b>	0.1	-0.2	-0.3	<b>0.0</b>
Chemicals	11.7	11.2	10.8	<b>10.4</b>	0.1	-0.1	-0.1	<b>-0.1</b>
Plastic and rubber products	2.9	2.9	3.0	<b>3.0</b>	-0.1	0.2	0.1	<b>0.1</b>
Non-metal mineral products	5.0	4.9	5.0	<b>5.0</b>	-0.2	0.1	0.3	<b>0.1</b>
Basic metal products	6.7	7.0	6.6	<b>6.5</b>	0.0	0.6	-0.3	<b>0.0</b>
Metallic products	3.2	3.3	3.4	<b>3.4</b>	-0.1	0.2	0.2	<b>0.1</b>
Machinery and equipment	4.2	4.0	3.9	<b>3.9</b>	0.0	0.0	0.0	<b>0.0</b>
Computers and electronics	4.2	4.4	4.6	<b>4.7</b>	0.1	0.4	0.3	<b>0.2</b>
Electrical equipment	2.9	3.0	3.1	<b>3.1</b>	-0.1	0.2	0.2	<b>0.1</b>
Transportation and equipment	17.0	18.3	19.1	<b>19.6</b>	0.9	2.0	1.3	<b>0.9</b>
Furniture and related products	1.2	1.1	1.2	<b>1.2</b>	-0.1	0.0	0.1	<b>0.0</b>
Other manufacturing industry	2.1	2.2	2.2	<b>2.2</b>	0.0	0.1	0.1	<b>0.0</b>

Note: forecasts appear in boldface. All figures are subject to review by the Institute.

sa: Seasonally-adjusted; pp: Percentage points

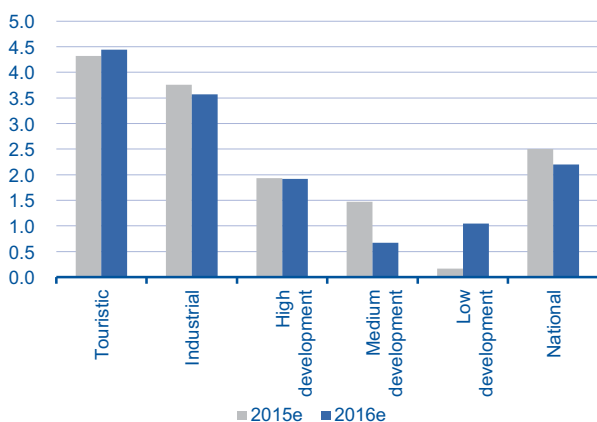
Source: BBVA Research with INEGI data

## 2.c In most regions of Mexico, growth rates in 2016 will be on a par with 2015

Our forecast for GDP growth in 2016 is 2.2%, slightly down on the 2.5% for the previous year. According to our forecasts, three of the five regions into which we have divided Mexico according to economic activity, will report similar economic performances as in 2015 (see Figure 2c.1).<sup>1</sup> The following forecasts for 2016 are particularly significant: i) the Touristic region will show the highest economic growth; ii) given that the Industrial region accounts for the highest weight of national GDP, its growth is expected to slow by only 0.2 percentage points against 2015; and iii) the Medium Development region is estimated to grow 0.7%, lagging behind the 1.5% growth of last year.

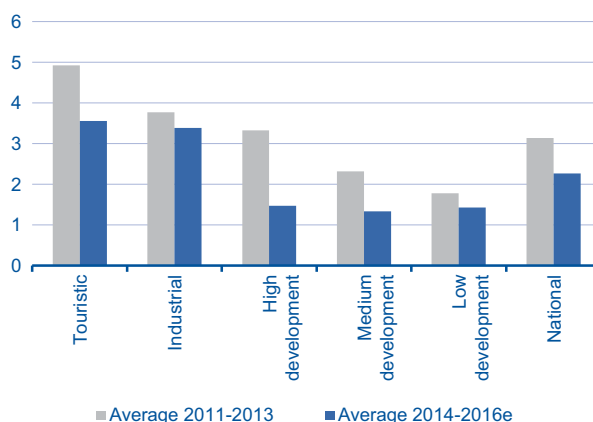
To provide a better understanding of Mexico's economic performance in 2014, 2015 and our forecasts for 2016, we conducted a comparison against the preceding three-year period. Taking only the last three years into account (including 2016), the Mexican economy is expected to grow 2.3% on average, behind the average growth of 3.1% reported during the 2011-2013 period. All regions have reported a worse economic performance over the last three-year period than in the preceding one (see Figure 2c.2).

Figure 2c.1  
Forecast for annual economic growth for 2016 vs. 2015 (%)



e/own estimates  
Source: BBVA Research with INEGI data

Figure 2c.2  
Average annual economic growth for the two periods (%)



e/own estimates  
Source: BBVA Research with INEGI data

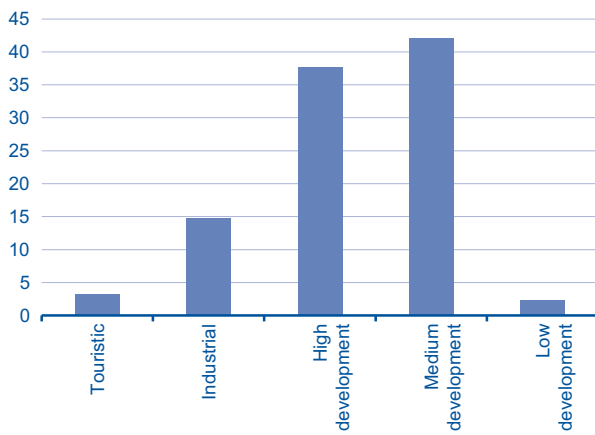
<sup>1</sup> This classification is described in greater detail in *Mexico Regional Sectorial Outlook*, "Agrupamiento Regional, Cómo y Para Qué", November 2007. BBVA Bancomer. Regions according to economic activity and level of development: High Development: Mexico City (DF); Touristic: BCS and QR; Industrial: Ags, BC, Coah, Chih, Jal, Méx, NL, Qro, Son, Tamps; Medium Development: Camp, Col, Dgo, Gto, Hgo, Mich, Mor, Nay, Pue, SLP, Sin, Tab, Tlax, Ver, Yuc, Zac; Low Development: Chis, Gro and Oax.

**Eighty percent of the slowdown in domestic economic growth in 2014-2016 is due to Medium Development and High Development regions**

A regional impact analysis was performed in order to pinpoint the factors behind the slowdown in domestic economic growth in 2014-2016 compared with the 2011-2013 period. It was found that the Medium Development region accounts for 42.1% of domestic economic slowdown, while the High Development region accounts for 37.7%. The Industrial region is ranked third, with a contribution of 14.8%, while the Touristic and Low Development regions together account for 5.5% (see Figure 2c.3).

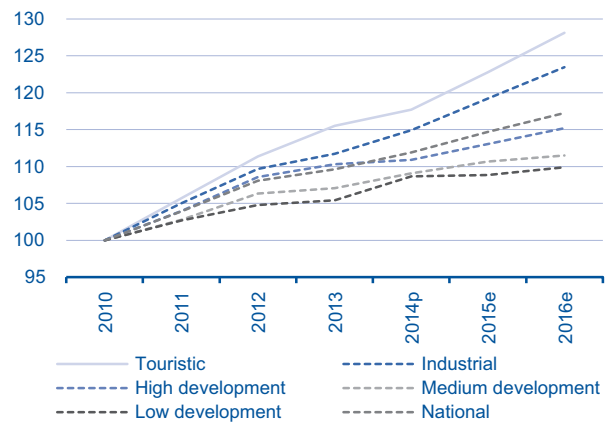
Economic recovery following the global economic recession of 2008-2009 has been spread fairly unevenly across the regions in terms of economic force. The brightest economic performance appears to be in the Touristic region, where we expect an accumulated growth of 28.1% during the 2011-2016 period (see Figure 2c.4). It is followed closely by the Industrial and High Development regions, which have rates of 23.5% and 15.2%, respectively. The economic performance in the Medium Development and Low Development regions has been more muted than other regions, and they are expected to grow with accumulated rates of 11.5% and 9.9%, respectively, over the given period. Growth at domestic level for the same period would be 17.2%.

Figure 2c.3  
**Contribution to domestic economic slowdown of 2014-2016e vs. 2011-2013 (% of total)**



e/own estimates  
Source: BBVA Research with INEGI data

Figure 2c.4  
**Regional and national economic performance 2010-2016e (Index 2010 = 100)**



e/own estimates  
Source: BBVA Research with INEGI data

Table 2c.1  
**GDP by Region\***

	Real annual growth (percentage)						Share in the total (percentage)						
	2011	2012	2013	2014p	2015e	2016e	2011	2012	2013	2014p	2015e	2016e	
<b>Total</b>	4.0	4.0	1.4	2.1	2.5	2.2	<b>Total</b>	100.0	100.0	100.0	100.0	100.0	100.0
Touristic	5.7	5.4	3.7	1.9	4.3	4.4	Touristic	2.3	2.3	2.3	2.3	2.4	2.4
Industrial	5.0	4.5	1.9	2.8	3.8	3.6	Industrial	40.7	40.9	41.1	41.3	41.9	42.4
High Development	4.0	4.4	1.6	0.6	1.9	1.9	High Development	17.0	17.1	17.1	16.9	16.8	16.7
Medium Develop.	2.7	3.5	0.7	1.9	1.5	0.7	Medium Develop.	35.2	35.0	34.8	34.7	34.3	33.8
Low Development	2.7	2.1	0.6	3.1	0.2	1.0	Low Development	4.9	4.8	4.7	4.8	4.7	4.6

	Contribution to growth (percentage points)						Economic activity (index 2008=100)						
	2011	2012	2013	2014p	2015e	2016e	2011	2012	2013	2014p	2015e	2016e	
<b>Total</b>	4.0	4.0	1.4	2.1	2.5	2.2	<b>Total</b>	104.1	108.3	109.8	112.1	114.9	117.5
Touristic	0.1	0.1	0.1	0.0	0.1	0.1	Touristic	103.4	109.0	113.0	115.2	120.2	125.4
Industrial	2.0	1.8	0.8	1.2	1.6	1.5	Industrial	105.1	109.8	111.8	115.0	119.3	123.6
High Development	0.7	0.8	0.3	0.1	0.3	0.3	High Development	104.2	108.8	110.6	111.2	113.3	115.5
Medium Develop.	1.0	1.2	0.3	0.6	0.5	0.2	Medium Develop.	102.7	106.2	107.0	109.0	110.6	111.4
Low Development	0.1	0.1	0.0	0.1	0.0	0.0	Low Development	107.1	109.3	109.9	113.3	113.5	114.6

\* Regions by economic vocation and level of development: High Development: Mexico City; Touristic: BCS and QR; Industrial: Ags, BC, Coah, Chih, Jal, Méx, NL, Qro, Son, Tamps; Medium Development: Camp, Col, Dgo, Gto, Hgo, Mich, Mor, Nay, Pue, SLP, Sin, Tab, Tlax, Ver, Yuc, Zac; Low Development: Chis, Gro and Oax.  
 p: preliminary figures; e: own estimates; Source: BBVA Research with INEGI data

 Table 2c.2  
**GDP by state**

	2010	2011	2012	2013r	2014p	2010	2011	2012	2013r	2014p	2010	2011	2012	2013r	2014p
	(Billion 2008 pesos)					(Real growth rate, % annual)					(Contribution to growth, pp)				
<b>National total</b>	11,966	12,435	12,937	13,118	13,401	5.2	3.9	4.0	1.4	2.2	5.2	3.9	4.0	1.4	2.2
Aguascalientes	130.5	136.1	141.2	147.1	163.7	7.3	4.3	3.8	4.2	11.3	0.1	0.0	0.0	0.0	0.1
Baja California	348.5	365.2	380.8	382.2	383.1	2.2	4.8	4.3	0.4	0.2	0.1	0.1	0.1	0.0	0.0
Baja California Sur	89.6	94.4	97.5	99.9	98.0	3.6	5.3	3.3	2.5	-2.0	0.0	0.0	0.0	0.0	0.0
Campeche	654.2	632.7	626.4	631.1	610.9	-4.3	-3.3	-1.0	0.7	-3.2	-0.3	-0.2	-0.1	0.0	-0.2
Coahuila	380.9	414.8	437.0	437.4	453.7	14.4	8.9	5.3	0.1	3.7	0.4	0.3	0.2	0.0	0.1
Colima	67.7	72.9	75.9	76.6	79.8	4.0	7.7	4.1	0.9	4.2	0.0	0.0	0.0	0.0	0.0
Chiapas	220.6	227.6	231.8	229.5	235.0	7.9	3.2	1.9	-1.0	2.4	0.1	0.1	0.0	0.0	0.0
Chihuahua	326.7	335.3	355.8	374.6	384.1	2.2	2.7	6.1	5.3	2.5	0.1	0.1	0.2	0.1	0.1
Mexico City	2,034.4	2,115.0	2,207.8	2,242.7	2,255.6	4.4	4.0	4.4	1.6	0.6	0.8	0.7	0.7	0.3	0.1
Durango	143.6	149.5	153.7	156.7	158.9	3.7	4.1	2.8	2.0	1.4	0.0	0.0	0.0	0.0	0.0
Guanajuato	454.5	479.9	504.1	521.8	556.4	6.6	5.6	5.0	3.5	6.6	0.2	0.2	0.2	0.1	0.3
Guerrero	183.1	183.5	186.0	186.5	196.8	6.0	0.2	1.3	0.3	5.5	0.1	0.0	0.0	0.0	0.1
Hidalgo	189.9	198.9	205.1	209.1	215.7	6.2	4.7	3.1	1.9	3.2	0.1	0.1	0.1	0.0	0.1
Jalisco	737.5	774.2	806.7	822.0	849.8	5.8	5.0	4.2	1.9	3.4	0.4	0.3	0.3	0.1	0.2
México	1,095.2	1,136.3	1,179.3	1,192.8	1,206.5	7.6	3.8	3.8	1.1	1.2	0.7	0.3	0.3	0.1	0.1
Michoacán	277.0	287.7	294.0	299.9	318.0	4.6	3.9	2.2	2.0	6.0	0.1	0.1	0.1	0.0	0.1
Morelos	138.8	147.0	154.2	156.0	157.3	6.9	5.9	4.9	1.2	0.8	0.1	0.1	0.1	0.0	0.0
Nayarit	78.4	80.1	81.1	84.3	87.8	4.4	2.2	1.2	3.9	4.2	0.0	0.0	0.0	0.0	0.0
Nuevo León	855.0	907.4	949.0	962.7	999.9	9.0	6.1	4.6	1.5	3.9	0.6	0.4	0.3	0.1	0.3
Oaxaca	185.7	194.1	199.4	204.8	208.8	1.9	4.5	2.7	2.7	2.0	0.0	0.1	0.0	0.0	0.0
Puebla	378.7	397.9	424.7	420.7	424.7	7.8	5.1	6.7	-0.9	1.0	0.2	0.2	0.2	0.0	0.0
Querétaro	232.2	247.3	262.0	270.9	292.1	6.9	6.5	5.9	3.4	7.8	0.1	0.1	0.1	0.1	0.2
Quintana Roo	175.2	185.5	197.7	206.1	214.3	3.7	5.8	6.6	4.3	4.0	0.1	0.1	0.1	0.1	0.1
San Luis Potosí	224.6	237.2	252.0	253.7	257.9	6.3	5.6	6.3	0.7	1.7	0.1	0.1	0.1	0.0	0.0
Sinaloa	255.6	251.7	264.5	268.8	276.9	4.2	-1.5	5.1	1.7	3.0	0.1	0.0	0.1	0.0	0.1
Sonora	331.0	353.7	375.4	394.1	394.6	7.1	6.9	6.1	5.0	0.1	0.2	0.2	0.2	0.1	0.0
Tabasco	403.4	423.6	433.8	425.2	435.3	5.7	5.0	2.4	-2.0	2.4	0.2	0.2	0.1	-0.1	0.1
Tamaulipas	381.2	389.0	400.5	402.2	413.8	2.4	2.0	3.0	0.4	2.9	0.1	0.1	0.1	0.0	0.1
Tlaxcala	66.2	68.7	71.2	71.5	73.2	5.5	3.8	3.7	0.4	2.4	0.0	0.0	0.0	0.0	0.0
Veracruz	635.3	650.0	677.2	675.1	676.3	4.1	2.3	4.2	-0.3	0.2	0.2	0.1	0.2	0.0	0.0
Yucatán	175.8	180.6	188.4	190.0	195.7	4.3	2.7	4.3	0.8	3.0	0.1	0.0	0.1	0.0	0.0
Zacatecas	115.1	117.4	123.0	121.5	126.4	10.1	2.0	4.8	-1.3	4.1	0.1	0.0	0.0	0.0	0.0

r: revised data; p: preliminary figures  
 Source: BBVA Research with INEGI data

Box 1. The economic impact of lower oil prices on hydrocarbon producing states

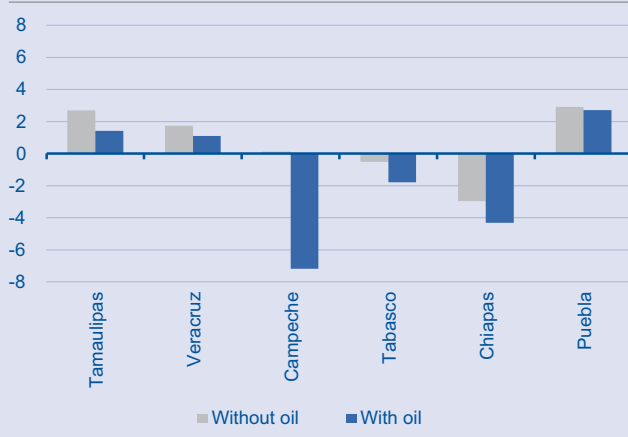
Economic activity in six Mexican states has been directly impacted by low oil prices, which dropped sharply in 2015 due to a global glut of this energy product (see Figures B1.1 and B1.2). The outlook for 2016 is for oil prices to remain relatively low, so that the economic impact on the most important oil producer states will persist.

The decline in oil prices in 2015 significantly reduced the value of oil production. The value of oil production plunged in the states of Campeche, Tabasco, Veracruz, Chiapas, Tamaulipas and Puebla, to the level of half that registered in 2014 (see Figures B1.3 and B1.4). In absolute terms, the sharpest fall was registered in Campeche: 30,179 million dollars less

than in the previous year. The highest percentage fall was in Tamaulipas, where the value of oil production fell by 65.4% vs. 2014.

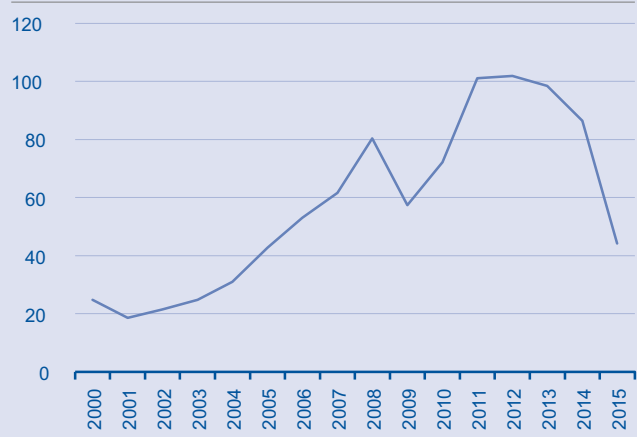
Although the annual contraction of 48.9% in the average Mexican mix barrel of oil price had a significant impact on the value of oil production in 2015, the decline in the production platform in these states also had an adverse effect on that value (see Figures B1.5 and B1.6). In absolute terms, the sharpest fall was registered in Campeche: 91,800 daily barrels less than in the previous year. The highest percentage fall was in Tamaulipas, where the value of oil production fell by 32.3% vs. 2014.

Figure B1.1  
**Economic activity in oil states in 2015\***  
(YoY % change)



\* Percentage annual change in average ITAEE at 3Q15  
Source: BBVA Research with INEGI data

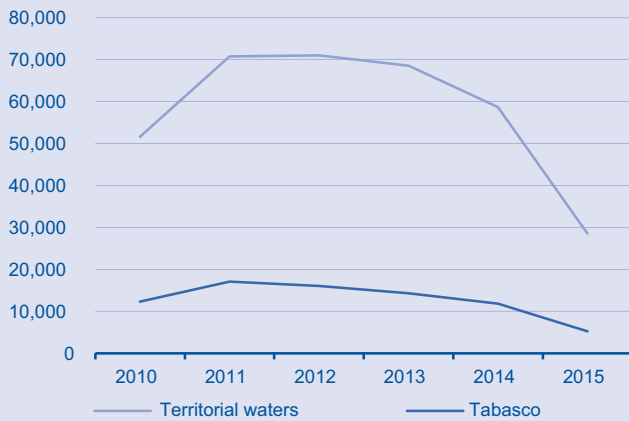
Figure B1.2  
**Mexican mix oil price**  
(USD per barrel)



Source: BBVA Research with CEFPI data

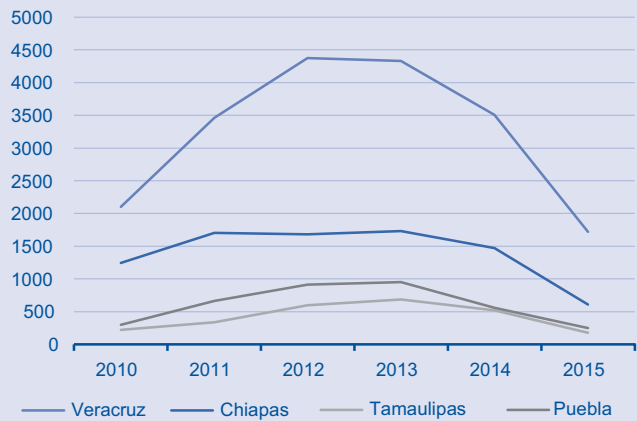


Figure B1.3  
**Value of oil production in Campeche\* and Tabasco (USD mn)**



\* Most oil production in territorial waters is assigned to Campeche  
Source: BBVA Research with SIE and CEFP data

Figure B1.4  
**Value of oil production in Veracruz, Chiapas, Tamaulipas and Puebla (USD mn)**



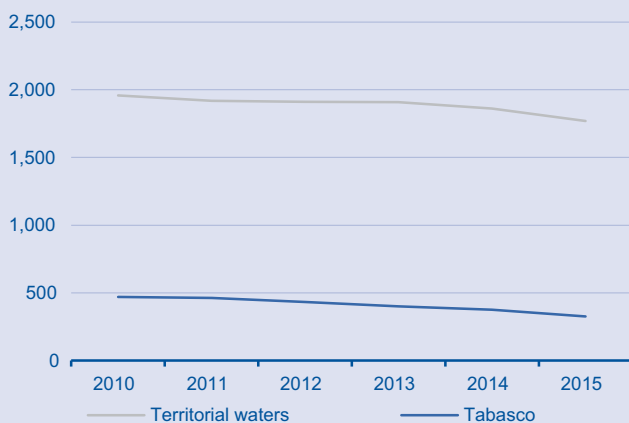
Source: BBVA Research with SIE and CEFP data

**Conclusions**

The value of oil production fell sharply in 2015 due to low oil prices, with the highest impacts felt in states such as Campeche, Tabasco, Veracruz, Chiapas, Tamaulipas and Puebla. In all these states, the drop in value was over 50% compared with 2014. Although the YoY fall of 48.9% in the price of each

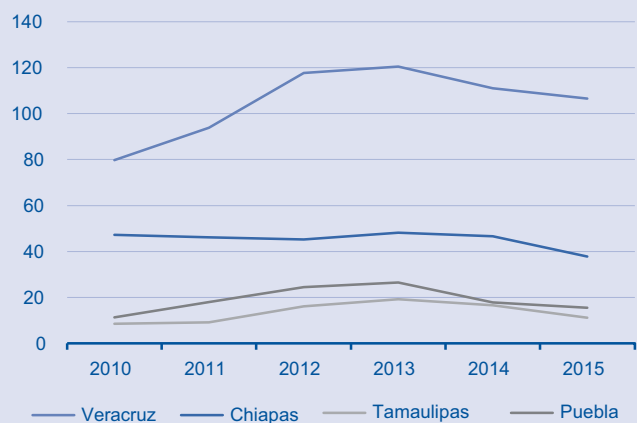
Mexican oil barrel was the most crucial factor behind the lower value of oil production in 2015, daily barrel production in these oil producer states continued to decline. Slower recovery in oil prices, and a smaller production platform for 2016 and successive years pose significant risks for economic activity in these states.

Figure B1.5  
**Oil production in Campeche\* and Tabasco (thousands of barrels per day)**



\* Most oil production in territorial waters is assigned to Campeche  
Source: BBVA Research with SIE data

Figure B1.6  
**Oil production in Veracruz, Chiapas, Tamaulipas and Puebla (thousands of barrels per day)**



Source: BBVA Research with SIE data

## 3. Special reports

### 3.a The aeronautics industry in Mexico

On this occasion, we will focus on analysing the aeronautics industry established in Mexico. In recent years, it has proved a very robust industry, and one in which leading global manufacturers have invested. The international outlook for the sector is favourable, with dynamic activity in commercial and defence aircraft development and manufacturing.

While the main driver for aircraft manufacturing is growth in passenger traffic, our analysis here will focus on aircraft manufacturing and maintenance. The aeronautics industry supply chain consists largely of original equipment manufacturers (OEMs) such as Boeing, Airbus and Bombardier, which design and develop new aircraft models and also proceed with their final sales. These activities consist of the core component of the value chain, which typically has high entry barriers due to high costs and technological requirements.

Tier 1 suppliers are responsible for manufacturing essential aircraft equipment and systems, such as engines, flight control systems, wings and fuel systems: Rolls Royce, GE Aviation and Pratt & Whitney; they usually operate on an exclusive supplier basis with the OEMs. The Tier 2 or Tier 3 suppliers manufacture and develop parts according to the specifications given by OEMs and the Tier 1 suppliers, performing subassembly of systems and subsystems.

One of the key features which distinguishes the aeronautics industry is its high degree of complexity. In Mexico, it is one of the twelve most important industries, according to the Economic Complexity Index (ECI),<sup>1</sup> equivalent to 1.6 and with a higher level of complexity than the auto industry (which has an ECI of 1.4). The most modern and complex sectors tend to develop in the most diverse economies. This is the case because economic diversity generates the capacities required by most complex sectors (Hausmann). Mexico was ranked 22nd in terms of its ECI index within a selection of 124 countries in 2014; it is thus considered to have an intermediate-high complexity level. Mexico has the highest position in the ranking of all countries in Latin America and the Caribbean, even above Canada.

In 2014, with a universe of 1,240 export products of the Harmonized Commodity Description and Coding System (HS4), Mexico exported 223 products with a revealed competitive advantage (RCA) higher than one. This variety represented 81% of total exports, which implies a relatively complex basket; while another 936 products did not have a RCA of higher than one but represented 19% of total exports; and the other 81 products were not exported.

The aeronautics industry, unlike the automotive industry, requires international certifications, and has high production and security costs. It is a complex sector which is centralised by international manufacturers, assembly plants and integration companies. Aeronautical manufacturing is a niche which can create opportunities for companies in other sectors such as the automotive, electronics, plastics, and textiles sectors. It is also important to take into account particular factors faced by companies such as lower volumes, high investment costs and greater regulatory and certification requirements. Consequently, business processes can tend to be long and costly compared with the automotive industry, where volumes are higher and the sector faces comparatively lower regulation.

<sup>1</sup> The complexity of a sector is measured by calculating the average diversity of the locations where the sector operates and the average ubiquity of the sectors of such locations. A location with a high level of complexity produces or exports goods or services which few other locations produce. Highly complex locations tend to be more productive and generate higher wages and income. Countries which have more sophisticated export baskets than what would be expected given their income level tend to grow more swiftly (see <http://atlas.cid.harvard.edu/>),

Table 3a.1

**The twelve most complex industries in Mexico in 2014 (Industries)**

Position	Complexity	Industry	No. States	States
1	3.3	Audio and video equipment manufacturing	2	Chih, Tamps
2	2.2	Manufacturing of internal combustion engines, turbines and transmissions	4	Chih, Pue, Qro y SLP
3	1.8	Manufacturing of electronic components	5	BC, Chih, Jal, Son, Tamps
4	1.8	Manufacturing of computers and peripherals	2	Chih y Jal
5	1.7	Manufacturing of electrical appliances for domestic use	5	Coah, Gto, NL, Qro y SLP
6	1.6	Manufacturing of aeronautical equipment	5	BC, Chih, Qro, SLP, Son
7	1.6	Manufacturing of communications equipment	5	BC, Chih, Jal, Son, Tamps, Coah
8	1.6	Manufacturing of electrical equipment and electrical distribution	7	Coah, Chih, Hgo, NL, Son, Tamps, Tlax
9	1.5	Manufacturing of lighting accessories	4	BC, Col, Jal, NL
10	1.5	Manufacturing of paints, coatings and adhesives	7	Hgo, Jal, Mex, Mor, NL, Qro y Tamps
11	1.5	Psychiatric hospitals, treatment for drug addiction	2	BC y Dgo
12	1.4	Manufacturing of vehicles and lorries	8	Ags, Coah, Gto, Mex, Mor, Pue, SLP, Son

Source: BBVA Research with data from The Atlas of Economic Complexity for Mexico

Table 3a.2

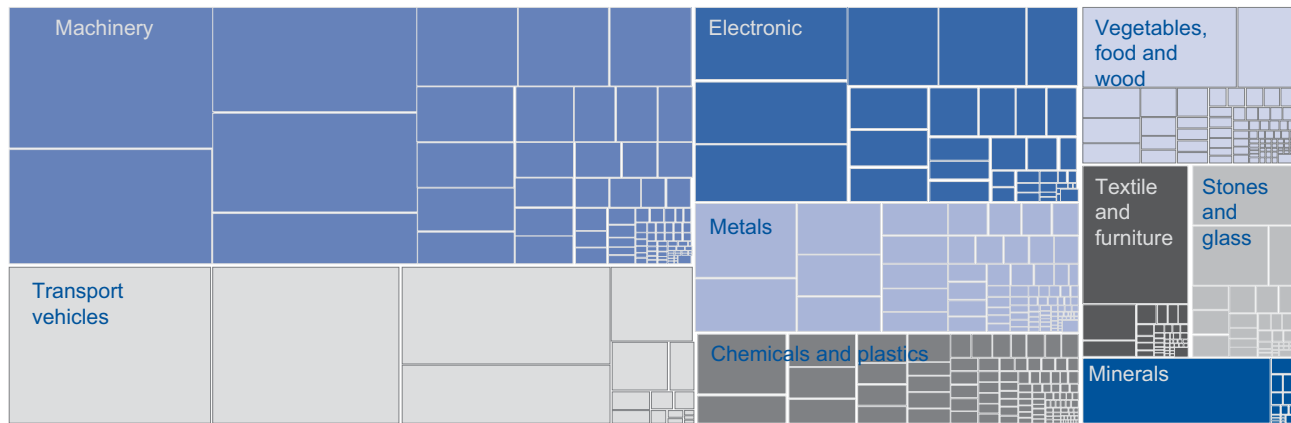
**Economic complexity index (ECI) 2014 (Countries)**

Position	Country	ECI
1	Japan	2.21
2	Germany	1.92
3	Switzerland	1.87
4	Korea	1.82
5	Sweden	1.71
6	Austria	1.70
7	Czech Republic	1.64
8	Finland	1.60
9	Hungary	1.50
10	United Kingdom	1.48
14	United States	1.36
<b>22</b>	<b>Mexico</b>	<b>1.04</b>
39	Canada	0.48

Source: BBVA Research with data from <http://atlas.cid.harvard.edu/>

Figure 3a.1

**Cross-section of Mexico's export diversification 2014**



Source: BBVA Research with data from The Atlas of Economic Complexity, Harvard University.

The global aeronautical industry is currently in very good shape, offering Mexico a golden opportunity. Given the benefits of the aeronautics industry, if Mexico manages to increase its participation in the global value chain, then it has the opportunity to attract investments, to create higher valued added activities (engineering and design), and, possibly, generate research and development activities which will allow Mexico to be a trailblazer in the industry's most cutting-edge programmes.

In Mexico and worldwide, the automotive, aeronautics, telecommunications and information technology sectors are catalysts for development and drivers of global technological progress. Competitiveness appears to be a challenge which can be faced more efficiently by these industries, as they are major catalysts for growth. The impact which catalyst sectors have on productive structure makes a country more competitive. The more connected the products are, then the easier it is to achieve diversification through them. Countries do not go from planting corn to manufacturing aircraft overnight, for example. Step by step, countries shift from the things they know how to do today towards things they can do with gradual increases in know-how. The product space is like a forest where each product is a tree. The distance between the trees shows how similar they are in terms of know-how. Entrepreneurs find out where their country stands in this product area and so are able to shift from products which their country knows how to make towards increasingly more complex products which are "closer" and which are thus more feasible (Hausmann).

### Strong growth in industry worldwide

Worldwide, the main driver of the aeronautics industry is passenger traffic measured by revenue passengers kilometres (RPK). In 2015 passenger demand surged (RPK of 6.7% YoY), and this momentum is estimated to be maintained for 2016 (RPK of 6.9% YoY), according to the International Air Transport Association (IATA). This will bring the passenger occupancy percentage worldwide to an estimated record of 80.6% in 2015 and 80.4% in 2016. This trend offsets the more modest performance in air cargo, which is estimated to be 1.7% YoY in 2015 and 2.8% in 2016, due to sluggish growth in international trade volume.

Airlines continue to use their aircraft more efficiently. Fuel utilisation ratios are steadily falling. Through lower prices and more efficient fuel consumption, airlines managed to bring down their fuel costs by 20.5% in 2015; with an estimated reduction of 25% in 2016. Airlines will make further steps to replace their fleets with new aircraft.

In general, the global economic expansion is expected to continue (2.5% in 2015 and 2.7% in 2016), albeit with differences between different regions. North America will be the outright leader in global economic growth, while the Euro zone will begin to gain traction economically. In the past, emerging markets were the drivers of economic growth, but the drop in commodity prices means their future now does not look quite so promising. In short, against a background of favourable costs and stronger demand, many airlines will have the opportunities to make record gains at the end of 2015 and 2016.

Table 3a.3

**Airlines' performances worldwide**

	2014	2015e	2016
Passenger departures (millions)	3,327	3,545	3,782
Chge. % YoY	6.0%	6.7%	6.9%
Revenue passenger kilometres (RPKs)			
Billions	6,190	6,608	7,062
Chge. % YoY	6.0%	6.7%	6.9%
Transported cargo (mill. tonnes)	50.4	51.3	52.7
Chge. % YoY	3.9%	1.7%	2.8%
Growth in global GDP	2.60%	2.50%	2.70%
Growth in world trade	3.00%	2.20%	3.00%
Occupancy, as % ASK	79.8%	80.6%	80.4%
Fuel efficiency			
Litre/100atk	24.3	23.9	23.5
Chge. % YoY	-1.1%	-1.5%	-1.8%

Source: BBVA Research with data from Economic Performance of the Airline Industry Report dic2015, IATA  
ASK = Seats-Km offered; AFK=Tonne-Km available; ATK = kilometres tonne; e=estimated IATA

Air traffic is estimated to continue to report growth above long term trends. This pattern will be shaped by the following factors: 1) use of aircraft and load factors continue to rise; 2) demand for replacement remains strong; and 3) global airline companies are achieving record operating income and profits. This trend should prompt a dynamic demand for aircraft with an increase of between 35% and 40% over the next decade. Importantly, growth in air cargo slowed in 2015, due to the drop in international trade. Long term outlook for air cargo transport demand remain robust, however, due to faster growth in developed economies. These trends should help to drive demand for new cargo planes with low fuel consumption.

In fact, indicators show that the most important challenges concern cutting costs, and also innovation in design and materials. It will be crucial to have a reliable suppliers chain. Here Mexico has an excellent opportunity to develop and to increase its participation in global value chains.

## The civil aviation market

Our segment of interest includes commercial, regional civil aircraft, general aviation and helicopters, and the maintenance, repair and overhaul segment (MRO). It does not consider military aircraft (see Table 3e.4).

Table 3a.4

**Main aircraft manufacturers worldwide**

Segment/ capacity	Main manufacturers	Range
<b>Commercial</b>		
+ of 100 passengers or equivalent in cargo		Medium haul or intercontinental flights
	Boeing	737, NG 737, 737 Max 8, 747, 757, 767, 777, 787-9 <sup>1</sup>
	Airbus	A320, A330, A340, A380 <sup>2</sup>
<b>Regional or low cost<sup>3</sup></b>		
- of 100 passengers or equivalent in cargo		Short haul flights
	Bombardier	Q400
	Embraer	190
	Mitsubishi Heavy Ind.Ltd	
	Sukhoi Company	
	COMAC	
<b>General aviation</b>		
	Aircraft with piston engine (Cessna, Cirrus, Dianond)	
	Turbo-propeller planes (Cessna, Hawker, Pilatus)	
	Executive-type planes (Cessna, Bombardier, Embraer	

1 The Boeing 787-9 plane, which has capacity to transport up to 290 passengers, has been designed and developed using lighter materials to make a more fuel-efficient plane.

2 The Airbus A380 plane, with has a capacity to transport up to 850 passengers, with the aim of reducing the number of flights and thus consolidating operations.

3 A regional airplane is usually defined as having a capacity of up to 100 seats. Nonetheless, Bombardier and Embraer are beginning to manufacture planes which can carry up to 149 passengers, encroaching upon Boeing and Airbus. These types of planes may eventually be considered as part of the regional aircraft segment.

Source: BBVA Research with SE data

Table 3a.5

**Aircraft deliveries by size 2014-2034**

Size	In service		Global demand by size		
	2014	2034	New	Struc- ture %	Value*
Wide-body (large)	740	670	540	1.4	230
Wide-body (medium)	1,620	3,800	3,520	9.3	1,220
Wide-body (small)	2,520	5,800	4,770	12.5	1,250
Double aisle	4,140	9,600	8,290	21.8	2,470
Single aisle	14,140	30,630	26,730	70.2	2,770
Regional Jets	2,580	2,660	2,490	6.5	100
<b>Total</b>	<b>21,600</b>	<b>43,560</b>	<b>38,050</b>	<b>100.0</b>	<b>5,570</b>

\* According to the 2014 prices catalogue, billions of dollars

Source: BBVA Research with data from "Current Market Outlook 2015-2034" Boeing

In its Current Market Outlook for 2015-2034, Boeing calculated that it will manufacture 38,050 new airplanes, which will be delivered over the next 20 years, and which will be worth 5.6 billion dollars. According to Boeing's estimates, the global fleet will increase from 21,600 planes in 2014 to 43,560 by 2034, more than double the number currently in service.

Taking these estimates into account, commercial aircraft manufacturers expect a twofold increase in the aircraft fleet over the next 20 years, and demand for 38,000 new planes. This paints a bright picture for growth in the aeronautics sector worldwide. Single aisle planes have the best market outlook and will account for most of the deliveries, equating to 26,730 units (70.2%) and 49.7% of the value of estimated total sales. The double aisle aircraft market will account for 21.8%, or equivalent to 8,290 of units delivered and 44.3% of sales income.

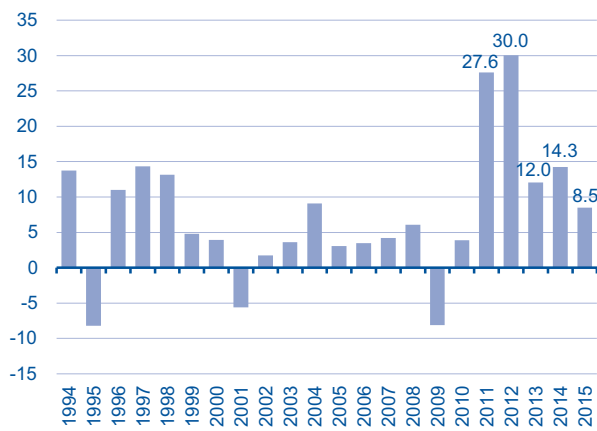
### Aircraft and spare part manufacturing in Mexico

At the global level, Mexico is becoming an important player for the leading aeronautics manufacturers which aim to become more competitive. This sector is one of Mexico’s prime opportunities to take advantage of its industrial development in order to increase the local content of our exports, create more and better jobs, and raise the level of domestic productivity.

Over the last five years, aeronautical equipment manufacturing has grown at an average of 18.5% in Mexico. Although it is a small sector which only accounts for 0.7% of manufacturing GDP, its strong momentum makes it a great opportunity to foster a high valued added supplier chain.

Figure 3a.2

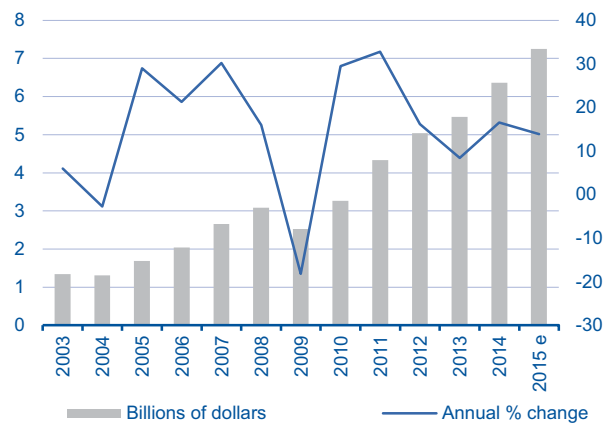
**Aeronautical equipment manufacturing in Mexico (real annual change %)**



Source: BBVA Research with INEGI data

Figure 3a.3

**Aeronautical equipment manufacturing in Mexico (USD bn and YoY % change)**



Source: BBVA Research with FEMIA data

### Buoyant tone in exports

During 2014, exports from the Mexican aeronautics sector totalled 6.4 billion dollars. Over the last five years, average growth has been 20.6% per annum. In 2015, exports from this sector are expected to be 7.3 billion dollars, according to FEMIA (the Mexican Aerospace Industry Federation). The sector’s external sales as a percentage of manufacturing were 1.9% in 2014, which is very small in comparison to the proportion for the automotive sector, 32.4%.

The automotive and aeronautics industries have registered similar dynamic growth rates over the last five years. Mexico is also the sixth-ranking supplier of spare parts, engines and ancillary equipment for the sector in the United States, with a share of 5.3% of the sector market in that country. It has benefited from two important advantages: its geographical proximity and also the convergence of the two main manufacturing trade corridors in North America (see Table 3a.6).

The fact that Mexico plays a role in global value chains through the multinational companies which have set up operations in the medical devices, electronics, and automotive sectors, has given it the skill set to be able to move in an area of advanced manufacturing such as aeronautics. In other words “economies tend to diversify towards sectors which have a greater need for production capacities similar to those which the country or region already possesses” (Hausmann).

Mexico's aeronautical equipment exports had an aggregated value of 28% of global manufacturing production during the 2010-2014 period. Its aggregated value of automotive exports for the same period was 40.1%; thus Mexico's aeronautical sector faces a challenge to reach such a level. The major aeronautics manufacturers currently subcontract 80% of their supplies.

Table 3a.6

#### United States imports of engine parts and aeronautical ancillary equipment, 2015

Country	Structure, %
France	19.0
Japan	18.6
Canada	13.6
United Kingdom	9.6
Germany	7.0
<b>Mexico</b>	<b>5.3</b>
Singapore	3.1
Italy	2.6
<b>Subtotal</b>	<b>76.2</b>
<b>Total</b>	<b>100.0</b>

Source: BBVA Research with USITC data

Table 3a.7

#### Pay per hour in United States, transport equipment manufacturing 2012, USD

USD	Structure, %
Germany	58.8
France	45.8
United States	45.3
Japan	41.7
Canada*	36.6
Brazil	18.8
<b>Mexico</b>	<b>7.8</b>

\* Refers to labour costs in manufacturing

Source: BBVA Research with data from U.S Bureau of Labor Statistics, International Labor Comparisons, August 2013

## Foreign direct investment in aeronautical engineering

Between 1999 and 2015, foreign direct investment in aeronautical equipment manufacturing totalled 2.1 billion dollars. The largest flows were from United States (42%), and Canada (39%); the remainder (19%) was from Europe. 26% of the total investment was used for manufacturing civil and business aircraft, and the remaining 74% for spare parts and components.

One of Mexico's biggest advantages in terms of investment is that manufacturing costs are usually 20% lower than in the United States, using an exchange rate reference of 13.6 pesos per dollars.<sup>2</sup> For example, wage costs are only a sixth of the average US salary in the transport equipment manufacturing sector.

## Aeronautical companies, mainly established in northern Mexico

As of 2013, the aeronautics industry in Mexico consisted of 274 companies (in 2010, there were 220), which were grouped around five clusters (Baja California, Sonora, Querétaro, Nuevo León and Chihuahua) and in 16 states of the Mexican republic. 79% of these companies specialised in spare part and component manufacturing, 11% in maintenance, repair and overhaul, and the remaining 10% was focused on design and engineering, and service. Nine OEMS operate in this sector in Mexico: Bombardier, Cessna, Beechcraft, Bell Helicopters, MD Helicopters, Eurocopter, Embraer, Gulfstream and Fokker. These companies have different degrees of integration with the final product, ranging from complete integration, subassembly, and fuselage, to less critical aircraft parts such as interior design. Most of these OEMS are from North American (81%), 10% are European and the rest, 9%, are Mexican.

<sup>2</sup> Competitive Alternatives KPMG's Guide to International Business Location Costs 2014 Edition



The number of average employees in the aeronautics sector in Mexico was 24,000 in 2015, a little over the double of the number observed in 2010. It represented 0.7% of manufacturing employment in 2015.

It is no coincidence that aeronautical companies established themselves in these states, as they offer similar production capacities which allow them to better deal with obstacles in terms of economic diversity. These states have an above-average export diversity, so they can shift relatively smoothly to new more complex activities over the course of time (Hausmann).

Figure 3a.4

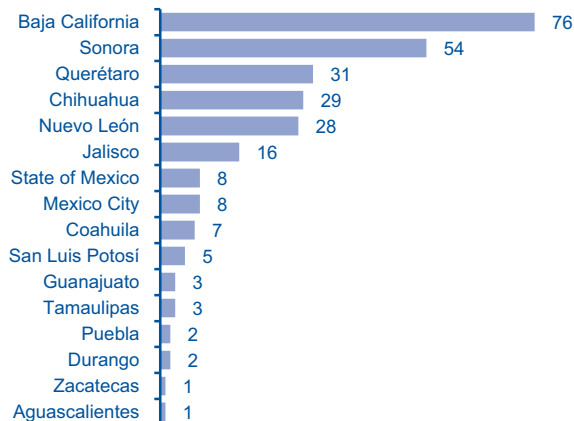
**Aeronautical Clusters in Mexico**



Source: BBVA Research with Economy Ministry data

Figure 3a.5

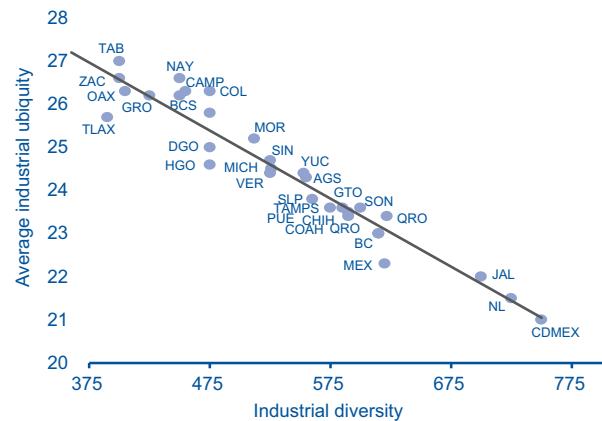
**Number of aeronautical sector companies, 2013  
(Total in Mexico, 274)**



Source: BBVA Research with data from [www.mexico\\_now/online/issues/no.72](http://www.mexico_now/online/issues/no.72)

Figure 3a.6

**Diversity and ubiquity in Mexico entities**



Source: BBVA Research with data from Complejidad económica de Chiapas, Análisis de Capacidades y Posibilidades de Diversificación Productiva Ricardo Hausmann Harvard University

## Conclusions

In order for countries to increase their level of economic complexity, it is essential for them to build up knowledge and develop complex products and services. The so called complex economies generate a high accumulation of productive knowledge and are able to create a broad range of knowledge-intensive products, using intricate business networks. Simple economies, on the other hand, have a limited knowledge base, produce a smaller amount of products and have relatively undeveloped economic interaction networks. A country's complexity can be observed through the type and variety of products it exports.

At the global level, the outlook for growth in the aeronautical industry is bright, largely underpinned by renewing a large part of the aircraft fleet with increasingly more fuel-efficient planes. To achieve this growth, and to take advantage of expected high sales in future years, however, Mexico will have to make efforts in the fields of education, international certifications and in setting up a larger number of local suppliers. To this date, few Mexican companies have become part of the aeronautical industry supply chain; and those which have emerged are companies which already operated in other sectors and which decided to create their own aeronautics production divisions. One of the main goals for the industry is to ensure that more assembly plant companies are established (Querétaro is the only state where an aircraft manufacturer, in this case Bombardier, has set up operations).

## References

Competitive Alternatives KPMG's Guide to International Business Location Costs 2014. Edition

Economic Performance of the Airline Industry en [www.iata.org/economics](http://www.iata.org/economics) December 2015 next update jun16

Mexico's quest to produce a complete aircraft in Mexico Now number 72 Sep-Oct 2014.

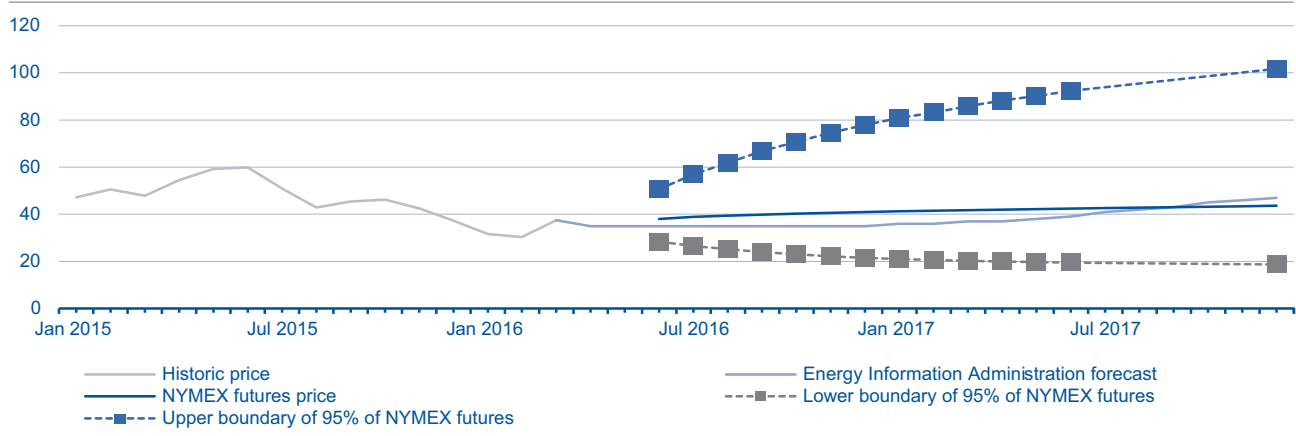
"Complejidad económica de Chiapas, Análisis de Capacidades y Posibilidades de Diversificación Productiva". Ricardo Hausmann, Timothy Cheston and Miguel Ángel Santos; September 2015

### 3.b The future challenge will be to integrate petrochemicals with the domestic oil and gas industry

The energy reform approved by the Mexican State Congress in December 2013 was designed to mainly promote private investment in the oil and gas industry, and also in the electricity sector. However, investments drawn by oil and gas extraction will create opportunities for the petrochemicals industry.<sup>1</sup> In order to bring about a higher quality integration between these two industries, the minimum percentages of national content in suppliers would have to be relatively low and this situation would have to be maintained until an internationally competitive petrochemicals supply chain is developed.<sup>2</sup> The petrochemicals industry will be able to develop more strongly as long as the commodities are near the production plants. In Mexico's case, ethanol gas distribution and its sufficiency are crucial in light of its important role in ethylene production against the current background of low natural gas prices. Intermediate petrochemical products such as polyethylene and ethylene oxide are derived from this organic chemical compound.<sup>3</sup>

It is important to note that the integration of the petrochemicals industry with the domestic oil and gas industry will have few tailwinds to help it in the short- and part of the mid-term. This is due to the outlook for barrel of oil prices in coming months, with a likely scenario of "much lower prices for longer". In the first fortnight of April 2016, the US Energy Information Administration (EIA) released its monthly forecasts for WTI barrel prices during 2016 and 2017: \$35 and \$41 USD as average prices, respectively (see Figure 3b.1). This expected situation for oil prices will put off investments for shale oil extraction for at least two years, given that the breakeven point between income and costs is approximately \$50 USD for the most efficient producers in the Eagle Ford oil basin in Texas.<sup>4</sup>

Figure 3b.1  
**WTI oil barrel prices (USD)**



Source: BBVA Research with EIA data

<sup>1</sup> For example, ethylene and propylene oxides are the most important petrochemicals used by the oil and gas industry. These products are used to separate the water contained in the extracted oil.

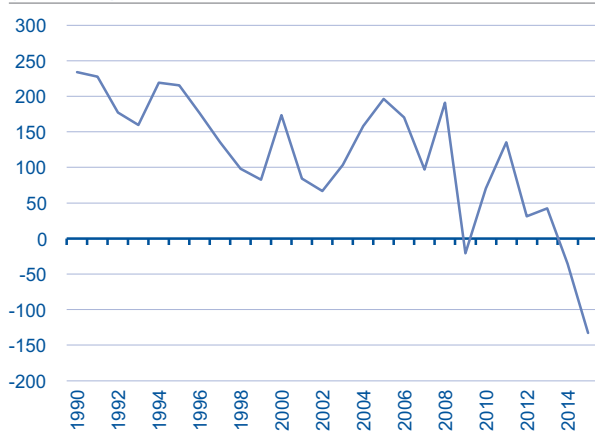
<sup>2</sup> This is because the relatively high minimum percentages in the initial stage could cause lags in project execution and raise production costs, which would make the local oil and gas industry less competitive.

<sup>3</sup> Polyethylene is used for construction materials, electrical insulation and packaging material. Ethylene oxide has many applications which include manufacturing fibres, coolants and foam.

<sup>4</sup> For further information see "Break-Even Points for U.S. Shale Oil" available at <http://www.bloomberg.com/news/2014-10-17/oil-is-cheap-but-not-so-cheap-that-americans-won-t-profit-from-it.html>

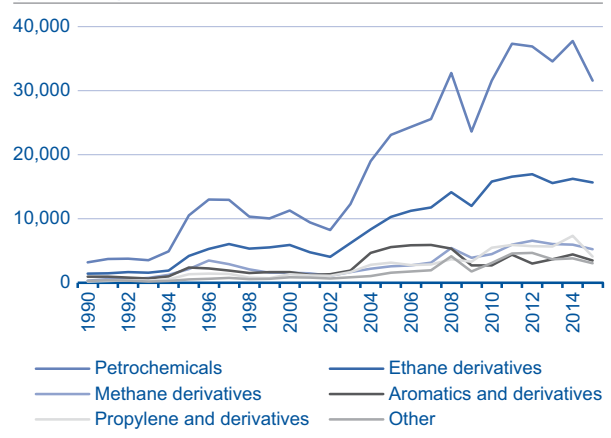
The regulatory framework which was in place prior to the 2013 Energy Reform established a legal segregation between basic and secondary petrochemicals products. As such, it was largely responsible for the lack of integration in the industry's production chains.<sup>5</sup> The trade balance of Pemex's petrochemicals products shows a negative trend, reaching a deficit in 2014 despite the highest value of public sales reported that year (see Figures 3b.2 and 3b.3). This shows that higher petrochemicals production by Pemex has not sufficed to meet the country's demand for these types of products.

Figure 3b.2  
**Pemex petrochemical trade balance (USD mn)**



Source: BBVA Research with SIE data

Figure 3b.3  
**Value of Pemex petrochemicals sales (MXN mn)**



Source: BBVA Research with SIE data

By considering both Pemex's volume of sales to the public and the net imports volume of several of the petrochemicals products most commonly used as inputs for other industries, we can identify if the higher competition for new private participants in the domestic petrochemicals industry will come from foreign countries or from Pemex.<sup>6</sup> For ethanol derivatives such as polyethylene, ethylene oxide and ethylene, the data referring to Pemex sales volume and trade deficit (in volume) indicates that only with polyethylene, for example, more competition would come from imports (see Figures 3b.4, 3b.5 and 3b.6).<sup>7,8</sup>

<sup>5</sup> Refer to the article "Los retos de Pemex en la petroquímica," Raúl Livas, 2008, for a description of certain dismantled production chains.

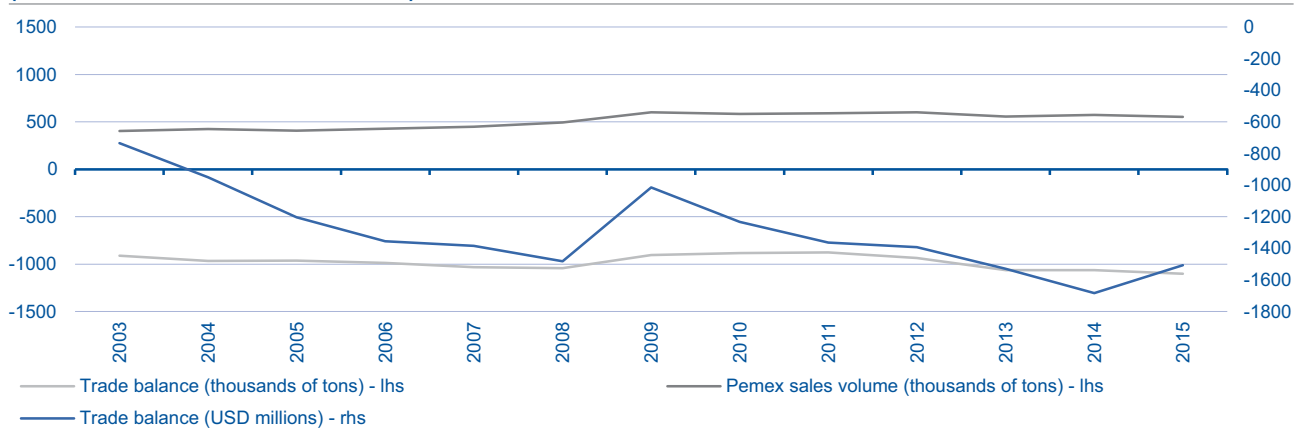
<sup>6</sup> If we define apparent domestic Consumption of petrochemicals  $i = Pemex\ petrochemicals\ production\ i + (Imports - Exports)\ of\ petrochemicals\ i = Pemex\ Production\ of\ petrochemicals\ i + Trade\ deficit\ of\ petrochemical\ i$ , then a greater proportion of consumption explained by the commercial deficit would imply that the higher competition would come from other countries and not from Pemex.

<sup>7</sup> The *Etileno XXI* petrochemicals industrial complex, the largest petrochemicals investment project under way in Latin America, which includes the highest amount of foreign investment made by a Brazilian company in Mexico, will produce approximately 1 million tonnes of polyethylene a year. For further information refer to the articles "Times of Change for Mexico's Downstream Landscape" and "Landmark Petrochemical Plant Finally Ready" published in *Mexico. Oil and Gas Review*, 2015.

<sup>8</sup> The polyethylene shown in the figure is an aggregation of low density polyethylene with high density polyethylene. The former is used mainly for packing and packaging, while the latter is a commodity used to produce bags for freight and waste, packaging for chemicals and gardening products, and insulation for cables, etc. Ethylene is used to ripen fruit in agriculture.

Figure 3b.4

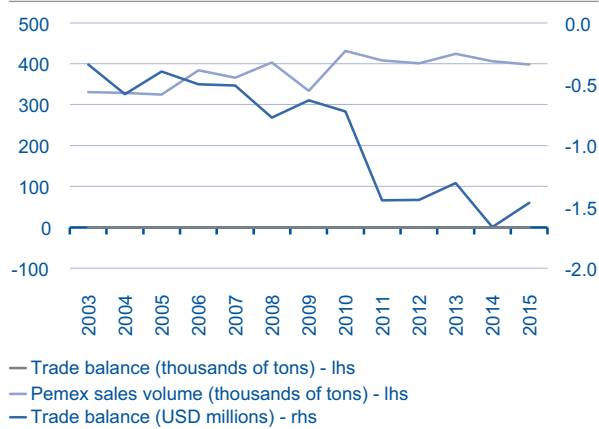
**Volume of Pemex sales and trade balance of polyethylene (Thousands of tonnes and USD mn)**



Source: BBVA Research with SIE and SIAVI data

Figure 3b.5

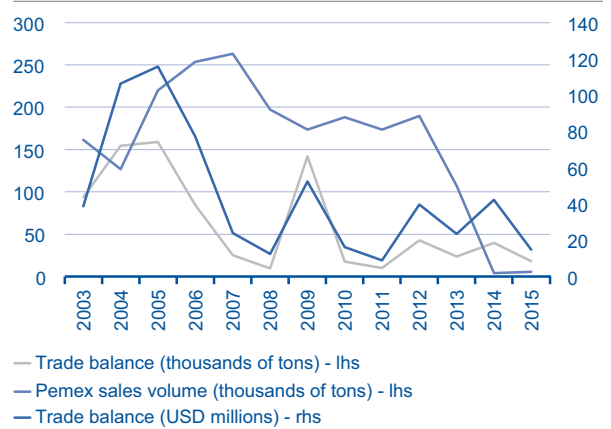
**Volume of Pemex sales and trade balance of ethylene oxide (Thousands of tonnes and USD mn)**



Source: BBVA Research with SIE and SIAVI data

Figure 3b.6

**Volume of Pemex sales and commercial balance of ethylene (Thousands of tonnes and USD mn)**



Source: BBVA Research with SIE and SIAVI data

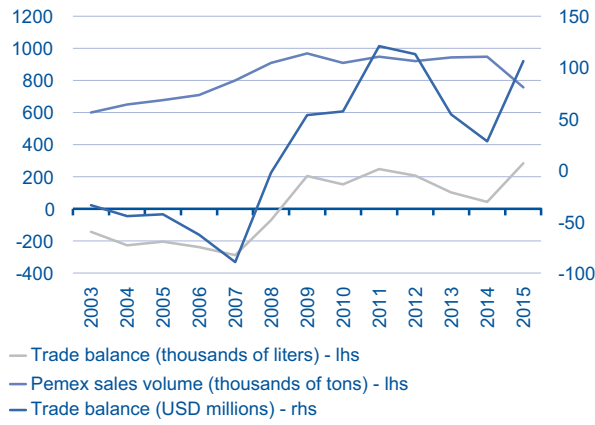
If we observe the data of Pemex sales volume and the trade deficit (in volume) referring to methane derivatives such as ammonia and methanol, we see that the greatest competition would be from Pemex (see Figure 3b.7).<sup>9</sup> As far as the Pemex sales volume and trade deficit volume are concerned, the joint information for acrylonitrile and propylene show that the greatest competition would also come from Pemex (see Figure 3b.8).<sup>10</sup>

<sup>9</sup> Ammonia is used mainly as a fertiliser and also has other uses, such as a degreaser, oven cleaner, and for cleaning windows, floors and wooden furniture. Methanol is a commodity used for manufacturing fuels, solvents and anti-freeze products.

<sup>10</sup> Acrylonitrile is used to manufacture textile fibres and plastics. Packaging, seats, bags and syringes are produced using polypropylene (a derivative of propylene) as a commodity.

Figure 3b.7

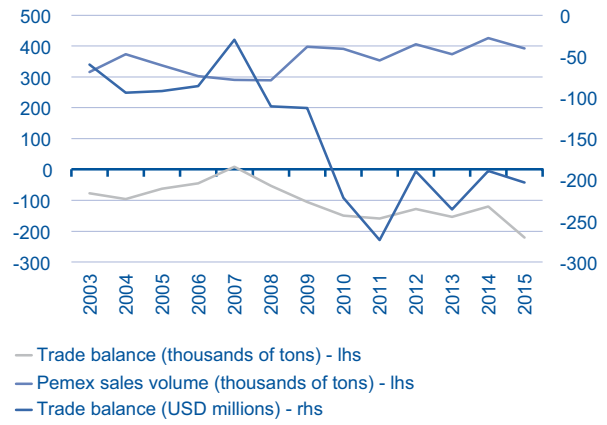
**Volume of Pemex sales and trade balance of ethylene (Thousands of tonnes and USD mn)**



Source: BBVA Research with SIE and SIAVI data

Figure 3b.8

**Volume of Pemex sales and trade balance of acrylonitrile and polypropylene (Thousands of tonnes and USD mn)**



Source: BBVA Research with SIE and SIAVI data

Ultimately, success in the domestic petrochemicals industry will hinge on four key components which can allow the competitive advantages mentioned by Theodoropoulos (2012): i) favourable commodity prices (natural gas, liquefied petroleum gas and petrol), which also need to be fixed for a certain period of time (by long-term contracts) in order to offset the volatility in energy prices; ii) larger-scale petrochemicals production plants which can help to bring down energy and labour costs and other costs related to the depreciation of assets per tonne produced<sup>11,12</sup>; iii) proximity to the regions where demand for petrochemicals is growing fast and logistics to access them; and iv) a first-class physical and institutional infrastructure to mobilise petrochemical products and grant them legal security, respectively.<sup>13</sup>

References

Mexico. Oil and Gas Review, 2015.

Seddon, D. (2010). "Petrochemical Economics: Technology Selection in a Carbon Constrained World." Imperial College Press.

Theodoropoulos, T. (2012). "Oil, Gas and Petrochemicals." BookBaby.

<sup>11</sup> Theodoropoulos (2012) states that the new steam cracker plants built in the Middle East between 2010 and 2012 for producing ethylene have an average capacity of 1.4 million tonnes per year vs. 800,000 tonnes and 400-500,000 tonnes for 2001-2005 and 1993-1997, respectively.

<sup>12</sup> According to information in the article "Petrochemicals Leader Evolving Beyond Etileno XXI" published in Mexico. Oil and Gas Review, 2015, the Etileno XXI project will use between 85% and 95% of its production capacity by the end of 2016. It is expected to operate at 100% of its capacity in 2017, reaching a production of 1.05 million tonnes of ethylene and polyethylene in that year.

<sup>13</sup> The article entitled "Landmark Petrochemical Plant Finally Ready" published in Mexico. Oil and Gas Review, 2015 indicates that between 50% and 60% of the production of the Etileno XXI project will be transported by railway and the rest in lorries. The article also indicates that the railway and road infrastructure will need to be improved in order for smoother transportation. The "Corredor Transistmico" ("Trans-Isthmus Corridor") will help to significantly reduce transportation times and costs between the Atlantic and Pacific, boosting input imports and exports of products from industrial parks set up in the vicinity of this corridor.

## 4. Appendix

## 4.a Indicators of economic performance by state

Table 4a.1

## Selected indicators

	GDP* 2014		GDP* 2014		GDP* per capita		CAGR <sup>2</sup> , % 2003-2014		Ranking in the nation				
	(millions of pesos)	Population <sup>1</sup> (persons)	(millions of USD)	(USD)	Real GDP	Popu- lation	Real GDP per capita	Real GDP 2014	Real GDP per capita 2014	Foreign Direct Invest. 2015	Jobs <sup>3</sup> created in 2015	Fed. Res. 2015	Public debt <sup>4</sup> 2014
National	16,306,606	119,713,203	1,224,771	10,231	2.6	1.5	1.1						
Aguascalientes	197,952	1,270,174	14,868	11,705	4.7	1.9	2.8	25	10	14	14	28	23
Baja California	454,992	3,432,944	34,174	9,955	2.1	2.4	-0.3	14	14	11	6	14	7
Baja California Sur	120,076	741,037	9,019	12,170	4.4	4.0	0.4	29	9	18	19	32	19
Campeche	691,744	894,136	51,956	58,108	-3.3	1.7	-5.0	6	1	19	30	24	30
Coahuila	554,861	2,925,594	41,675	14,245	3.0	1.6	1.4	8	5	10	9	18	2
Colima	98,110	710,982	7,369	10,364	2.9	2.3	0.6	31	12	28	28	31	15
Chiapas	291,168	5,186,572	21,869	4,217	1.5	1.9	-0.4	19	32	29	21	8	14
Chihuahua	463,533	3,673,342	34,815	9,478	3.1	1.3	1.7	13	15	5	5	12	3
Mexico City	2,694,461	8,874,724	202,378	22,804	2.5	0.1	2.5	1	2	1	1	2	9
Durango	199,929	1,746,805	15,016	8,597	1.9	1.3	0.6	26	20	25	22	25	11
Guanajuato	682,201	5,769,524	51,239	8,881	3.4	1.5	1.9	7	17	8	7	7	26
Guerrero	246,088	3,546,710	18,483	5,211	2.4	1.1	1.3	23	30	27	29	17	29
Hidalgo	276,784	2,842,784	20,789	7,313	2.7	1.8	0.9	20	24	21	23	19	20
Jalisco	1,066,373	7,838,010	80,094	10,219	3.0	1.5	1.5	4	13	4	2	3	17
México	1,516,171	16,618,929	113,878	6,852	3.0	1.8	1.1	2	25	2	4	1	21
Michoacán	396,042	4,563,849	29,746	6,518	2.5	1.1	1.3	15	27	22	18	11	12
Morelos	188,838	1,897,393	14,183	7,475	2.4	1.6	0.8	27	23	20	27	23	18
Nayarit	109,078	1,201,202	8,193	6,820	3.4	2.1	1.3	30	26	31	26	30	8
Nuevo León	1,188,979	5,013,589	89,303	17,812	4.1	1.8	2.2	3	3	3	3	5	4
Oaxaca	262,553	3,986,206	19,720	4,947	2.0	1.1	0.9	22	31	24	24	15	13
Puebla	515,282	6,131,498	38,702	6,312	2.8	1.3	1.4	10	28	13	12	6	25
Querétaro	354,038	1,974,436	26,591	13,468	5.3	2.3	2.9	16	6	9	10	21	31
Quintana Roo	263,742	1,529,877	19,809	12,948	4.7	3.6	1.1	21	7	23	11	26	1
San Luis Potosí	312,848	2,728,208	23,498	8,613	3.4	1.1	2.2	18	19	6	13	20	24
Sinaloa	341,197	2,958,691	25,627	8,662	2.5	1.1	1.4	17	18	17	8	16	22
Sonora	474,635	2,892,464	35,649	12,325	3.8	1.9	1.9	12	8	15	16	13	6
Tabasco	512,686	2,359,444	38,507	16,320	3.9	1.6	2.2	9	4	16	32	9	28
Tamaulipas	495,717	3,502,721	37,233	10,630	2.3	1.6	0.8	11	11	12	17	10	16
Tlaxcala	91,297	1,260,628	6,857	5,439	1.9	1.8	0.1	32	29	30	25	29	32
Veracruz	830,671	7,985,893	62,391	7,813	2.7	1.0	1.7	5	22	7	31	4	5
Yucatán	247,663	2,091,513	18,602	8,894	3.2	1.5	1.7	24	16	26	15	22	27
Zacatecas	166,897	1,563,324	12,535	8,018	4.1	1.1	2.9	28	21	32	20	27	10

\* 2014 GDP at current prices

1 Mexico population projections 2010-2050 for 2014, CONAPO

2 Compounded Annual Growth Rate

3 Total registered urban workers affiliated to the Social Security Institute (IMSS)

4 Federalized resources, It only includes financial obligations registered at SHCP as a share of budgeted federal participations for every state in 2015

Source: BBVA Research with INEGI, CONAPO, Banxico, STPS, SE and SHCP data

## 4.b Indicators by state

Table 4b.1

## Region: High Development\*

	Mexico City					
	2014	2015	1Q15	2Q15	3Q15	4Q15
<b>Economic Activity (QIEAS**) Total</b>	0.6	2.1	1.2	1.9	2.5	2.8
Primary Sector	4.8	-2.8	-3.0	-3.5	-2.5	-2.3
Secondary Sector	3.1	-2.4	0.9	-2.6	-2.4	-4.9
Tertiary Sector	0.3	2.7	1.2	2.5	3.1	3.8
<b>Manufacturing production</b>	-0.3	-0.3	-2.4	1.6	1.0	-1.5
<b>Construction</b>	-12.7	-21.5	9.3	-26.0	-35.3	-27.3
Public works	-23.9	-31.2	-31.6	-43.9	-38.1	-9.0
Private works	-3.1	-15.0	50.3	-12.1	-33.7	-36.8
<b>Retail sales</b>	1.4	4.6	6.4	1.9	0.2	9.5
<b>Wholesales</b>	-10.2	-3.2	-7.8	-0.3	-3.2	-1.7
<b>Total Employment (IMSS-registered workers)</b>	4.2	4.5	4.9	4.6	4.7	4.0
Permanent	3.9	4.4	4.4	4.2	4.6	4.2
Temporary (urban)	5.7	5.5	7.8	7.3	5.3	2.2
<b>Total air traffic (passengers transport)</b>	8.9	12.5	10.3	14.9	12.7	11.7
<b>Federalized resources (Branch 28)</b>	8.4	14.8	5.5	19.6	17.6	17.3
<b>Foreign Direct Investment (millions of USD)</b>	5253.8	4804.4	2391.4	1146.9	730.4	535.7

\* All indicators, except Foreign Direct Investment, are real annual percentage changes

\*\* Quarterly Indicator of Economic Activity Statewide (Indicador Trimestral de la Actividad Económica Estatal)

na = does not apply; nd = not available

Source: INEGI, STPS, Sectur, SHCP and SE

Table 4b.2

## Region: Touristic\*

	Baja California Sur						Quintana Roo					
	2014	2015	1Q15	2Q15	3Q15	4Q15	2014	2015	1Q15	2Q15	3Q15	4Q15
<b>Economic Activity (QIEAS**) Total</b>	-2.1	2.0	-0.5	1.9	1.7	4.9	4.0	5.1	4.4	6.4	5.8	3.9
Primary Sector	15.6	-8.4	1.4	-8.9	-18.6	-6.1	0.2	5.9	-4.4	17.2	32.5	-10.0
Secondary Sector	-11.1	-0.5	-12.4	3.4	1.7	7.2	6.9	-1.9	-1.4	1.4	-5.2	-2.7
Tertiary Sector	0.3	3.3	3.5	2.3	2.6	5.0	3.6	6.2	5.3	7.2	7.4	5.1
<b>Manufacturing production</b>	6.6	0.8	-2.6	-0.6	5.2	1.1	11.6	0.7	9.1	-3.7	-0.5	-1.3
<b>Construction</b>	-29.5	40.0	33.6	114.7	23.7	7.9	9.3	-8.4	-17.1	-25.4	8.4	6.1
Public works	-45.5	-2.9	-12.0	-7.7	8.0	8.2	9.4	-46.8	-43.6	-62.4	-32.8	-40.8
Private works	28.4	105.4	143.9	384.7	34.4	7.5	9.2	15.7	-1.3	1.5	29.0	37.6
<b>Retail sales</b>	10.9	3.5	9.6	-1.3	7.9	-0.6	0.9	9.7	3.0	4.7	14.4	16.3
<b>Wholesales</b>	-0.9	9.8	17.4	16.1	5.5	2.7	7.7	-0.7	-0.9	2.6	-3.3	-1.1
<b>Total Employment (IMSS-registered workers)</b>	2.1	4.3	2.7	3.1	4.0	7.4	6.3	7.7	6.6	7.0	8.3	8.8
Permanent	2.3	3.7	2.3	2.9	3.1	6.6	4.1	6.4	4.8	5.4	7.1	8.2
Temporary (urban)	1.5	6.7	4.4	3.9	7.8	10.8	14.1	11.7	12.3	12.2	12.0	10.6
<b>Total air traffic (passengers transport)</b>	-1.3	9.3	-6.4	-4.0	14.2	46.3	9.5	12.2	12.3	12.6	14.3	9.7
<b>Federalized resources (Branch 28)</b>	9.3	5.6	5.4	10.4	4.1	2.5	10.6	9.0	-0.4	19.9	10.3	6.8
<b>Foreign Direct Investment (millions of USD)</b>	236.2	330.4	53.9	67.8	161.1	47.5	169.0	284.9	82.1	-11.4	172.8	41.4

\* All indicators, except Foreign Direct Investment, are real annual percentage changes

\*\* Quarterly Indicator of Economic Activity Statewide (Indicador Trimestral de la Actividad Económica Estatal)

na = does not apply; nd = not available

Source: INEGI, STPS, Sectur, SHCP and SE



Table 4b.3

**Región: Industrial\***

	Aguascalientes						Baja California					
	2014	2015	1Q15	2Q15	3Q15	4Q15	2014	2015	1Q15	2Q15	3Q15	4Q15
<b>Economic Activity (QIEAS**) Total</b>	11.2	4.3	4.9	4.5	4.5	3.2	0.0	6.3	7.3	6.5	5.8	5.5
Primary Sector	7.7	6.2	-4.5	3.0	19.4	5.8	-6.1	8.7	29.9	-0.7	5.1	12.2
Secondary Sector	19.1	4.0	6.4	5.4	3.8	0.8	0.4	9.4	11.9	12.0	8.3	6.2
Tertiary Sector	4.9	4.4	4.2	3.9	4.0	5.3	0.1	4.3	4.1	4.1	4.4	4.7
<b>Manufacturing production</b>	24.7	6.3	7.2	8.6	6.4	2.9	6.7	9.2	12.5	10.9	7.9	6.3
<b>Construction</b>	-18.8	19.8	43.8	53.1	18.3	-14.8	-20.7	20.2	28.2	35.0	20.2	5.6
Public works	15.6	-40.1	19.0	0.3	-42.3	-74.0	-25.8	22.9	20.0	76.5	16.4	5.2
Private works	-30.2	52.8	51.2	76.1	52.2	37.1	-12.5	16.4	39.7	0.8	26.4	6.4
<b>Retail sales</b>	2.0	15.3	-7.4	23.7	27.3	17.2	-0.6	10.6	9.8	7.9	13.8	10.8
<b>Wholesales</b>	22.9	6.0	-0.9	1.2	7.9	14.4	-1.5	6.6	-1.4	5.9	13.4	8.6
<b>Total Employment (IMSS-registered workers)</b>	6.0	5.6	6.0	5.6	5.2	5.7	5.5	6.5	7.4	7.3	6.2	5.1
Permanent	5.9	6.0	6.4	5.9	5.7	5.9	5.3	6.5	7.0	7.1	6.4	5.5
Temporary (urban)	6.5	2.6	2.6	2.5	0.6	4.6	8.3	6.8	13.3	10.5	3.8	0.7
<b>Total air traffic (passengers transport)</b>	19.6	17.7	18.7	23.6	18.8	10.7	4.6	10.4	-4.9	7.8	15.4	23.8
<b>Federalized resources (Branch 28)</b>	8.2	9.4	0.5	17.4	11.5	9.4	10.5	5.6	-0.7	6.0	12.1	5.5
<b>Foreign Direct Investment (millions of USD)</b>	621.1	507.2	341.8	69.5	36.2	59.6	1093.8	920.5	274.5	188.2	290.9	166.9

	Chihuahua						Coahuila					
	2014	2015	1Q15	2Q15	3Q15	4Q15	2014	2015	1Q15	2Q15	3Q15	4Q15
<b>Economic Activity (QIEAS**) Total</b>	2.7	5.2	6.9	3.1	5.1	5.7	3.8	3.1	1.8	1.6	4.7	4.1
Primary Sector	7.5	6.1	15.5	-3.4	16.7	1.7	10.0	-3.4	-6.7	-1.8	-7.0	1.2
Secondary Sector	4.8	5.4	9.0	2.6	3.9	6.4	6.3	2.6	-1.0	0.0	6.1	5.5
Tertiary Sector	0.9	5.0	5.3	4.2	4.2	6.1	0.7	3.9	5.5	3.6	3.7	2.7
<b>Manufacturing production</b>	5.4	6.4	10.9	5.7	3.7	5.7	7.5	2.6	0.1	0.5	5.4	4.4
<b>Construction</b>	2.6	5.1	7.8	-1.5	-1.2	15.9	15.9	9.1	-5.2	0.9	31.2	9.4
Public works	-17.3	-23.3	-29.3	-24.0	-29.4	-11.4	8.2	-7.9	-21.6	-20.0	-7.6	12.8
Private works	27.6	28.2	42.9	14.7	20.3	39.3	18.5	14.3	-0.4	5.5	48.1	8.4
<b>Retail sales</b>	1.6	3.5	0.0	3.3	4.7	5.5	0.0	-0.8	1.0	-1.0	-5.2	1.8
<b>Wholesales</b>	1.4	8.0	1.2	11.8	11.3	7.6	-8.9	7.1	11.3	11.8	4.8	1.5
<b>Total Employment (IMSS-registered workers)</b>	4.2	6.0	5.7	5.8	6.1	6.4	3.7	5.1	5.7	5.3	5.0	4.6
Permanent	3.1	6.6	5.6	6.4	7.2	7.2	3.4	4.9	5.0	4.9	5.0	4.6
Temporary (urban)	15.2	0.5	7.3	0.4	-3.6	-1.5	5.6	7.0	10.8	8.2	5.3	4.3
<b>Total air traffic (passengers transport)</b>	9.4	13.5	13.1	13.7	15.2	12.0	24.0	7.0	-3.8	2.1	7.7	21.0
<b>Federalized resources (Branch 28)</b>	13.0	7.8	-1.9	12.2	12.8	8.6	10.9	3.7	-3.1	12.2	6.0	0.3
<b>Foreign Direct Investment (millions of USD)</b>	1469.8	2119.4	303.5	425.3	1101.4	289.2	1319.2	1000.5	292.2	91.4	466.3	150.6

\* All indicators, except Foreign Direct Investment, are real annual percentage changes

\*\* Quarterly Indicator of Economic Activity Statewide (Indicador Trimestral de la Actividad Económica Estatal)

na = does not apply; nd = not available

Source: INEGI, STPS, Sector, SHCP and SE

Table 4b.4

## Región: Industrial\*

	Jalisco						Estado de México					
	2014	2015	1Q15	2Q15	3Q15	4Q15	2014	2015	1Q15	2Q15	3Q15	4Q15
<b>Economic Activity (QIEAS**) Total</b>	3.5	3.7	4.6	3.0	5.0	2.2	1.2	1.5	1.7	0.8	1.5	1.9
Primary Sector	7.1	4.7	14.9	-2.2	5.2	2.4	6.1	-5.1	-11.5	-7.6	14.2	-7.6
Secondary Sector	4.4	6.5	8.4	6.2	9.3	2.4	-2.6	0.3	-1.3	-0.6	1.5	1.6
Tertiary Sector	2.7	2.2	2.0	2.0	2.9	2.1	3.1	2.2	3.3	1.7	1.4	2.2
<b>Manufacturing production</b>	6.1	5.3	7.9	4.2	5.5	3.9	-3.0	1.3	-2.8	-0.6	3.7	4.8
<b>Construction</b>	-12.3	23.0	19.7	29.2	44.6	0.5	3.7	-20.9	-21.5	-8.3	-27.7	-21.8
Public works	-16.7	-10.0	19.4	-9.7	-18.3	-21.9	2.5	7.2	14.3	48.0	-7.2	-5.0
Private works	-9.6	41.6	19.9	50.4	83.9	13.6	4.6	-41.2	-47.9	-39.5	-44.0	-34.6
<b>Retail sales</b>	-1.7	0.2	-2.1	0.5	0.8	1.6	6.0	3.8	4.1	4.1	-2.2	9.3
<b>Wholesales</b>	3.5	8.4	0.8	2.5	13.3	17.1	5.5	4.1	0.4	0.0	10.4	5.4
<b>Total Employment (IMSS-registered workers)</b>	3.3	5.1	5.4	5.3	4.8	4.8	1.6	4.0	3.6	3.9	4.2	4.2
Permanent	3.3	4.4	4.9	4.5	3.9	4.1	1.5	3.8	3.2	3.4	4.1	4.3
Temporary (urban)	3.3	11.0	9.8	11.8	12.3	10.1	2.0	5.1	5.8	5.9	4.9	4.0
<b>Total air traffic (passengers transport)</b>	9.6	14.3	9.7	15.1	15.9	16.4	-33.9	0.6	-24.3	4.8	20.0	5.7
<b>Federalized resources (Branch 28)</b>	10.8	10.5	0.5	14.0	16.4	12.1	11.9	8.6	-2.3	14.9	12.6	10.7
<b>Foreign Direct Investment (millions of USD)</b>	1397.9	2484.6	1080.1	303.2	657.1	444.2	3123.9	2665.3	882.6	1090.9	569.6	122.2

	Nuevo León						Querétaro					
	2014	2015	1Q15	2Q15	3Q15	4Q15	2014	2015	1Q15	2Q15	3Q15	4Q15
<b>Economic Activity (QIEAS**) Total</b>	3.9	6.0	6.7	5.5	5.8	5.9	8.0	8.2	12.6	8.9	7.4	4.5
Primary Sector	1.8	-9.8	-3.7	-14.7	-13.7	-6.4	11.9	7.3	2.3	14.3	1.7	9.8
Secondary Sector	5.2	4.9	8.4	4.4	4.2	2.9	12.8	9.4	17.3	10.6	8.8	2.3
Tertiary Sector	3.1	6.8	5.7	6.4	6.9	7.9	4.2	7.3	9.3	7.4	6.5	6.0
<b>Manufacturing production</b>	3.6	-0.3	3.8	-0.6	-2.1	-2.1	11.9	9.1	9.9	10.2	9.3	7.3
<b>Construction</b>	38.4	20.3	41.9	11.7	26.1	9.1	-4.5	6.7	31.7	1.5	6.2	-8.9
Public works	6.2	90.8	131.9	84.5	94.6	65.4	26.6	50.8	155.8	47.1	61.4	1.6
Private works	50.9	1.2	17.7	-9.5	6.4	-4.6	-11.2	-6.9	8.1	-13.3	-9.0	-13.6
<b>Retail sales</b>	2.3	6.7	4.3	4.1	9.9	8.0	-1.1	7.1	3.6	4.6	9.3	10.2
<b>Wholesales</b>	8.6	-9.6	4.8	-1.4	-17.7	-21.4	16.1	22.3	32.3	25.5	20.5	13.6
<b>Total Employment (IMSS-registered workers)</b>	3.8	5.0	5.0	5.1	5.1	4.7	4.5	5.8	5.6	5.5	6.4	5.9
Permanent	3.5	5.2	4.8	5.2	5.4	5.5	5.0	5.6	5.1	5.2	6.2	6.0
Temporary (urban)	5.4	3.0	6.3	4.7	2.5	-1.1	2.4	6.9	8.2	7.0	7.2	5.2
<b>Total air traffic (passengers transport)</b>	11.1	19.0	25.2	24.7	16.9	11.6	33.9	23.8	30.3	16.9	20.0	28.9
<b>Federalized resources (Branch 28)</b>	12.1	7.8	1.3	13.2	9.0	8.2	9.5	9.5	-0.3	17.8	14.6	6.5
<b>Foreign Direct Investment (millions of USD)</b>	1358.3	2633.5	948.0	393.1	1087.5	204.8	896.8	1021.2	139.1	124.9	612.6	144.6

\* All indicators, except Foreign Direct Investment, are real annual percentage changes

\*\* Quarterly Indicator of Economic Activity Statewide (Indicador Trimestral de la Actividad Económica Estatal)

na = does not apply; nd = not available

Source: INEGI, STPS, Sector, SHCP and SE

Table 4b.5

## Región: Industrial\*

	Sonora						Tamaulipas					
	2014	2015	1Q15	2Q15	3Q15	4Q15	2014	2015	1Q15	2Q15	3Q15	4Q15
<b>Economic Activity (QIEAS**) Total</b>	0.3	0.5	-0.7	0.7	0.7	1.4	3.0	1.9	2.8	1.0	1.4	2.4
Primary Sector	3.8	2.5	-8.1	6.2	-0.9	8.2	28.1	-4.0	-13.8	-20.8	9.2	22.5
Secondary Sector	-0.4	-0.5	-2.6	-1.3	0.0	1.8	3.9	1.2	4.5	-0.5	-1.2	2.2
Tertiary Sector	0.4	1.1	1.9	1.0	1.5	0.2	1.1	2.7	3.5	3.1	2.6	1.6
<b>Manufacturing production</b>	-2.2	2.9	2.2	2.7	1.7	5.2	6.0	3.9	11.7	2.9	1.3	0.1
<b>Construction</b>	2.6	-20.5	-31.4	-19.8	-15.7	-14.4	14.9	11.9	-20.7	19.9	-7.2	58.8
Public works	-7.4	-14.5	-31.6	-16.6	5.8	-12.6	10.9	-23.0	-35.4	-11.6	-38.9	0.0
Private works	7.8	-23.2	-31.4	-21.3	-24.1	-15.2	21.9	68.6	4.6	67.8	52.4	141.0
<b>Retail sales</b>	-8.9	-9.5	-6.8	-9.0	-7.9	-13.9	0.3	-0.5	-4.4	-0.3	0.4	1.9
<b>Wholesales</b>	-3.8	1.4	-11.5	8.1	6.2	2.2	-5.3	3.7	5.6	9.1	6.4	-5.1
<b>Total Employment (IMSS-registered workers)</b>	1.4	2.6	2.3	2.5	3.0	2.5	2.5	2.4	2.5	2.3	2.7	2.3
Permanent	1.3	2.5	2.0	2.3	2.9	2.8	2.5	2.9	2.8	2.5	3.2	3.1
Temporary (urban)	2.9	3.0	4.4	4.0	3.4	0.2	2.2	-1.4	-0.2	0.3	-1.0	-4.6
<b>Total air traffic (passengers transport)</b>	0.9	3.1	-2.2	-4.1	4.0	14.4	13.2	9.2	10.8	13.5	11.2	2.5
<b>Federalized resources (Branch 28)</b>	8.6	3.9	0.9	8.4	3.8	2.7	10.7	7.0	-0.6	11.6	8.1	9.3
<b>Foreign Direct Investment (millions of USD)</b>	860.7	498.2	291.4	119.5	55.1	32.3	571.4	847.4	184.8	132.8	324.1	205.7

\* All indicators, except Foreign Direct Investment, are real annual percentage changes

\*\* Quarterly Indicator of Economic Activity Statewide (Indicador Trimestral de la Actividad Económica Estatal)

na = does not apply; nd = not available

Source: INEGI, STPS, Sectur, SHCP and SE

Table 4b.6

## Región: Medium Development\*

	Campeche						Colima					
	2014	2015	1Q15	2Q15	3Q15	4Q15	2014	2015	1Q15	2Q15	3Q15	4Q15
<b>Economic Activity (QIEAS**) Total</b>	-3.1	-7.4	-6.4	-8.6	-6.3	-8.2	4.1	3.7	1.6	2.2	4.7	6.2
Primary Sector	18.8	3.1	-4.6	24.8	-5.1	1.0	-3.1	-0.4	-2.8	-1.4	-14.4	19.0
Secondary Sector	-4.4	-8.6	-7.0	-10.3	-7.4	-9.6	3.4	4.5	-3.6	-1.0	13.5	9.8
Tertiary Sector	5.7	0.5	-2.3	2.1	1.2	1.0	4.9	3.6	4.2	3.7	2.6	3.9
<b>Manufacturing production</b>	-0.1	-1.4	13.0	-12.5	-0.8	-5.3	-4.1	13.1	-3.2	13.3	23.2	21.4
<b>Construction</b>	-31.6	0.5	12.0	-11.2	-17.8	20.6	-12.0	-8.4	-43.5	-4.9	5.4	9.3
Public works	-32.7	-0.2	6.4	-16.7	-14.5	24.5	-21.0	-19.1	-55.0	-15.3	6.3	0.3
Private works	-15.6	8.7	104.6	76.6	-47.3	-22.4	0.7	3.4	-25.3	8.4	4.8	17.9
<b>Retail sales</b>	2.1	7.6	-3.4	-1.4	20.0	14.3	0.7	2.3	2.9	-1.1	2.7	4.5
<b>Wholesales</b>	21.9	1.6	-7.1	12.6	6.2	-4.1	2.1	0.0	-0.5	1.7	-5.8	5.1
<b>Total Employment (IMSS-registered workers)</b>	-0.3	-4.9	-1.0	-4.0	-7.8	-6.8	2.2	2.2	3.5	3.0	2.1	0.3
Permanent	-0.9	-4.4	0.3	-4.0	-7.2	-6.6	1.5	1.6	2.6	2.0	1.7	0.2
Temporary (urban)	2.1	-6.8	-5.6	-4.2	-9.8	-7.5	5.1	5.0	7.5	7.9	4.1	0.9
<b>Total air traffic (passengers transport)</b>	23.0	2.7	3.5	3.5	1.3	2.7	1.3	-5.9	4.3	-8.2	-15.3	-8.7
<b>Federalized resources (Branch 28)</b>	1.1	20.4	3.8	38.8	17.0	23.8	6.6	7.4	0.2	16.0	6.9	7.0
<b>Foreign Direct Investment (millions of USD)</b>	120.5	320.1	114.3	-11.4	134.7	82.5	185.9	134.9	97.8	-9.0	31.5	14.6

	Durango						Guanajuato					
	2014	2015	1Q15	2Q15	3Q15	4Q15	2014	2015	1Q15	2Q15	3Q15	4Q15
<b>Economic Activity (QIEAS**) Total</b>	1.8	2.3	1.7	2.1	3.7	1.5	6.5	6.4	8.3	10.6	3.3	3.7
Primary Sector	2.9	5.0	8.2	8.6	7.8	-2.1	2.4	1.8	0.8	1.2	7.4	-1.1
Secondary Sector	1.8	-0.3	-1.0	-1.1	2.9	-2.0	13.2	9.3	13.6	18.7	2.7	3.9
Tertiary Sector	1.6	3.4	2.6	3.1	3.3	4.5	2.2	4.4	4.9	5.5	3.4	3.9
<b>Manufacturing production</b>	-2.5	2.4	4.7	6.0	1.6	-2.1	16.1	11.4	12.6	18.6	8.2	7.0
<b>Construction</b>	34.1	-19.9	-33.6	-32.4	-1.9	-8.6	-17.4	33.0	82.4	48.0	5.6	10.4
Public works	5.4	-6.2	-34.8	-6.9	20.9	2.7	-14.0	9.1	39.0	21.4	-13.4	-1.4
Private works	92.1	-35.0	-31.8	-55.1	-22.6	-23.3	-19.3	47.8	107.5	65.2	17.0	18.0
<b>Retail sales</b>	1.2	9.8	0.0	2.6	10.9	23.9	2.2	8.6	8.7	3.5	11.0	10.6
<b>Wholesales</b>	-0.4	8.6	8.3	10.6	16.1	0.0	-7.2	7.6	4.4	9.0	12.2	5.0
<b>Total Employment (IMSS-registered workers)</b>	3.2	2.9	3.6	3.1	2.5	2.3	7.3	6.5	8.2	7.0	6.2	4.7
Permanent	3.5	2.9	3.2	3.1	2.5	3.0	6.7	5.9	6.9	6.2	5.6	4.8
Temporary (urban)	0.9	2.2	7.2	2.8	2.6	-3.4	12.0	10.7	17.3	13.0	9.8	3.7
<b>Total air traffic (passengers transport)</b>	16.5	25.0	20.3	13.7	23.5	39.9	23.0	22.9	22.0	24.8	28.3	17.1
<b>Federalized resources (Branch 28)</b>	10.1	8.3	1.2	14.3	9.7	8.4	11.6	10.5	-0.3	15.2	15.4	12.8
<b>Foreign Direct Investment (millions of USD)</b>	52.1	175.7	24.0	41.5	96.3	13.9	1180.4	1355.9	301.8	43.1	276.8	734.2

\* All indicators, except Foreign Direct Investment, are real annual percentage changes

\*\* Quarterly Indicator of Economic Activity Statewide (Indicador Trimestral de la Actividad Económica Estatal)

na = does not apply; nd = not available

Source: INEGI, STPS, Sector, SHCP and SE

Table 4b.7

## Región: Medium Development\*

	Hidalgo						Michoacán					
	2014	2015	1Q15	2Q15	3Q15	4Q15	2014	2015	1Q15	2Q15	3Q15	4Q15
<b>Economic Activity (QIEAS**) Total</b>	3.2	3.9	4.2	3.5	1.5	6.3	6.3	-0.2	-3.8	-2.9	5.7	0.6
Primary Sector	-1.4	5.0	-1.6	10.7	-6.0	9.2	12.1	0.2	-7.5	-1.9	11.2	0.8
Secondary Sector	2.8	4.1	4.4	1.9	0.6	9.4	8.3	-4.5	-16.7	-1.5	9.7	-7.5
Tertiary Sector	3.8	3.7	4.3	4.2	2.7	3.4	4.7	1.3	2.1	-3.6	3.5	3.4
<b>Manufacturing production</b>	-1.4	1.7	1.3	-0.7	-2.4	8.8	5.2	-9.3	-20.3	-1.5	1.4	-15.1
<b>Construction</b>	35.3	6.5	28.6	26.9	0.2	-12.4	28.1	34.2	-5.2	22.7	95.7	41.5
Public works	30.0	35.8	60.4	100.3	27.3	2.7	71.0	84.1	0.4	62.8	276.1	97.4
Private works	42.9	-31.3	-11.6	-32.6	-38.9	-36.2	4.0	-12.0	-11.2	-27.6	-4.2	-5.9
<b>Retail sales</b>	nd	nd	nd	nd	nd	nd	21.8	7.5	6.7	3.0	4.7	15.8
<b>Wholesales</b>	nd	nd	nd	nd	nd	nd	8.7	6.3	7.1	9.5	8.9	0.2
<b>Total Employment (IMSS-registered workers)</b>	4.9	2.2	3.5	1.8	1.5	1.9	2.3	3.7	3.6	3.8	4.1	3.4
Permanent	3.5	2.3	2.7	1.7	2.1	2.7	1.9	2.6	2.6	2.3	2.8	2.7
Temporary (urban)	9.4	1.8	6.1	2.0	-0.4	-0.3	5.5	11.0	10.0	13.6	12.4	7.8
<b>Total air traffic (passengers transport)</b>	na	na	na	na	na	na	6.6	5.3	9.2	-0.3	4.3	8.3
<b>Federalized resources (Branch 28)</b>	6.2	5.4	-2.4	6.2	9.9	9.0	8.5	6.1	-0.3	15.1	6.6	3.7
<b>Foreign Direct Investment (millions of USD)</b>	-94.3	307.1	206.8	63.3	10.9	26.1	139.2	286.9	129.6	47.5	49.3	60.6

	Morelos						Nayarit					
	2014	2015	1Q15	2Q15	3Q15	4Q15	2014	2015	1Q15	2Q15	3Q15	4Q15
<b>Economic Activity (QIEAS**) Total</b>	0.8	2.0	3.2	2.4	2.0	0.5	3.8	4.8	8.2	4.1	4.5	2.6
Primary Sector	-3.2	-6.3	32.2	-5.9	-23.5	-20.0	-6.9	4.6	-13.9	8.5	12.0	15.1
Secondary Sector	0.3	1.6	3.6	0.1	4.6	-1.5	6.5	4.9	30.4	-1.7	4.5	-7.5
Tertiary Sector	1.1	2.5	1.9	3.7	1.8	2.6	4.1	4.8	5.1	5.6	4.0	4.6
<b>Manufacturing production</b>	-0.2	5.2	1.6	1.0	8.8	9.7	0.9	3.4	3.0	0.4	5.6	6.4
<b>Construction</b>	-9.1	-17.0	53.4	6.9	-21.3	-64.5	-14.1	16.8	92.5	8.0	8.6	-21.4
Public works	14.9	-41.9	67.8	-45.6	-74.0	-82.8	-39.0	74.8	277.4	75.9	16.4	4.1
Private works	-20.0	-0.7	44.0	50.4	13.8	-54.0	22.0	-25.2	-15.4	-36.1	1.2	-40.4
<b>Retail sales</b>	-3.0	8.4	3.7	4.9	9.5	14.5	nd	nd	nd	nd	nd	nd
<b>Wholesales</b>	-7.8	1.6	-9.7	0.7	4.2	12.8	nd	nd	nd	nd	nd	nd
<b>Total Employment (IMSS-registered workers)</b>	1.0	1.8	1.2	2.2	2.3	1.6	4.1	3.7	5.0	3.0	3.6	3.3
Permanent	1.2	1.0	0.6	1.0	1.2	1.1	3.8	3.1	3.8	2.5	3.1	3.1
Temporary (urban)	-0.3	7.8	5.5	11.1	10.1	4.9	5.7	6.4	10.4	5.3	6.2	3.9
<b>Total air traffic (passengers transport)</b>	0.0	0.0	0.0	na	na	na	-9.8	4.7	4.4	-4.7	0.3	18.1
<b>Federalized resources (Branch 28)</b>	11.3	5.6	-1.3	9.4	6.1	9.0	10.2	6.9	1.8	12.2	7.9	6.1
<b>Foreign Direct Investment (millions of USD)</b>	307.7	314.5	197.4	59.6	39.9	17.6	112.9	87.6	35.6	15.5	21.5	15.0

\* All indicators, except Foreign Direct Investment, are real annual percentage changes

\*\* Quarterly Indicator of Economic Activity Statewide (Indicador Trimestral de la Actividad Económica Estatal)

na = does not apply; nd = not available

Source: INEGI, STPS, Sectur, SHCP and SE

Table 4b.8

**Región: Medium Development\***

	Puebla						San Luis Potosí					
	2014	2015	1Q15	2Q15	3Q15	4Q15	2014	2015	1Q15	2Q15	3Q15	4Q15
<b>Economic Activity (QIEAS**) Total</b>	1.0	2.9	2.8	3.0	1.8	4.0	1.9	4.4	3.4	2.0	6.7	5.5
Primary Sector	0.9	14.6	12.1	21.5	14.2	11.0	14.0	4.7	-2.6	4.4	7.2	9.0
Secondary Sector	0.2	2.1	4.6	-0.3	1.2	2.9	2.5	5.7	4.6	1.5	9.7	6.7
Tertiary Sector	1.4	2.6	1.3	3.7	1.4	4.0	0.6	3.4	2.8	2.3	4.1	4.2
<b>Manufacturing production</b>	0.5	1.2	4.7	-3.3	1.8	2.1	4.0	1.7	1.5	-0.5	4.5	1.3
<b>Construction</b>	20.8	13.6	11.9	25.4	-2.1	22.2	7.4	15.1	6.8	-6.8	30.0	28.9
Public works	36.7	-1.0	-29.7	-1.6	-24.6	60.4	-8.0	38.4	66.9	18.3	60.0	23.3
Private works	5.4	32.0	71.8	58.4	40.1	-7.9	22.5	-2.1	-23.1	-19.6	9.8	37.1
<b>Retail sales</b>	-1.1	5.0	5.8	3.1	5.5	5.4	-2.3	5.6	4.1	5.9	4.6	7.6
<b>Wholesales</b>	0.7	3.6	-6.5	4.8	9.3	7.1	-22.0	21.0	15.2	18.7	33.3	17.7
<b>Total Employment (IMSS-registered workers)</b>	2.7	5.0	4.8	5.5	5.3	4.4	3.2	4.4	3.1	4.4	4.9	5.1
Permanent	2.2	4.2	3.7	3.9	4.5	4.6	3.4	3.5	2.3	3.3	3.9	4.6
Temporary (urban)	5.3	9.8	11.2	15.1	10.1	3.3	2.0	9.1	7.5	10.6	10.3	8.0
<b>Total air traffic (passengers transport)</b>	-6.5	16.4	1.8	19.7	20.7	22.6	45.4	20.5	33.6	27.3	18.1	8.4
<b>Federalized resources (Branch 28)</b>	10.1	6.1	-6.6	15.2	10.7	6.9	8.8	5.4	-7.4	13.7	8.4	9.4
<b>Foreign Direct Investment (millions of USD)</b>	891.9	565.9	120.8	179.3	114.6	151.3	946.9	1584.8	265.9	499.3	351.7	467.9

	Sinaloa						Tabasco					
	2014	2015	1Q15	2Q15	3Q15	4Q15	2014	2015	1Q15	2Q15	3Q15	4Q15
<b>Economic Activity (QIEAS**) Total</b>	2.4	4.8	4.5	5.9	3.2	5.5	2.4	-1.4	-0.7	-1.9	-2.7	-0.2
Primary Sector	0.6	10.0	16.4	19.7	-14.2	10.7	-2.0	2.2	4.2	8.7	1.8	-7.5
Secondary Sector	3.0	6.1	2.8	4.0	5.7	11.2	3.2	-2.5	-1.9	-3.8	-4.8	0.4
Tertiary Sector	2.5	3.5	2.8	4.2	4.4	2.6	0.8	1.3	2.0	2.3	2.0	-1.1
<b>Manufacturing production</b>	4.2	7.4	4.4	6.2	6.1	12.9	-3.9	-11.8	-3.4	-13.6	-15.6	-15.4
<b>Construction</b>	-11.8	0.0	-25.0	0.0	-12.3	35.7	-13.1	-27.4	-27.9	-17.8	-36.4	-28.8
Public works	-15.3	-7.0	-32.2	-24.3	-23.3	47.1	-6.6	-31.3	-37.5	-17.4	-41.7	-25.9
Private works	-7.8	7.6	-17.6	29.6	-0.8	23.5	-22.9	-20.5	-16.8	-18.3	-14.9	-35.7
<b>Retail sales</b>	2.5	0.5	-4.0	10.0	-0.2	-3.6	2.7	5.4	4.5	3.0	9.7	4.3
<b>Wholesales</b>	0.4	2.8	-1.9	-0.8	5.2	8.4	-1.2	8.9	2.2	15.1	14.9	4.2
<b>Total Employment (IMSS-registered workers)</b>	3.3	4.8	4.1	4.9	4.9	5.5	3.6	-0.5	2.6	1.4	-0.8	-4.9
Permanent	2.6	5.0	4.2	5.0	5.2	5.5	4.6	-0.5	2.1	-0.1	-1.1	-2.9
Temporary (urban)	8.3	3.8	2.9	4.0	2.7	5.5	-1.0	-0.3	5.2	9.3	0.4	-14.5
<b>Total air traffic (passengers transport)</b>	6.6	11.0	3.6	6.7	16.1	17.3	10.2	13.8	19.0	20.5	12.4	5.4
<b>Federalized resources (Branch 28)</b>	14.4	3.0	-2.4	5.2	7.1	2.6	1.5	6.8	-0.8	11.9	8.5	8.2
<b>Foreign Direct Investment (millions of USD)</b>	343.8	402.3	96.3	113.0	116.3	76.6	227.5	467.2	72.4	21.3	79.1	294.4

\* All indicators, except Foreign Direct Investment, are real annual percentage changes

\*\* Quarterly Indicator of Economic Activity Statewide (Indicador Trimestral de la Actividad Económica Estatal)

na = does not apply; nd = not available

Source: INEGI, STPS, Sector, SHCP and SE

Table 4b.9

## Región: Medium Development\*

	Tlaxcala						Veracruz					
	2014	2015	1Q15	2Q15	3Q15	4Q15	2014	2015	1Q15	2Q15	3Q15	4Q15
<b>Economic Activity (QIEAS**) Total</b>	2.5	5.5	7.6	5.9	5.5	3.3	0.0	0.2	0.8	0.5	1.9	-2.3
Primary Sector	4.2	2.1	46.2	2.9	-7.9	-13.8	-4.4	3.0	4.3	5.2	4.5	-2.2
Secondary Sector	3.2	12.2	16.0	18.9	10.5	4.8	-2.9	-4.4	-2.3	-4.0	-2.5	-9.0
Tertiary Sector	2.0	1.9	1.7	-0.9	3.0	3.9	2.6	3.3	2.6	3.4	4.9	2.2
<b>Manufacturing production</b>	1.9	8.3	15.3	10.9	5.1	3.0	2.7	-4.4	2.9	3.1	-6.2	-17.6
<b>Construction</b>	32.6	121.8	114.9	296.2	149.9	3.6	-9.8	-25.2	-38.8	-28.2	-16.7	-17.1
Public works	44.6	53.1	23.6	126.7	77.9	13.9	-22.3	-31.0	-51.4	-43.2	-10.9	-12.4
Private works	17.0	231.5	295.4	471.4	337.8	-11.6	28.5	-14.4	-13.5	9.2	-26.5	-23.7
<b>Retail sales</b>	nd	nd	nd	nd	nd	nd	7.0	7.0	9.7	5.5	9.6	3.9
<b>Wholesales</b>	nd	nd	nd	nd	nd	nd	10.6	3.9	-11.8	19.3	5.2	7.1
<b>Total Employment (IMSS-registered workers)</b>	1.5	4.8	4.2	5.4	5.1	4.6	0.8	-0.3	0.4	-0.6	-0.3	-0.7
Permanent	-0.4	3.5	3.1	4.3	4.2	2.6	-0.3	0.3	0.0	-0.4	0.5	0.9
Temporary (urban)	9.0	9.5	8.3	9.1	8.5	12.1	6.3	-3.3	2.3	-1.6	-4.8	-8.7
<b>Total air traffic (passengers transport)</b>	na	na	na	na	na	na	13.2	5.8	11.6	6.6	7.2	-0.7
<b>Federalized resources (Branch 28)</b>	11.7	3.6	-3.1	5.5	8.7	3.9	8.4	-0.1	-7.5	2.0	3.7	2.6
<b>Foreign Direct Investment (millions of USD)</b>	91.6	105.1	17.7	14.6	41.9	31.1	1002.0	1505.5	441.6	94.8	736.5	232.6

	Yucatán						Zacatecas					
	2014	2015	1Q15	2Q15	3Q15	4Q15	2014	2015	1Q15	2Q15	3Q15	4Q15
<b>Economic Activity (QIEAS**) Total</b>	3.0	3.7	1.1	5.8	4.4	3.6	4.4	3.7	0.6	6.1	5.6	2.5
Primary Sector	9.4	2.0	5.8	3.0	4.7	-3.3	-1.4	-2.8	-7.7	3.5	-0.4	-7.0
Secondary Sector	4.5	4.5	-2.7	8.1	6.0	6.5	10.9	7.3	1.8	7.6	9.9	9.4
Tertiary Sector	2.0	3.5	2.8	4.9	3.7	2.6	0.6	2.1	0.2	5.3	3.4	-0.6
<b>Manufacturing production</b>	3.3	11.8	1.8	11.9	19.8	13.3	13.0	11.2	7.0	5.3	10.7	22.7
<b>Construction</b>	17.8	-19.6	-24.3	-17.3	-18.9	-17.8	0.9	-18.9	-15.1	-24.4	-3.4	-30.7
Public works	49.4	-41.2	-53.0	-38.8	-17.6	-49.0	-6.2	-36.5	-15.9	-42.0	-42.5	-40.2
Private works	5.5	-7.8	-4.0	-6.2	-19.5	-1.0	10.4	1.0	-14.3	-4.0	42.6	-19.6
<b>Retail sales</b>	-2.5	-4.0	-10.2	-9.4	4.3	-0.3	2.7	4.9	10.7	3.0	5.4	1.4
<b>Wholesales</b>	5.4	12.0	5.3	24.4	8.8	9.4	-10.0	4.1	-9.3	9.5	10.8	6.1
<b>Total Employment (IMSS-registered workers)</b>	3.2	3.9	3.7	3.6	4.2	4.3	4.8	4.9	5.8	5.2	4.7	3.9
Permanent	3.0	3.4	3.1	3.3	3.7	3.6	3.0	3.4	3.1	3.3	3.7	3.6
Temporary (urban)	4.6	9.5	10.1	7.0	9.7	11.2	5.6	1.9	7.0	4.7	0.1	-3.8
<b>Total air traffic (passengers transport)</b>	9.2	15.8	12.1	16.4	18.7	15.7	7.4	15.8	11.3	13.1	18.3	19.3
<b>Federalized resources (Branch 28)</b>	11.5	7.3	-1.4	12.4	13.0	6.4	5.2	7.2	-1.6	11.3	10.6	9.1
<b>Foreign Direct Investment (millions of USD)</b>	66.3	142.6	69.1	31.8	17.8	23.8	696.1	66.6	-125.1	76.6	104.5	10.7

\* All indicators, except Foreign Direct Investment, are real annual percentage changes

\*\* Quarterly Indicator of Economic Activity Statewide (Indicador Trimestral de la Actividad Económica Estatal)

na = does not apply; nd = not available

Source: INEGI, STPS, Sector, SHCP and SE

Table 4b.10

**Región: Low Development\***

	Chiapas						Guerrero					
	2014	2015	1Q15	2Q15	3Q15	4Q15	2014	2015	1Q15	2Q15	3Q15	4Q15
<b>Economic Activity (QIEAS**) Total</b>	2.5	-3.1	-4.6	-3.0	-5.1	0.3	5.5	2.4	2.6	3.2	1.8	1.9
Primary Sector	-5.4	2.0	-4.6	1.3	0.5	11.6	13.4	0.0	22.9	-5.4	4.5	-12.7
Secondary Sector	2.2	-11.3	-17.4	-9.4	-12.8	-4.7	11.0	-9.3	-0.4	-1.5	-12.1	-20.7
Tertiary Sector	3.5	0.0	1.6	-0.7	-2.1	1.3	3.3	6.3	2.5	5.2	6.2	11.5
<b>Manufacturing production</b>	-2.6	-0.6	-3.3	-4.5	-6.0	11.4	1.8	3.8	0.7	5.8	3.3	5.2
<b>Construction</b>	1.9	-4.8	-21.0	4.3	15.6	-12.0	59.4	-25.8	5.7	-18.3	-32.1	-45.8
Public works	20.5	-10.1	-21.0	-2.5	27.0	-34.1	60.1	-22.4	8.8	-8.2	-29.4	-47.5
Private works	-31.7	12.0	-20.9	24.3	-16.0	67.2	57.5	-35.7	-5.6	-44.2	-40.1	-41.1
<b>Retail sales</b>	5.7	-7.3	-11.0	-9.7	-11.2	2.6	22.4	12.1	0.6	5.3	21.8	21.5
<b>Wholesales</b>	29.9	14.8	39.3	20.9	5.5	1.5	5.6	-3.3	-9.7	-5.3	-0.1	2.8
<b>Total Employment (IMSS-registered workers)</b>	0.7	2.7	1.7	2.7	3.8	2.6	4.4	1.2	4.3	0.5	0.0	0.2
Permanent	-0.6	2.3	0.8	2.1	3.4	2.8	2.6	0.6	2.2	-0.3	-0.1	0.6
Temporary (urban)	14.0	6.3	10.4	8.2	6.7	0.6	12.0	3.7	12.8	3.7	0.3	-1.0
<b>Total air traffic (passengers transport)</b>	8.2	24.9	23.7	25.0	28.4	22.4	8.2	13.3	18.6	11.2	18.1	5.7
<b>Federalized resources (Branch 28)</b>	9.1	3.6	-2.1	9.2	4.7	3.3	12.6	8.3	-0.3	14.5	13.8	6.3
<b>Foreign Direct Investment (millions of USD)</b>	31.5	120.9	74.7	16.4	10.0	19.8	475.5	140.1	66.7	36.6	19.6	17.2

	Oaxaca					
	2014	2015	1Q15	2Q15	3Q15	4Q15
<b>Economic Activity (QIEAS**) Total</b>	1.8	2.8	2.2	1.0	5.3	3.0
Primary Sector	-0.5	1.5	-6.2	-1.8	6.1	8.5
Secondary Sector	4.1	2.2	2.6	-1.4	7.0	0.7
Tertiary Sector	0.8	3.3	2.7	2.5	4.3	3.7
<b>Manufacturing production</b>	0.1	0.0	-2.2	-5.4	3.2	4.3
<b>Construction</b>	14.3	-3.2	0.6	-4.9	7.8	-16.1
Public works	-2.1	54.0	55.0	40.0	64.7	60.7
Private works	43.0	-71.5	-74.1	-80.6	-62.1	-71.3
<b>Retail sales</b>	2.3	-0.4	-5.8	-4.6	4.2	4.7
<b>Wholesales</b>	-9.7	-1.3	-5.7	-5.2	0.9	5.2
<b>Total Employment (IMSS-registered workers)</b>	2.8	3.6	4.0	3.8	3.5	2.9
Permanent	2.8	3.8	3.7	3.2	3.8	4.3
Temporary (urban)	2.8	2.3	6.2	7.4	1.2	-5.1
<b>Total air traffic (passengers transport)</b>	10.4	19.9	24.4	18.4	27.1	11.3
<b>Federalized resources (Branch 28)</b>	12.2	0.2	-6.1	-1.2	4.7	4.3
<b>Foreign Direct Investment (millions of USD)</b>	479.8	180.9	-145.7	104.2	65.8	156.6

\* All indicators, except Foreign Direct Investment, are real annual percentage changes

\*\* Quarterly Indicator of Economic Activity Statewide (Indicador Trimestral de la Actividad Económica Estatal)

na = does not apply; nd = not available

Source: INEGI, STPS, Sectur, SHCP and SE



## 5. Special reports included in previous issues

### Second Half 2015

The automotive industry in Mexico is the key driving force behind the economy  
The resilience of the automotive industry worldwide  
Mexico is gaining a firm foothold in the US automotive market  
Factors to consider for reducing costs and electricity rates  
Comparing residential electricity consumption between 2028 and 2014

### Second Half 2014

Relevant issues around some of the secondary energy laws  
Mexico consolidates its position as a powerful global automotive exporter  
Domestic and international tourism: a two-speed story

### First Half 2014

Mexico's major challenge is maintaining and winning participation in global value chains  
Manufacturing exports gained competitiveness over the last decade  
Energy reform and the implementation challenges for hydrocarbon production

### June 2013

Household electrical appliances industry: challenges & opportunities to improve its competitive position  
The electronics industry in Mexico and the challenge of increasing productivity  
Key sectors to an effective energy reform

### November 2012

Toward a better management of Mexican subnational public debt  
Energy in Mexico: facing innumerable challenges and opportunities

### May 2012

Analysis of the Competitiveness of Mexican Exports in the U.S.  
Severe drought in Mexico: a marginal impact on total GDP but important in micro regions

### October 2011

Which are the most competitive sectors in Mexico? A focus on production costs  
Is it possible to obtain greater brilliance from metallurgical-mining in Mexico?

### January 2011

The automobile industry in Mexico is benefiting from the restructuring in the U.S.  
The challenges posed by electric vehicles for the world  
Tourism in Mexico: facing the challenge of greater growth

### June 2010

Sectorial competitiveness of the Mexican economy: an evaluation against that of China  
Implications of the new methodology for measuring states' GDP  
Regional competitiveness: how much have we advanced and what do we still have to do?  
Some indicators in countries with higher growth rates than Mexico  
The pending task: strengthen growth; implement second generation structural reforms

Available in [www.bbvarresearch.com](http://www.bbvarresearch.com) in Spanish and English

**DISCLAIMER**

This document and the information, opinions, estimates and recommendations expressed herein, have been prepared by Banco Bilbao Vizcaya Argentaria, S.A. (hereinafter called "BBVA") to provide its customers with general information regarding the date of issue of the report and are subject to changes without prior notice. BBVA is not liable for giving notice of such changes or for updating the contents hereof.

This document and its contents do not constitute an offer, invitation or solicitation to purchase or subscribe to any securities or other instruments, or to undertake or divest investments. Neither shall this document nor its contents form the basis of any contract, commitment or decision of any kind.

**Investors who have access to this document should be aware that the securities, instruments or investments to which it refers may not be appropriate for them due to their specific investment goals, financial positions or risk profiles, as these have not been taken into account to prepare this report.** Therefore, investors should make their own investment decisions considering the said circumstances and obtaining such specialized advice as may be necessary. The contents of this document is based upon information available to the public that has been obtained from sources considered to be reliable. However, such information has not been independently verified by BBVA and therefore no warranty, either express or implicit, is given regarding its accuracy, integrity or correctness. BBVA accepts no liability of any type for any direct or indirect losses arising from the use of the document or its contents. Investors should note that the past performance of securities or instruments or the historical results of investments do not guarantee future performance.

**The market prices of securities or instruments or the results of investments could fluctuate against the interests of investors. Investors should be aware that they could even face a loss of their investment. Transactions in futures, options and securities or high-yield securities can involve high risks and are not appropriate for every investor. Indeed, in the case of some investments, the potential losses may exceed the amount of initial investment and, in such circumstances, investors may be required to pay more money to support those losses. Thus, before undertaking any transaction with these instruments, investors should be aware of their operation, as well as the rights, liabilities and risks implied by the same and the underlying stocks. Investors should also be aware that secondary markets for the said instruments may be limited or even not exist.**

BBVA or any of its affiliates, as well as their respective executives and employees, may have a position in any of the securities or instruments referred to, directly or indirectly, in this document, or in any other related thereto; they may trade for their own account or for third-party account in those securities, provide consulting or other services to the issuer of the aforementioned securities or instruments or to companies related thereto or to their shareholders, executives or employees, or may have interests or perform transactions in those securities or instruments or related investments before or after the publication of this report, to the extent permitted by the applicable law.

BBVA or any of its affiliates' salespeople, traders, and other professionals may provide oral or written market commentary or trading strategies to its clients that reflect opinions that are contrary to the opinions expressed herein. Furthermore, BBVA or any of its affiliates' proprietary trading and investing businesses may make investment decisions that are inconsistent with the recommendations expressed herein. No part of this document may be (i) copied, photocopied or duplicated by any other form or means (ii) redistributed or (iii) quoted, without the prior written consent of BBVA. No part of this report may be copied, conveyed, distributed or furnished to any person or entity in any country (or persons or entities in the same) in which its distribution is prohibited by law. Failure to comply with these restrictions may breach the laws of the relevant jurisdiction.

This document is provided in the United Kingdom solely to those persons to whom it may be addressed according to the Financial Services and Markets Act 2000 (Financial Promotion) Order 2001 and it is not to be directly or indirectly delivered to or distributed among any other type of persons or entities. In particular, this document is only aimed at and can be delivered to the following persons or entities (i) those outside the United Kingdom (ii) those with expertise regarding investments as mentioned under Section 19(5) of Order 2001, (iii) high net worth entities and any other person or entity under Section 49(1) of Order 2001 to whom the contents hereof can be legally revealed.

The remuneration system concerning the analyst/s author/s of this report is based on multiple criteria, including the revenues obtained by BBVA and, indirectly, the results of BBVA Group in the fiscal year, which, in turn, include the results generated by the investment banking business; nevertheless, they do not receive any remuneration based on revenues from any specific transaction in investment banking.

BBVA Bancomer and the rest of BBVA Group who are not members of FINRA (Financial Industry Regulatory Authority), are not subject to the rules of disclosure for these members.

**"BBVA Bancomer, BBVA and its subsidiaries, among which is BBVA Global Markets Research, are subject to the Corporate Policy Group in the field of BBVA Securities Markets. In each jurisdiction in which BBVA is active in the Securities Markets, the policy is complemented by an Internal Code of Conduct which complements the policy and guidelines in conjunction with other established guidelines to prevent and avoid conflicts of interest with respect to recommendations issued by analysts among which is the separation of areas. Corporate Policy is available at: [www.bbva.com](http://www.bbva.com) / Corporate Governance / Conduct in Securities Markets".**

## Editorial Board

Carlos Serrano

Jorge Sicilia

This report has been produced by

### Editor

Carlos Serrano  
carlos.serranoh@bbva.com

Alma Martínez  
ag.martinez@bbva.com

Arnulfo Rodríguez  
arnulfo.rodriguez@bbva.com

## BBVA Research

### Group Chief Economist

Jorge Sicilia

#### Developed Economies:

Rafael Doménech  
r.domenech@bbva.com

#### Emerging Economies:

##### Spain

Miguel Cardoso  
miguel.cardoso@bbva.com

##### Europe

Miguel Jiménez  
mjimenezg@bbva.com

##### United States

Nathaniel Karp  
nathaniel.karp@bbva.com

##### Cross Country

##### Emerging Markets Analysis

Álvaro Ortiz  
alvaro.ortiza@bbva.com

##### Asia

Le Xia  
le.xia@bbva.hk

##### Mexico

Carlos Serrano  
carlos.serranoh@bbva.com

##### Turkey

Álvaro Ortiz  
alvaro.ortiza@bbva.com

##### LatAm Coordination

Juan Ruiz  
juan.ruiz@bbva.com

##### Argentina

Gloria Sorensen  
gsorensen@bbva.com

##### Chile

Jorge Selaive  
jselaive@bbva.com

##### Colombia

Juana Téllez  
juana.tellez@bbva.com

##### Peru

Hugo Perea  
hperea@bbva.com

##### Venezuela

Julio Pineda  
juliocesar.pineda@bbva.com

#### Financial Systems & Regulation

Santiago Fernández de Lis  
sfernandezdelis@bbva.com

##### Financial Systems

Ana Rubio  
arubiog@bbva.com

##### Financial Inclusion

David Tuesta  
david.tuesta@bbva.com

##### Regulation & Public Policy

María Abascal  
maria.abascal@bbva.com

##### Digital Regulation

Alvaro Martín

#### Global Areas:

##### Economic Scenarios

Julián Cubero  
juan.cubero@bbva.com

##### Financial Scenarios

Sonsoles Castillo  
s.castillo@bbva.com

##### Innovation & Processes

Oscar de las Peñas  
oscar.delaspenas@bbva.com

### BBVA Research Mexico

Paseo de la Reforma 510  
Colonia Juárez  
C.P. 06600 Mexico City  
Publications:  
e-mail: bbvaresearch\_mexico@bbva.com

These and other BBVA Research publications

are available in English and in Spanish at: [www.bbvaresearch.com](http://www.bbvaresearch.com)

## Other publications:

