BBVA | RESEARCH

Regional Sectorial Outlook

Mexico

June 2013
Economic Analysis

- Manufacturing remains competitive despite the external economic slowdown
- Economic disparity among states hits a minimum in 2012
- The domestic household electrical appliances and electronics industries face challenges to improve their competitive position
- Oil, refining, petrochemicals and electricity: key sectors to an effective energy reform

BBVA Bancomer

Index

Closing date: May 23, 2013

1. Summary

GDP growth above 3.0% in Mexico despite the US economic slowdown

The Mexican economy is expected to grow 3.1% in 2013 after having expanded by 3.9% in 2012. Although growth will not be as strong as one year ago, the economic outlook is positive given the adverse impact of the combination of US government spending cutbacks and a weaker global economy. The weaker stimulus from abroad, primarily from the US, became a drag on the Mexican economy, as reflected in the 1Q13 GDP seasonally adjusted annual rate of 2.2%. However, the effect of the US slowdown will be temporary and will disappear in the second half of 2013, when as a result the Mexican economy will accelerate.

Despite the fact that manufacturing exports have weakened, the competitiveness of manufacturing exports to the US continues to rise in most sectors, with the exception of electronics. As a result, manufacturing industry posted its first lower annual growth figure since the 2008-2009 global economic crisis, at a seasonally adjusted annual rate of 1.6%. The consumer durables sector was the most impacted. The annual growth of manufacturing output could be 2.8% for 2013 year-end, implying continual improvements throughout the year.

In regard to domestic demand, the services sector expanded at a seasonally adjusted annual rate of 4.1% in 1Q13, making it the most dynamic in the economy. This advance was stimulated by most of the sectors it comprises, with the exception of a noticeable slowdown in the transportation and communications component (up 1.6% annually) due to both Mexico's decreased foreign trade and a reduction of government activity (down 2.1% annually) as a consequence of the change of the federal government administration. By 2013 year-end, the services sector is expected to grow 3.7% in annual terms, similar to the figure of 3.8% in 2012, with growth for most of its components.

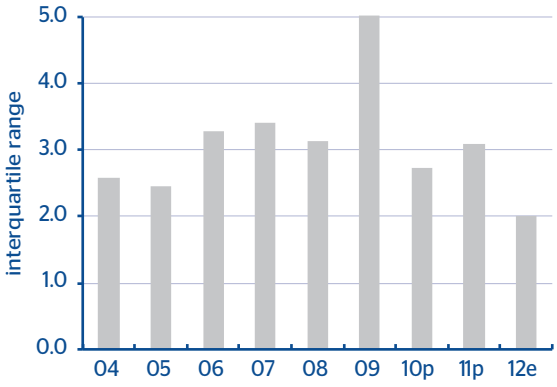
Up until now, Mexico has proved some strength given both its solid macroeconomic fundamentals and continued improvement in the competitiveness of the external sector. Nevertheless, increasing the potential output has been and continues to be the major challenge. A sustainable increment in the long-run GDP is unlikely to be the result of external forces alone; it will also require a boost from the domestic market. Without stopping supporting policies that strengthen the external sector, efforts must now concentrate on how to enhance productivity and investment, which are the main ways to accelerate the growth of both the economy and household income.

Progress in economic parity among states and the Medium Development region stabilizing national growth in 2012

Using the interquartile range to measure the dispersion of economic growth among states, our estimates indicate that the dispersion of state economic growth will have been 2.0% in 2012 (a record low since data on gross domestic product per state are available).

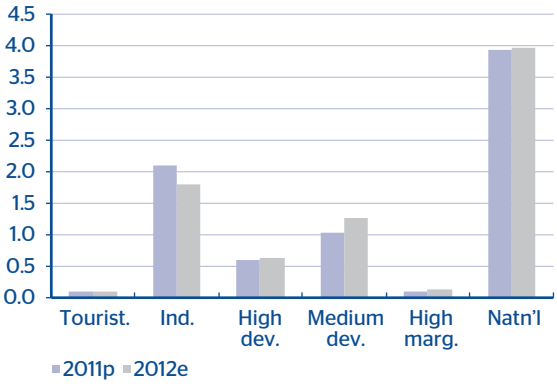
In 2012, the Medium Development region was the one that contributed most significantly to maintaining the national economic growth rate observed during 2011. This region increased its contribution to this rate by 0.2 percentage points. It thus partially offset the reduced contribution from the Industrial region. As a result, the national economic growth stood at 3.9%, which was the same figure as in 2011

Chart 1
Dispersion of economic growth
(Third quartile vs. first quartile)



p/preliminary data; e/own estimates
Source: BBVA Research with INEGI data

Chart 2
Contribution to economic growth[1]
(Percentage points)



p/preliminary data; e/own estimates
Source: BBVA Research with INEGI data

Special reports: searching for both greater competitiveness in the production of electronics and home appliances, and an effective energy reform

In this issue of ***Mexico Regional Sectorial Outlook***, we present a report on the electronics and household electrical appliances industries, as well as guidelines for drafting an energy reform proposal that would be effective in stimulating long-term national economic growth. We also discuss a set of recommendations to improve the international competitive position of the aforementioned industries. In relation to the report on the reform, special emphasis is placed on the reasons for and benefits of including certain energy sectors in any law bill that aims to improve the country's energy security.

[1] For a detailed description of this classification, see Mexico Regional Sectorial Outlook "Agrupamiento Regional, Cómo y Para Qué", November 2007. BBVA Bancomer. Regions by economic vocation and level of development: High Development: 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.

2. Regional and sectorial analysis

2.a Mexico maintains its manufacturing competitiveness despite the slowdown in the demand from the US in early 2013

Persistent uncertainty about global economic growth

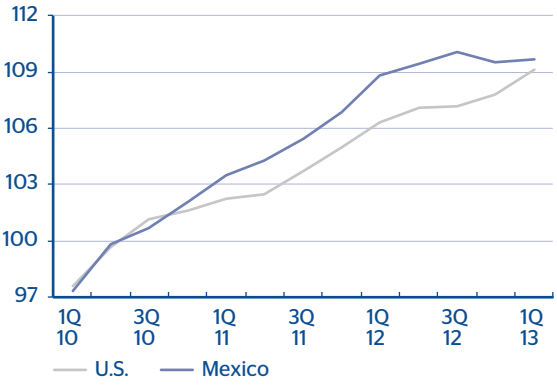
Nearly five months into 2013, uncertainty regarding the global economic outlook remains high, though risks have lessened. In the Eurozone, even though the perception of sovereign and bank debt risk remains low especially in the peripheral countries, more structural measures are needed to achieve a fully recovering, completely stabilized economy. A slow, heterogeneous and vulnerable recovery is expected (with a 0.1% fall in 2013 after a 0.5% actual drop in 2012, and growth of 1.0% in 2014), marked by concerns regarding the effects of fiscal consolidation on growth.

In the US, GDP growth of 2.5% was recorded in 1Q13 as a result of the boost from increased private consumption. However, growth was weakened by both the combination of government spending cuts implemented in March and a weaker world economy that reduced demand for exports. This is bound to have effects on 2Q13, with slow growth in the first half of 2013, though activity will pick up later on in the year. In 2013 and 2014, the US GDP is forecasted to grow by 1.8% and 2.3%, respectively.

The Mexican economy, affected by weak US demand

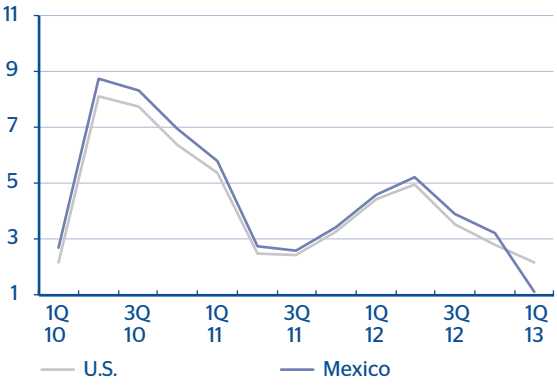
GDP in Mexico grew 3.9% in 2012. Our prediction for 2013 is 3.1%. This lower growth with respect to one year ago will continue to be influenced by the difficult conditions of the international environment. In 1Q13, the seasonally adjusted GDP was up 2.2% in annual terms (below the 5.0% and 3.2% figures of 1Q12 and 4Q12, respectively). The lower expansion rate in the last nine months is attributed to the fact that the US demand continues to slow down due to a deceleration in the growth rates of its manufacturing and consumption sectors. The latter has been influenced by temporary factors such as adverse tax conditions.

Chart 3
Manufacturing output: US and Mexico (index 2010=100, sa)



Source: BBVA Research with Haver data

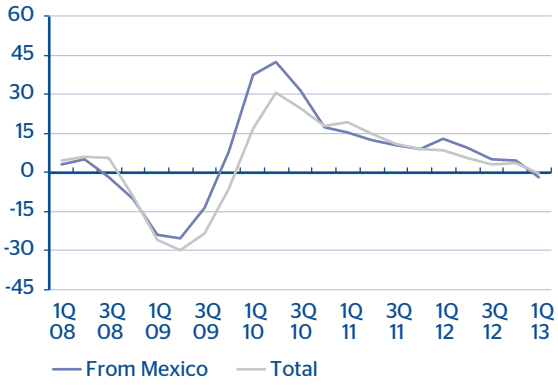
Chart 4
Manufacturing output: US and Mexico (annual % change, sa)



Source: BBVA Research with Haver data

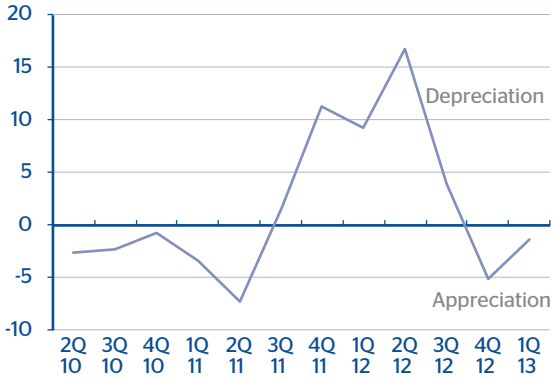
Manufacturers in Mexico have experienced a slowdown in annual growth for 11 months. A slowdown of manufacturing growth in 1Q13 had been expected, but not to the extent it actually occurred. The greatest risks to Mexico's economy are external: the US and European economies could slow even further, and oil prices could fall.

Chart 5
US manufacturing imports
(annual % change)



Source: BBVA Research with USITC data

Chart 6
Real exchange rate against the USD
(annual % change)

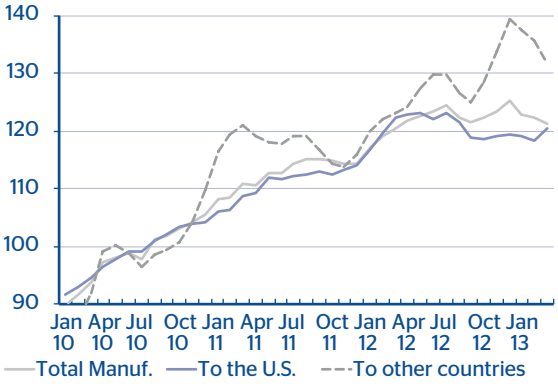


Source: BBVA Research with Haver data

Despite Mexico's efforts to diversify the destinations of its manufacturing exports, the country remains tied up to US demand

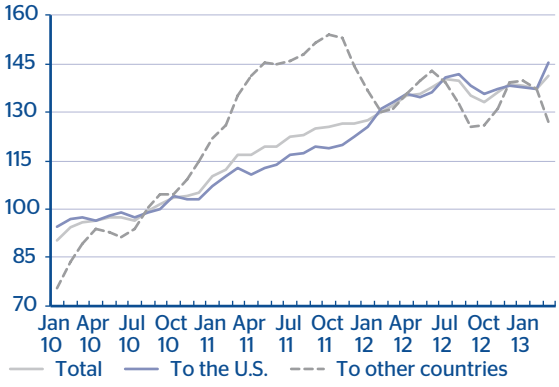
Manufacturing exports to the US (73.7% of the total in 2012) were down 1.7% in annual terms in 1Q13, whereas to other destinations they were up 8.4% in the same period. Automotive exports from Mexico to the US grew 9.4% in 1Q13, while exports to other countries fell 4.8%. It is worth mentioning that Mexico had a 23.1% share in the market of US automotive imports (auto parts, trucks, buses and automobiles) in 1Q13, which was above both the figure from a year earlier (22.3%) and the 2012 average (22.6%).

Chart 7
Mexican manufacturing exports
(index 2010=100, sa, 3-month moving average)



sa: seasonally adjusted
Source: BBVA Research with INEGI and USITC data

Chart 8
Mexican automotive exports
(index 2010=100, sa, 3-month moving average)



sa: seasonally adjusted
Source: BBVA Research with Haver data

Manufacturing exports from Mexico continue to gain ground in the US

The share of Mexican exports in US manufacturing imports rose from 12.3% in 2012 to 12.5% in 1Q13. Market share gains occurred all over the manufacturing sector with the exception of the electronics industry. In the oil sector, the constant decline of exports to the US is particularly salient. The latter is mainly the result of both a reduced demand due to a greater production of shale oil and gas in the US and lower international prices with respect to last year.

Table 1
Mexican sectorial competitiveness in the US market

	Mexico in the US (% share in US imports)		Mexican exports to US (% share in total exp.)		Mexican exports to US (annual % change)	
	2012	1Q13	2012	1Q13	2012	1Q13
Agricultural output	26.6	30.6	2.8	4.2	5.5	6.6
Livestock and aquaculture output	15.9	11.4	0.3	0.2	17.3	-26.3
Forestry and logging	0.8	1.1	0.0	0.0	7.8	35.1
Fishing, hunting and trapping	3.6	4.7	0.2	0.2	-1.9	-1.7
Oil and gas extraction	11.4	11.5	13.5	12.0	-6.2	-17.3
Mining (except Oil and Gas)	6.1	5.5	0.1	0.1	-30.0	-56.4
Manufacturing	12.3	12.5	80.8	80.9	7.9	-1.7
Food	10.5	11.6	2.1	2.2	-1.6	-1.4
Drinks and tobacco	15.5	17.1	1.1	1.2	6.3	6.0
Textile	6.7	7.0	0.2	0.2	-0.5	8.4
Garments	4.4	4.3	0.3	0.3	1.5	0.0
Clothing	4.8	4.7	1.4	1.4	-2.8	-7.1
Leather	5.8	5.5	0.8	0.8	15.3	-5.0
Wood	1.4	1.4	0.1	0.1	26.6	24.5
Paper	4.9	5.1	0.4	0.4	2.8	1.4
Printing	9.0	10.0	0.2	0.2	2.0	-0.9
Petroleum products	2.7	3.7	0.9	1.3	-40.9	-9.6
Chemicals	2.6	2.6	1.7	1.8	4.2	0.8
Plastics	8.7	9.0	1.4	1.4	15.2	2.7
Non-metallic minerals	12.7	13.5	0.9	0.9	6.2	1.2
Basic metals	13.8	12.5	5.1	4.6	-3.1	-19.1
Metal Products	11.3	11.6	2.5	2.5	15.0	-2.1
Machinery and equipment	10.1	11.0	5.5	5.7	9.0	-2.3
Electronics	15.1	14.7	20.0	18.3	4.6	-8.4
Electrical	24.8	25.5	7.3	7.4	10.6	1.9
Transport equipment	22.6	23.1	26.0	27.1	16.7	5.8
Furniture	6.1	5.9	0.6	0.6	22.0	6.5
Other Manufactured Goods	7.0	7.2	2.6	2.6	5.0	0.2
Other sectors	9.4	9.1	2.3	2.3	6.4	-1.7
Total	**12.2**	**12.5**	**100.0**	**100.0**	**5.6**	**-3.8**

Source: BBVA Research with USITC data

The drop in automotive exports to destinations other than the US is explained by the import quotas introduced by Brazil and Argentina

The Latin America destination registered an annual decrease of 44.9% in 1Q13. The drop was the result of the annual import quotas in Brazil and Argentina, the leading markets in South America for made in Mexico vehicles. Meanwhile, the growth of automotive exports to Asia is attributed to China's significant share (75%) in the total imports from such region. The models exported include Volkswagen (New Jetta and the Beetle), Fiat (500) and Chrysler (Dodge Journey), which are models exclusively manufactured in Mexico.

Trade barriers to automotive imports are multiplying, especially in Latin America. First, they were erected in Brazil, then in Argentina, on light vehicle imports. Today, if negotiations with Colombia were to fail, Mexican exports of heavy vehicles to that country would also be affected by 2015. In particular, the shipment of 12,000 cargo units to Colombia has been called into question since that country wants the engine production of such units to be under the Euro standard[1] rather than the EPA.

[1] At the technological level, EPA and Euro engines are not equal. They are different in terms of the emission levels of Nox and particulate matter. As a result, migrating from one to the other requires millions of dollars of investment and at least three years to modify production lines. The deadlines set by the Colombian government are therefore insufficient for Mexican manufacturers. The justification is the reduction of pollutant particles emitted into the environment, since the Euro4 standard is more advanced; however, this is temporary, as regulations evolve and more efficient versions are constantly being developed. For example, the particulate matter emitted is lower in the EPA10 than in the Euro4.

Table 2
Export destinations of light vehicles (units)

	1Q12	1Q13	1Q13 % share	y/y % change
US	360,136	374,415	67.1	4.0
Canada	41,546	45,142	8.1	8.7
Latin America	113,440	62,544	11.2	-44.9
Africa	6,776	7,310	1.3	7.9
Asia	6,584	17,330	3.1	163.2
Europe	44,822	45,170	8.1	0.8
Others	7,268	6,464	1.2	-11.1
Total	**580,572**	**558,375**	**100.0**	**-3.8**

Source: BBVA Research with AMIA data

Table 3
Light vehicle exports to Latin America, January-March (units)

	2009	2010	2011	2012	2013	abs. dif 13 vs 12	% chge. 13 vs 12
Brazil	6,807	11,576	21,072	60,300	22,352	-37,948	-62.9
Colombia	1,663	3,423	15,134	9,941	12,715	2,774	27.9
Argentina	2,309	10,080	19,484	19,700	10,312	-9,388	-47.7
Chile	1,405	4,466	5,644	7,992	6,085	-1,907	-23.9
Peru	406	1,191	2,108	3,943	2,175	-1,768	-44.8
Panama	219	311	748	1,100	1,533	433	39.4
Ecuador	355	1,297	2,788	3,147	1,897	-1,250	-39.7
Others	1,044	2,689	4,356	7,317	5,431	-1,886	-25.8
Total	**14,208**	**35,033**	**71,334**	**113,440**	**62,500**	**-50,940**	**-44.9**

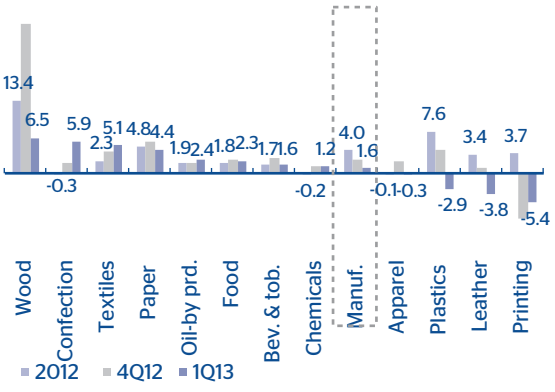
Source: BBVA Research with AMIA data

Colombia has set a timeline of two years for heavy trucks to migrate to the Euro technology. This means that, as of January 2015, Mexico would no longer be able to export heavy trucks, unless it switches to the Euro technology. If that were to occur, Mexican output would drop and Brazil could absorb part of that market. The most affected companies would be Navistar and Kenworth Mexicana, which would stop exporting approximately 12,000 trucks to Colombia. Colombia accounts for 6% of total heavy vehicle exports from Mexico, valued at approximately one billion dollars. In 2012, Mexico was the third biggest manufacturer of heavy vehicles in the Americas (140,000 units), after the US (250,000) and Brazil (180,000).

Outlook of slow growth for the economy in the first half of 2013: a weakening in the primary driver of growth is perceived

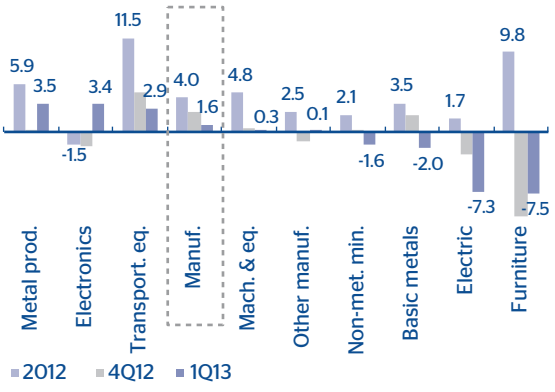
Manufacturing industry will post its lowest annual growth figure since the 2008-2009 global economic crisis, at 1.6% in annual terms using seasonally-adjusted data. The slowdown of demand from the US that started in 4Q12 has already been propagated to the Mexican economy, with the sectors that manufacture consumer durables being the hardest-hit.

Chart 9
Manufacturing output of non-durable goods (annual % change, sa)



sa: seasonally-adjusted
Source: BBVA Research with INEGI data

Chart 10
Manufacturing output of durable goods (annual % change, sa)

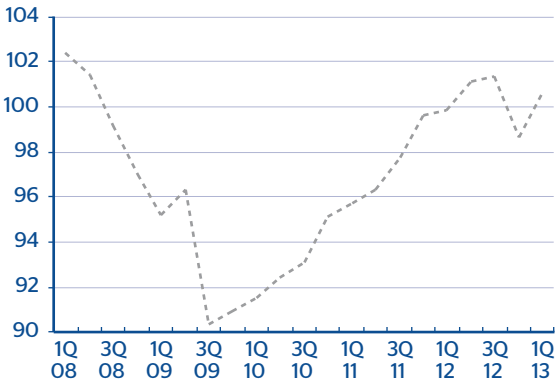


sa: seasonally-adjusted
Source: BBVA Research with INEGI data

The construction sector is still struggling to consolidate a sustained growth that would enable it to return to the levels seen before the 2008 crisis

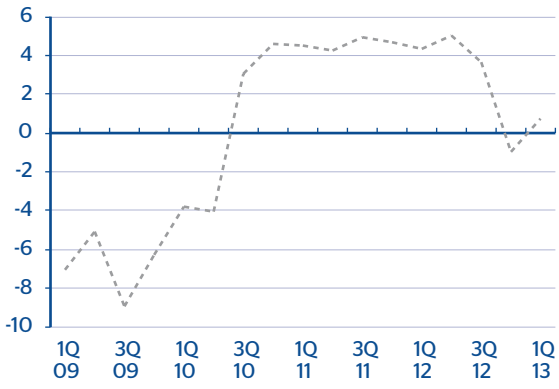
The construction sector has been negatively affected by the halt to public physical investment since the second half of 2012 due to the six-year Mexican presidential cycle and changes in the building sector, in particular housing construction, which have weakened it significantly starting in 1Q13. Housing construction has been hit by the delay in the subsidies program, which hindered the activity of public financing institutes. Moreover, financial problems faced by large-volume construction companies have also had an impact on the rate of construction.

Chart 11
Construction industry
(index 2008=100, sa)



sa: seasonally-adjusted
Source: BBVA Research with INEGI data

Chart 12
Construction industry
(annual % change, sa)

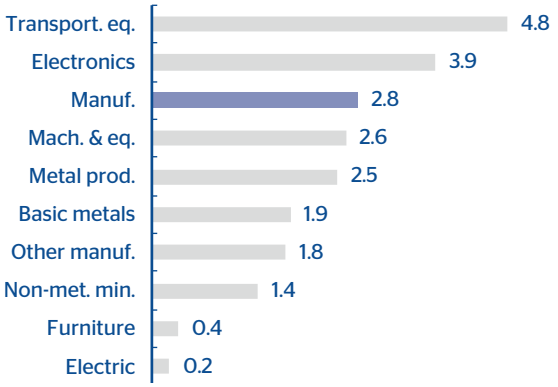


sa: seasonally-adjusted
Source: BBVA Research with INEGI data

Growth in the manufacturing sector will be slow in the first half of 2013 (1.6% in annual terms, sa); the rate will accelerate in the second half (3.3% in annual terms, sa), starting 2014 with a boost

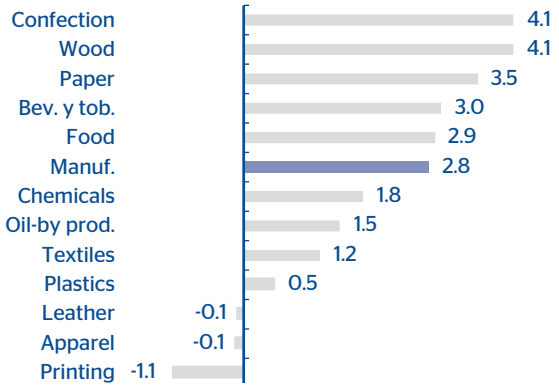
Despite the considerable slowdown in manufacturing, which could last until 2Q13, this trend is expected to reverse in the second half of the year. Manufacturing output could grow an average of 2.8% in 2013, as a result of the greater slowdown in the first half of 2013. Durable goods, which are the most sensitive to the external cycle, will be the most affected despite their increasing gains in competitiveness in the main markets, with the exception of electronics.

Chart 13
Manufacturing output of durables in 2013
(annual % change, sa)



sa: seasonally-adjusted
Source: BBVA Research with INEGI data

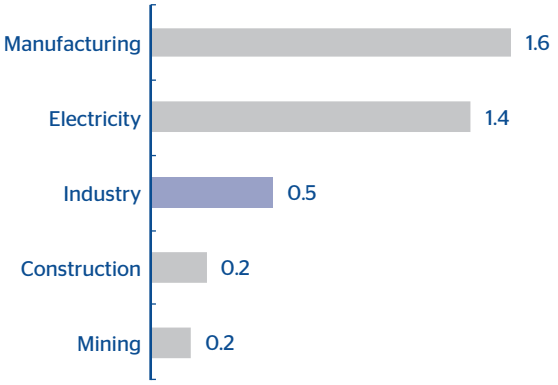
Chart 14
Manufacturing output of non-durables in 2013
(annual % change, sa)



sa: seasonally-adjusted
Source: BBVA Research with INEGI data

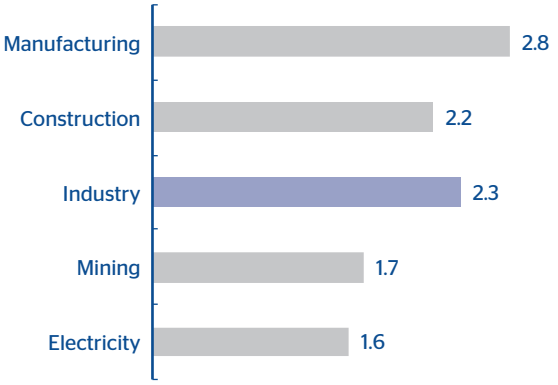
We expect the weakness of construction to be transient, provided that the new housing policy is clarified and a robust, wide-reaching infrastructure program is introduced to boost public works through public-private partnerships that reactivate physical investment. On the basis of the performance of these components and a sector made up of more than 800 companies that could meet the existing demand, we expect construction to record annual growth of 2.2% sa in 2013, the lowest figure in the last three years.

Chart 15
Industrial sector in 1Q13 by components (annual % change, seasonally adjusted)



Source: BBVA Research with INEGI data

Chart 16
Industrial sector forecast for 2013 by components (annual % change, seasonally adjusted)

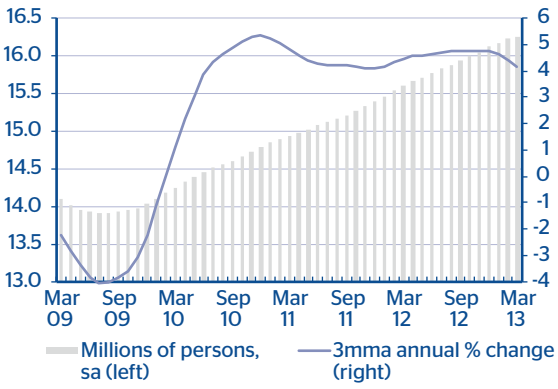


Source: BBVA Research with INEGI data

Domestic demand shows some signs of weakness

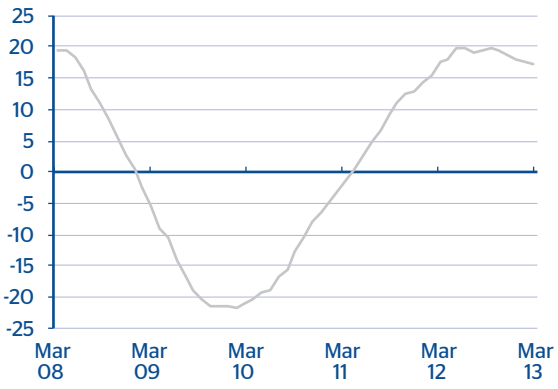
The growth of domestic demand will be held back by the slowdown of external demand. Therefore, it is likely that we will also observe a slowdown in the services associated with the Mexican export sector, such as trade and transportation. Consumption has not grown fast due to the less favorable performance of some of its determinants, such as formal employment and credit growth. Other domestic demand indicators showing signs of weakness are final consumer goods and net retail sales in commercial establishments.

Chart 17
Formal private-sector employment (individuals affiliated with IMSS, millions, sa, 3mma)



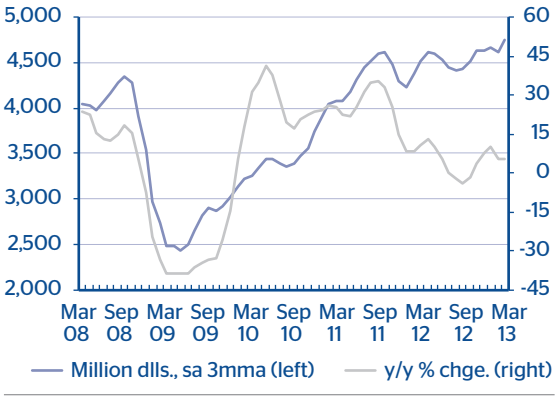
sa: seasonally adjusted; 3mma: 3-month moving average
Source: BBVA Research with STPS data

Chart 18
Banking credit to consumption (real annual % change)



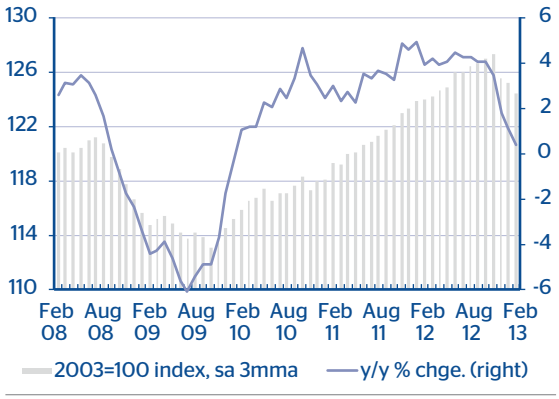
Source: BBVA Research with Banxico data

Chart 19
Imports of consumer goods
(millions USD, sa, 3mma, and annual % change)



sa: seasonally-adjusted
Source: BBVA Research with INEGI data

Chart 20
Net retail sales in commercial establishments
(index 2003=100, sa, 3mma and annual % change)

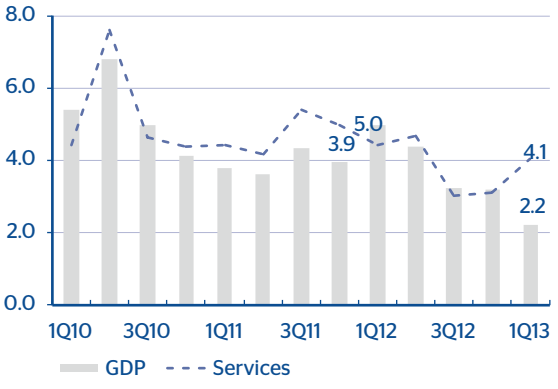


sa: seasonally-adjusted
Source: BBVA Research with INEGI data

In 1Q13, the services sector was the most dynamic of the Mexican economy, with a 4.1% annual growth, seasonally adjusted.

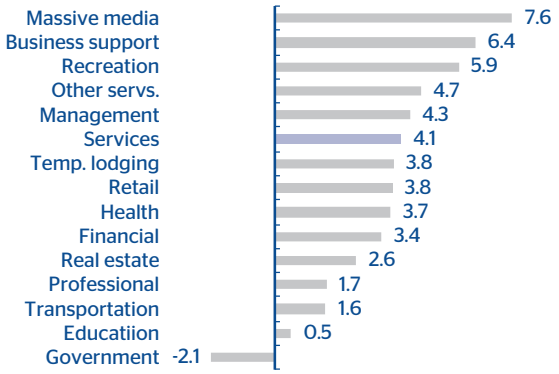
In 1Q13, the services sector boosted its seasonally adjusted annual growth rate with respect to the annual rate recorded in 3Q12 (3.0% annual) and 4Q12 (3.1% annual). The annual growth of services in the first quarter was stimulated by the majority of the sectors it comprises, with the exception of a noticeable slowdown in the transportation and communications sector (1.6% annual, sa) due to Mexico's decreased foreign trade and a reduction of government activity (down 2.1% annual, sa) as a result of the change of the federal government administration.

Chart 21
Services sector
(annual % change, seasonally adjusted)



Source: BBVA Research with INEGI data

Chart 22
Services sector 1Q13
(annual % change, seasonally adjusted)

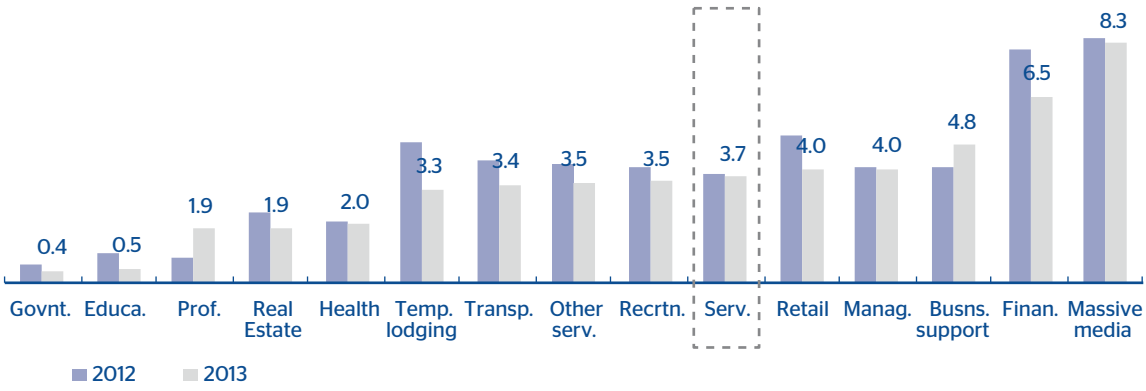


Source: BBVA Research with INEGI data

Services up 3.7% in seasonally adjusted annual terms in 2013, much like in 2012 (3.8%)

Although a sustained growth of services is expected, they will be contingent on the external sector reversing its negative trend during 2Q13. All sectors will show positive growth rates.

Chart 23
Services sector forecast for 2013
(annual % change, seasonally adjusted)



Source: BBVA Research with INEGI data

Implementation of reforms that increase factor productivity (capital and labor) is essential to enable the sustained growth of domestic demand

In 2013, Mexico's GDP is expected to grow 3.1%, which is below the 3.9% of 2012. The 1Q13 figures for external demand reveal the initial symptoms of a slowdown, with the main risk being a heightening of this situation. Restrictive fiscal actions that could feed back into the slowdown of the US economy are still pending. Uncertainty also persists due to the still unfinished discussion about the debt ceiling. As a result, the magnitude of the restrictive impact of these measures in the short and long term is still unclear. The other external risk is the crisis in Europe, where recovery will not begin until 2014, whose structural problems will take a long time before they can be resolved. Emerging economies will continue to grow at an annual average of 5.0%. In the short and medium term, the Mexican economy will have to deal with a weak global environment with divergent growth.

Although Mexico has a robust economy given its macroeconomic fundamentals and continuous advances in the competitiveness of its external sector, increasing the potential output remains the major challenge. This additional potential output is unlikely to be the result of the boost provided by the external sector alone, but it will also need the contribution from the domestic market. Without giving up on policies that strengthen the external sector - our primary driver of growth in the last two decades - efforts must now concentrate on how to enhance and raise both productivity and investment, which are the main ways to accelerate the growth of both the economy and household income.

In order to enhance and accelerate productivity growth in the factors of production - capital and labor -, institutional barriers must be lifted for companies to increase investment, and such factors mobility towards sectors and regions with relative higher value-added activities must be facilitated. Some progress has already been made with the labor, education and telecommunications reforms. The fiscal and energy reforms will be crucial for attracting new investment to accelerate the domestic economy engine.

Growth profile in 2013

GDP growth in 2013 will involve a slowdown in the first half of the year, which will translate, in sectorial terms, into a lower manufacturing growth of 2.8% when compared with the figure of 4.1% in 2012. However, exports will continue to be important as most manufacturing activities will pick up their growth, particularly in the case of those activities that are competitive and attractive to FDI, such as the automotive sector. We expect growth in most services activities, as a result of both lending growing at sustainable rates and employment moving to higher levels. A lower external growth will be a drag for trading and goods transportation activities, thus restricting the growth of services.

2.b Sectorial Outlook

Table 4

Mexico, Indicators and sectorial projections, production, sa

Annual % change

	2009	2010	2011	2012	2013	2014	1Q12	2Q12	3Q12	4Q12	1Q13	2Q13	3Q13	4Q13
Total GDP	-6.0	5.3	3.9	3.9	**3.1**	**3.1**	5.0	4.4	3.3	3.2	2.2	**2.7**	**3.5**	**3.9**
Primary	-3.1	2.9	-2.4	6.4	**2.2**	**1.4**	6.3	11.3	1.4	7.3	2.7	**2.1**	**1.4**	**2.7**
Secondary	-7.7	6.1	4.0	3.6	**2.3**	**2.9**	5.0	4.1	3.5	1.8	0.5	**2.1**	**3.0**	**3.7**
Mining	-2.9	1.2	-1.0	1.2	**1.7**	**2.0**	0.9	-0.1	2.3	1.8	0.2	**2.1**	**1.9**	**2.5**
Electricity, water, and supply of gas	2.1	10.2	6.5	2.4	**1.6**	**2.0**	3.8	2.4	2.2	1.1	1.4	**1.1**	**1.0**	**2.7**
Construction	-7.3	-0.6	4.6	3.3	**2.2**	**3.8**	5.4	4.8	3.8	-0.7	0.2	**0.6**	**3.3**	**4.8**
Manufacturing	-9.6	9.9	4.9	4.0	**2.8**	**2.9**	4.7	4.9	3.9	2.7	1.6	**2.8**	**3.3**	**3.7**
Tertiary	-4.5	5.2	4.7	3.8	**3.7**	**3.3**	4.4	4.7	3.0	3.1	4.1	**2.9**	**3.9**	**4.0**
Retail trade	-14.3	11.7	9.4	5.2	**4.0**	**3.4**	7.5	5.4	2.4	5.5	3.8	**4.1**	**4.0**	**4.3**
Transportation, mail and storage	-6.0	7.5	3.2	4.3	**3.4**	**4.3**	5.4	4.2	3.7	4.0	1.6	**3.0**	**4.5**	**4.6**
Information in mass media	0.8	1.6	5.2	8.5	**8.3**	**7.6**	7.7	10.2	9.6	6.7	7.6	**7.8**	**9.2**	**8.7**
Insurance and financial services	1.7	13.1	10.1	8.1	**6.5**	**7.4**	12.7	11.6	5.2	3.5	3.4	**5.3**	**8.1**	**9.1**
Real estate and leasing services	-1.8	1.9	2.4	2.4	**1.9**	**1.6**	2.5	2.3	3.0	1.9	2.6	**0.7**	**2.1**	**2.3**
Prof., scientific, and technical serv.	-4.4	-0.7	4.8	0.9	**1.9**	**1.5**	4.6	0.8	0.3	-2.0	1.7	**1.5**	**2.0**	**2.4**
Corporate and company leadership	-7.8	4.9	2.1	4.0	**4.0**	**3.8**	4.8	3.8	4.4	3.2	4.3	**3.7**	**4.0**	**3.9**
Business support serv.	-4.7	1.5	5.1	4.0	**4.8**	**2.8**	2.8	5.1	3.3	4.8	6.4	**4.8**	**4.9**	**3.1**
Educational services	0.4	0.2	1.8	1.1	**0.5**	**0.4**	2.0	0.8	0.6	0.8	0.5	**0.5**	**0.6**	**0.5**
Health and social welfare services	0.8	0.7	1.8	2.1	**2.0**	**1.3**	2.0	1.8	2.1	2.6	3.7	**1.4**	**1.5**	**1.6**
Leisure and relaxation, cult., & sports serv.	-4.8	5.9	2.5	4.0	**3.5**	**2.4**	0.0	3.5	6.0	6.5	5.9	**1.7**	**3.3**	**3.3**
Hotel, motel, lodging & prep. of food & bev.	-7.7	3.2	2.5	4.9	**3.3**	**2.9**	4.7	4.2	5.7	5.2	3.8	**1.6**	**3.7**	**3.9**
Other serv. except gov't activities	-0.9	0.9	2.9	4.1	**3.5**	**3.1**	3.4	4.5	4.3	4.4	4.7	**3.1**	**3.1**	**3.1**
Government activities	4.0	3.1	-2.3	0.6	**0.4**	**1.4**	2.0	2.2	-1.4	-0.3	-2.1	**0.1**	**1.9**	**1.8**

	share, %							Contribution to growth , pp					
	2003	2009	2010	2011	2012	2013	2014	2009	2010	2011	2012	2013	2014
Total GDP	100.0	100.0	100.0	100.0	100.0	100.0	100.0	-6.0	5.3	3.9	3.9	3.1	3.1
Primary	3.8	3.6	3.5	3.3	3.4	3.4	3.3	-0.1	0.1	-0.1	0.2	0.1	0.0
Secondary	30.5	29.8	30.0	30.0	29.9	29.7	29.7	-2.3	1.8	1.2	1.1	0.7	0.9
Mining	6.1	5.2	5.0	4.7	4.6	4.5	4.5	-0.1	0.1	0.0	0.1	0.1	0.1
Electricity, water and supply gas	1.1	1.4	1.5	1.5	1.5	1.5	1.4	0.0	0.1	0.1	0.0	0.0	0.0
Construction	6.2	6.6	6.2	6.3	6.2	6.2	6.2	-0.5	0.0	0.3	0.2	0.1	0.2
Manufacturing	17.1	16.7	17.4	17.6	17.6	17.5	17.5	-1.7	1.7	0.9	0.7	0.5	0.5
Tertiary	62.5	64.7	64.7	65.2	65.1	65.5	65.6	-2.8	3.4	3.1	2.5	2.4	2.2
Retail trade	11.8	14.1	15.0	15.8	15.9	16.1	16.1	-2.2	1.6	1.4	0.8	0.6	0.6
Transportation, mail and storage	6.5	6.9	7.1	7.0	7.0	7.1	7.1	-0.4	0.5	0.2	0.3	0.2	0.3
Information in mass media	2.2	3.9	3.7	3.8	4.0	4.2	4.3	0.0	0.1	0.2	0.3	0.3	0.3
Insurance and financial services	4.0	4.7	5.1	5.4	5.6	5.8	6.0	0.1	0.6	0.5	0.4	0.4	0.4
Real estate and leasing services	10.0	11.0	10.6	10.4	10.3	10.2	10.0	-0.2	0.2	0.3	0.3	0.2	0.2
Prof., scientific, and technical serv.	3.7	3.5	3.3	3.3	3.2	3.2	3.1	-0.2	0.0	0.2	0.0	0.1	0.0
Corporate and company leadership	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0
Business support serv.	2.9	2.6	2.5	2.5	2.5	2.6	2.6	-0.1	0.0	0.1	0.1	0.1	0.1
Educational services	4.8	4.8	4.5	4.4	4.3	4.2	4.1	0.0	0.0	0.1	0.0	0.0	0.0
Health and social welfare services	3.6	3.0	2.9	2.8	2.7	2.7	2.7	0.0	0.0	0.1	0.1	0.1	0.0
Leisure and relaxation, cult., & sports serv.	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0
Hotel, motel, lodging & prep. of food & bev.	3.5	2.6	2.5	2.5	2.5	2.5	2.5	-0.2	0.1	0.1	0.1	0.1	0.1
Other serv. except gov't activities	3.0	2.7	2.6	2.6	2.6	2.6	2.6	0.0	0.0	0.1	0.1	0.1	0.1
Government activities	5.5	4.1	4.0	3.8	3.6	3.5	3.5	0.1	0.1	-0.1	0.0	0.0	0.1

Note: projections appear in boldface. All figures are subject to review by the Institute, this is mainly when fourth quarter data is calculated because it is based on the latest statistical information available.
sa: Seasonally-adjusted; pp: Percentage points
Source: BBVA Research with INEGI data

Table 5

Mexico: Indicators and sectorial forecasts, manufacturing production, sa

Annual % change

	2009	2010	2011	2012	2013	2014	1Q12	2Q12	3Q12	4Q12	1Q13	2Q13	3Q13	4Q13
Total	-1.0	9.9	4.9	4.0	**2.8**	**2.9**	4.7	4.9	3.9	2.7	1.6	**2.8**	**3.3**	**3.7**
Food	1.4	2.0	1.7	1.9	**2.9**	**2.2**	1.9	2.7	0.2	2.8	2.3	**3.0**	**3.2**	**3.0**
Beverages and tobacco	2.6	-0.5	5.0	1.8	**3.0**	**2.3**	4.7	-0.5	0.3	3.0	1.6	**3.6**	**3.0**	**3.8**
Textile inputs	-6.9	10.0	-5.4	2.4	**1.2**	**-1.1**	-3.2	2.8	5.7	4.6	5.1	**0.1**	**0.0**	**-0.4**
Production of textile products	-8.4	1.7	-1.2	-0.2	**4.1**	**1.6**	-2.8	0.6	0.2	1.5	5.9	**4.7**	**3.7**	**2.0**
Apparel	2.2	5.6	-6.1	-0.2	**-0.1**	**-1.9**	-1.7	-3.4	1.7	2.7	-0.3	**2.3**	**-1.1**	**-1.4**
Leather and fur products	-3.1	10.1	-0.9	3.5	**-0.1**	**1.1**	7.5	3.6	1.3	1.5	-3.8	**3.8**	**0.2**	**-0.5**
Lumber ind.	-7.6	6.3	5.6	13.7	**4.1**	**1.7**	7.5	7.8	11.0	28.6	6.5	**7.2**	**1.5**	**1.7**
Paper ind.	2.5	4.7	-1.0	4.8	**3.5**	**2.7**	3.6	4.4	5.1	6.0	4.4	**3.8**	**2.9**	**3.1**
Printing and related ind.	5.2	9.6	1.1	4.0	**-1.1**	**0.9**	8.0	11.6	5.2	-7.8	-5.4	**0.3**	**0.4**	**0.4**
Oil deriv. prod.	0.7	-3.4	-4.8	1.9	**1.5**	**1.1**	-1.1	4.9	2.3	1.8	2.4	**1.2**	**1.2**	**1.1**
Chemicals	-2.2	-1.1	0.2	0.1	**1.7**	**1.0**	1.4	-0.8	-1.6	1.6	1.2	**1.2**	**2.2**	**2.1**
Plastic and rubber prod.	-1.7	9.3	6.9	7.8	**0.5**	**2.8**	11.5	8.1	6.7	5.0	-2.9	**1.7**	**1.7**	**1.6**
Non-metal mineral prod.	-3.7	3.4	3.7	2.1	**1.4**	**3.3**	3.4	0.5	4.3	0.3	-1.6	**-0.7**	**3.3**	**4.6**
Basic metal prod.	-0.6	12.9	3.3	3.8	**1.9**	**4.3**	5.0	4.9	2.8	2.4	-2.0	**1.8**	**3.2**	**4.5**
Metallic prod.	1.0	10.1	9.0	6.2	**2.5**	**3.3**	8.3	11.0	5.5	0.7	3.5	**0.4**	**3.0**	**3.1**
Machinery and equipment	-0.4	33.0	10.9	4.7	**2.6**	**2.8**	11.0	5.0	2.6	0.7	0.3	**3.0**	**3.0**	**4.2**
Computers and electronics	-12.0	8.8	5.1	-1.8	**3.9**	**2.3**	0.5	-2.7	-3.0	-1.9	3.4	**3.7**	**3.6**	**4.7**
Electrical equip.	-0.1	10.5	-0.4	1.7	**0.2**	**2.5**	3.3	2.4	3.9	-2.5	-7.3	**2.8**	**2.5**	**3.2**
Transport. equip.	0.6	42.6	16.9	12.0	**4.8**	**5.5**	14.1	15.3	12.4	6.3	2.9	**4.4**	**5.8**	**6.2**
Furniture and related prod.	-2.8	6.6	-0.7	9.7	**0.4**	**2.9**	21.9	18.5	13.4	-11.2	-7.5	**3.0**	**2.8**	**3.7**
Other manufacturing ind.	1.6	2.6	3.4	2.6	**1.8**	**2.1**	5.5	3.1	2.4	-0.7	0.1	**2.2**	**2.1**	**3.0**

	share, %							Contribution to growth , pp					
	2003	2009	2010	2011	2012	2013	2014	2009	2010	2011	2012	2013	2014
Total	100.0	100.0	100.0	100.0	100.0	**100.0**	**100.0**	-9.6	9.9	4.9	4.0	**2.8**	**2.9**
Food	23.0	24.0	22.3	21.6	21.2	**21.2**	**21.0**	-0.1	0.5	0.4	0.4	**0.6**	**0.5**
Beverages and tobacco	5.7	7.0	6.4	6.4	6.2	**6.3**	**6.2**	0.0	0.0	0.3	0.1	**0.2**	**0.1**
Textile inputs	1.6	0.9	1.0	0.9	0.8	**0.8**	**0.8**	-0.1	0.1	-0.1	0.0	**0.0**	**0.0**
Production of textile products	0.6	0.4	0.4	0.4	0.4	**0.4**	**0.4**	0.0	0.0	0.0	0.0	**0.0**	**0.0**
Apparel	3.9	2.6	2.5	2.2	2.1	**2.0**	**1.9**	-0.3	0.1	-0.2	0.0	**0.0**	**0.0**
Leather and fur products	2.2	1.3	1.3	1.2	1.2	**1.2**	**1.2**	-0.1	0.1	0.0	0.0	**0.0**	**0.0**
Lumber ind.	1.7	1.1	1.1	1.1	1.2	**1.2**	**1.2**	0.0	0.1	0.1	0.2	**0.0**	**0.0**
Paper ind.	1.9	2.4	2.3	2.2	2.2	**2.2**	**2.2**	0.0	0.1	0.0	0.1	**0.1**	**0.1**
Printing and related ind.	1.1	0.9	0.9	0.9	0.9	**0.9**	**0.9**	-0.1	0.1	0.0	0.0	**0.0**	**0.0**
Oil deriv. prod.	3.0	3.2	2.8	2.5	2.5	**2.4**	**2.4**	0.0	-0.1	-0.1	0.0	**0.0**	**0.0**
Chemicals	11.0	10.3	9.2	8.8	8.5	**8.4**	**8.2**	-0.4	-0.1	0.0	0.0	**0.1**	**0.1**
Plastic and rubber prod.	2.9	2.7	2.7	2.7	2.8	**2.8**	**2.8**	-0.3	0.3	0.2	0.2	**0.0**	**0.1**
Non-metal mineral prod.	7.1	6.7	6.3	6.2	6.1	**6.0**	**6.0**	-0.6	0.2	0.2	0.1	**0.1**	**0.2**
Basic metal prod.	5.1	5.2	5.4	5.3	5.3	**5.2**	**5.3**	-1.0	0.7	0.2	0.2	**0.1**	**0.2**
Metallic prod.	3.0	3.2	3.2	3.3	3.4	**3.4**	**3.4**	-0.5	0.3	0.3	0.2	**0.1**	**0.1**
Machinery and equipment	2.8	2.2	2.7	2.8	2.8	**2.8**	**2.8**	-0.4	0.7	0.3	0.1	**0.1**	**0.1**
Computers and electronics	3.9	4.6	4.6	4.6	4.3	**4.4**	**4.4**	-0.6	0.4	0.2	-0.1	**0.2**	**0.1**
Electrical equip.	2.5	3.2	3.2	3.1	3.0	**2.9**	**2.9**	-0.5	0.3	0.0	0.1	**0.0**	**0.1**
Transport. equip.	13.0	13.9	18.1	20.1	21.7	**22.1**	**22.7**	-4.9	5.9	3.1	2.4	**1.0**	**1.2**
Furniture and related prod.	1.7	1.4	1.3	1.3	1.3	**1.3**	**1.3**	-0.1	0.1	0.0	0.1	**0.0**	**0.0**
Other manufacturing ind.	2.1	2.4	2.3	2.2	2.2	**2.2**	**2.2**	0.0	0.1	0.1	0.1	**0.0**	**0.0**

Note: projections appear in boldface. All figures are subject to review by the Institute, this is mainly when fourth quarter data is calculated because it is based on the latest statistical information available.
sa: Seasonally-adjusted; pp: Percentage points
Source: BBVA Research with INEGI data

2.c Regional Analysis

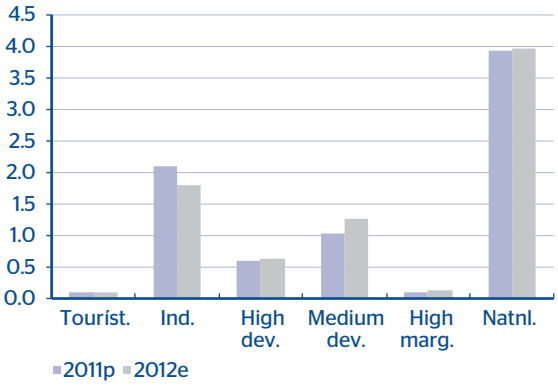
Stability in national economic growth and economic disparity among states at a low in 2012

National economic growth in 2012 stood at 3.9%, which is practically the same as that recorded in the previous year. Nevertheless, at the regional level, the performance of economic activity was somewhat different with respect to 2011. The following points particularly stand out: i) all regions, with the exception of the Industrial region, exhibited higher economic growth in 2012; ii) the Industrial region was the only one in which the contribution to national economic growth was lower in 2012; and iii) the Industrial region's lower contribution to national economic growth was primarily offset by the states comprising the Medium Development region. [1]

An inter-regional comparison of the estimated rates of economic growth for 2012 reveals that the most buoyant economic activity took place in the Touristic region. This regional economy is expected to have grown 5.2%, while those corresponding to the Industrial, Medium Development, High Development and Low Development regions experienced growth of 4.2%, 3.9%, 3.5% and 2.6%, respectively.

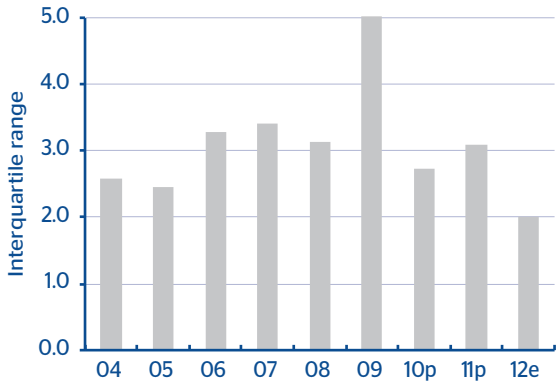
In terms of economic disparity among Mexican states, the most recent information and our own estimates for 2012 indicate that the downward trend that began in 2009 has continued. The measure of statistical dispersion obtained through the interquartile range shows that the 2012 disparity dropped 59.9% with respect to its peak in 2009. [2] Moreover, using the historical series for gross domestic product per state, our own calculations suggest that the disparity between the economic growth among states would have reached a minimum of 2.0% in 2012.

Chart 24
Contribution to economic growth (percentage points)



p/preliminary data; e/own estimates
Source: BBVA Research with INEGI data

Chart 25
Economic growth dispersion (third quartile vs. first quartile)



p/preliminary data; e/own estimates
Source: BBVA Research with INEGI data

The Medium Development region: key to the stability of national economic growth in 2012

As we mentioned above, the breakdown of national economic growth by regions in 2012 indicates that the Medium Development area was the one that most significantly contributed to maintaining Mexico's 2011 rate of economic activity. This region increased its contribution to national economic

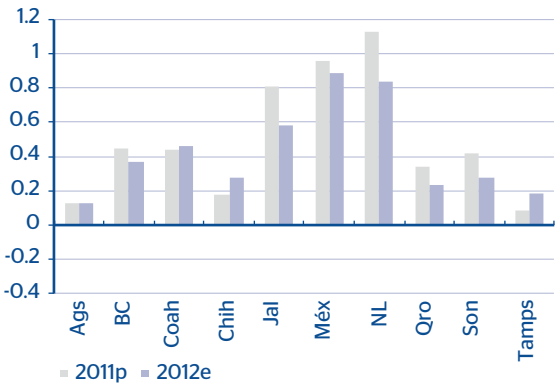
[1] For a detailed description of this classification, see Mexico Regional Sectorial Outlook "Agrupamiento Regional, Cómo y Para Qué", November 2007. BBVA Bancomer. Regions by economic vocation and level of development: High Development: DF; Touristic: BCS and QR; Industrial: Ags, BC, Coah, Chih, Jal, 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..
[2] The interquartile range was constructed as follows: 1) the annual rates of economic growth were calculated for each of the states and DF; 2) the rates were classified in ascending order; 3) the positions of the first and third quartile were determined as (32+1)/4 and 3*(32+1)/4, respectively; and 4) as the positions of the two quartiles did not constitute a whole number, an average was taken of the growth rates immediately preceding and following each one of these positions.

growth to 1.3% in 2012 from 1.0% in 2011. This rise partially offset the lower contribution of the Industrial region, which went down to 1.8% from 2.1% in the same period. The rest of the regions marginally offset the Industrial region's decreased contribution to the national economy.

In order to understand the reduced economic performance of the Industrial region in 2012 with respect to the previous year, we looked at economic activity in the states comprising that region. The primary findings were that: a) the contribution to regional economic growth in 2012 compared with 2011 was down in six of them; b) the greatest estimated reductions in this contribution occurred in the states of Nuevo León and Jalisco, where the contribution to economic growth in the Industrial region fell by 0.3 and 0.2 percentage points (see Chart 26).

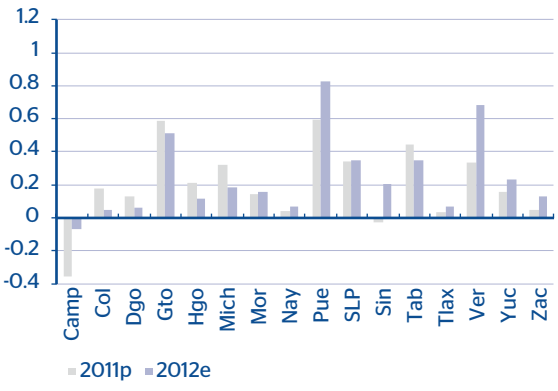
A similar analysis to the one conducted within the Industrial region was carried out for the Medium Development region. In this case, we found that: 1) ten states registered an increased contribution to the economic growth of their region; and 2) the states of Veracruz, Campeche, Puebla and Sinaloa were the states with the greatest contribution increases in relation to 2011 with 0.4, 0.3, 0.2 and 0.2 additional percentage points, respectively (see Chart 27).

Chart 26
Contribution to growth in the Industrial region (percentage points)



p/preliminary data; e/own estimates
Source: BBVA Research with INEGI data

Chart 27
Contribution to growth in the Medium Development region (percentage points)



p/preliminary data; e/own estimates
Source: BBVA Research with INEGI data

Regional prospects: moderation of economic growth in all regions in 2013

The outlook for the national economy in 2013 is, in general, positive. It is worth mentioning that expectations for this year imply a moderate slowdown. One of the main factors that explains this lower growth is associated with the impact of the slowdown in the US on the Mexican economy. However, this effect is expected to vanish by the second half of 2013 and, as a consequence, national economic growth will accelerate with respect to the first six months of the year.

The slowdown of national economic growth forecasted for 2013 will be reflected differently in the regions into which we have divided the country. The Medium Development region will be the one with the biggest slowdown, and its economy is forecasted to grow 2.9% compared with 3.9% in 2012. The regions with the next biggest slowdowns are the Touristic and High Development (see Table 6). It is worth noting that, despite these differentiated rates of economic slowdown predicted for 2013, the regional contribution to national economic growth (as a proportion of the total) will remain relatively stable with respect to the most recent years.

Table 6

GDP by Region*

Real annual growth (percentage)

	2008	2009	2010p	2011p	2012e	2013e
Total	**1.2**	**-6.0**	**5.3**	**3.9**	**3.9**	**3.1**
Touristic	1.8	-6.0	4.3	5.1	**5.2**	**4.3**
Industrial	1.4	-7.9	6.7	4.9	**4.2**	**3.6**
High Development	0.5	-4.9	3.6	3.4	**3.5**	**2.7**
Medium Develop.	1.4	-4.5	4.6	3.2	**3.9**	**2.9**
Low Development	1.3	-3.3	5.3	2.0	**2.6**	**2.0**

Share in the total (percentage)

	2008	2009	2010p	2011p	2012e	2013e
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Touristic	2.2	2.2	2.1	2.2	**2.2**	**2.2**
Industrial	42.6	41.7	42.3	42.7	**42.8**	**43.0**
High Development	18.0	18.2	17.9	17.8	**17.8**	**17.7**
Medium Develop.	32.4	32.9	32.7	32.5	**32.4**	**32.4**
Low Development	4.8	5.0	5.0	4.9	**4.8**	**4.8**

Contribution to growth (percentage points)

	2008	2009	2010p	2011p	2012e	2013e
Total	**1.2**	**-6.0**	**5.3**	**3.9**	**3.9**	**3.1**
Touristic	0.0	-0.1	0.1	0.1	**0.1**	**0.1**
Industrial	0.6	-3.4	2.8	2.1	**1.8**	**1.6**
High Development	0.1	-0.9	0.7	0.6	**0.6**	**0.5**
Medium Develop.	0.5	-1.5	1.5	1.0	**1.3**	**0.9**
Low Development	0.1	-0.2	0.3	0.1	**0.1**	**0.1**

Economic activity (index 2008=100)

	2008	2009	2010p	2011p	2012e	2013e
Total	**100.0**	**94.0**	**99.0**	**102.9**	**107.0**	**110.3**
Touristic	100.0	94.0	98.1	103.0	**108.4**	**113.0**
Industrial	100.0	92.1	98.3	103.1	**107.5**	**111.4**
High Development	100.0	95.1	98.5	101.8	**105.4**	**108.2**
Medium Develop.	100.0	95.5	99.9	103.0	**107.1**	**110.1**
Low Development	100.0	96.7	101.8	103.9	**106.6**	**108.7**

* Regions by economic vocation and level of development: High Development: 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.
Source: BBVA Research with INEGI data

Table 7

GDP by state

	2008	2009	2010p	2011p	2012e	2008	2009	2010p	2011p	2012e	2008	2009	2010p	2011p	2012e
	(Billion 2003 pesos)					(Real growth rate, % annual)					(Contribution to growth, pp)				
National total	**8,461.2**	**7,953.7**	**8,377.3**	**8,706.9**	**9,050.6**	**1.2**	**-6.0**	**5.3**	**3.9**	**3.9**	**1.2**	**-6.0**	**5.3**	**3.9**	**3.9**
Aguascalientes	95.4	91.6	97.5	102.0	106.8	0.5	-4.1	6.5	4.6	4.7	0.0	0.0	0.1	0.1	0.1
Baja California	255.3	234.1	242.0	257.8	271.6	-0.3	-8.3	3.4	6.5	5.4	0.0	-0.2	0.1	0.2	0.2
Baja California Sur	51.6	52.4	52.6	55.1	57.7	3.2	1.6	0.5	4.8	4.6	0.0	0.0	0.0	0.0	0.0
Campeche	311.1	281.7	269.3	259.6	257.7	-3.0	-9.4	-4.4	-3.6	-0.7	-0.1	-0.3	-0.2	-0.1	0.0
Coahuila	275.6	239.0	269.1	284.6	301.7	1.8	-13.3	12.6	5.7	6.0	0.1	-0.4	0.4	0.2	0.2
Colima	45.3	43.1	48.8	53.7	55.0	0.9	-5.0	13.3	10.0	2.5	0.0	0.0	0.1	0.1	0.0
Chiapas	153.1	148.4	157.2	162.5	166.7	4.1	-3.0	5.9	3.4	2.6	0.1	-0.1	0.1	0.1	0.0
Chihuahua	287.2	259.0	264.2	270.5	280.8	0.9	-9.8	2.0	2.4	3.8	0.0	-0.3	0.1	0.1	0.1
Mexico City	1,524.1	1,449.2	1,501.6	1,552.2	1,606.9	0.5	-4.9	3.6	3.4	3.5	0.1	-0.9	0.7	0.6	0.6
Durango	104.6	100.1	104.2	107.7	109.4	1.8	-4.2	4.1	3.3	1.5	0.0	-0.1	0.1	0.0	0.0
Guanajuato	328.8	313.7	344.0	360.2	374.6	0.9	-4.6	9.7	4.7	4.0	0.0	-0.2	0.4	0.2	0.2
Guerrero	129.3	124.0	131.3	132.4	134.2	-2.5	-4.1	5.9	0.8	1.4	0.0	-0.1	0.1	0.0	0.0
Hidalgo	127.6	116.9	122.0	127.8	131.1	7.1	-8.3	4.3	4.7	2.6	0.1	-0.1	0.1	0.1	0.0
Jalisco	565.3	522.9	553.8	582.6	604.2	0.4	-7.5	5.9	5.2	3.7	0.0	-0.5	0.4	0.3	0.2
México	791.1	749.8	816.0	850.0	882.9	1.7	-5.2	8.8	4.2	3.9	0.2	-0.5	0.8	0.4	0.4
Michoacán	210.1	197.6	203.9	212.7	217.9	3.6	-5.9	3.2	4.3	2.4	0.1	-0.1	0.1	0.1	0.1
Morelos	96.6	96.3	101.7	105.7	110.1	-3.3	-0.3	5.6	3.9	4.1	0.0	0.0	0.1	0.0	0.1
Nayarit	53.4	51.4	52.9	54.0	55.8	4.2	-3.6	2.9	2.1	3.4	0.0	0.0	0.0	0.0	0.0
Nuevo León	666.5	607.0	659.3	699.1	730.2	1.3	-8.9	8.6	6.0	4.4	0.1	-0.7	0.7	0.5	0.4
Oaxaca	127.7	124.2	129.0	131.0	136.1	2.1	-2.8	3.9	1.6	3.9	0.0	0.0	0.1	0.0	0.1
Puebla	300.3	272.7	299.4	315.6	339.0	2.4	-9.2	9.8	5.4	7.4	0.1	-0.3	0.3	0.2	0.3
Querétaro	159.7	146.3	155.8	167.8	176.6	3.8	-8.4	6.5	7.7	5.2	0.1	-0.2	0.1	0.1	0.1
Quintana Roo	131.5	119.7	126.9	133.5	140.7	1.2	-8.9	6.0	5.2	5.4	0.0	-0.1	0.1	0.1	0.1
San Luis Potosí	156.2	146.4	153.3	162.5	172.4	3.5	-6.3	4.7	6.0	6.1	0.1	-0.1	0.1	0.1	0.1
Sinaloa	175.4	166.4	176.2	175.4	181.1	2.2	-5.1	5.9	-0.4	3.3	0.0	-0.1	0.1	0.0	0.1
Sonora	209.6	199.1	209.2	224.1	234.5	0.3	-5.0	5.1	7.1	4.6	0.0	-0.1	0.1	0.2	0.1
Tabasco	218.4	223.3	235.4	247.6	257.5	4.1	2.2	5.4	5.2	4.0	0.1	0.1	0.2	0.1	0.1
Tamaulipas	296.0	268.8	273.3	276.2	283.1	3.7	-9.2	1.7	1.1	2.5	0.1	-0.3	0.1	0.0	0.1
Tlaxcala	46.0	43.7	46.1	47.0	48.9	0.4	-5.0	5.5	1.9	4.1	0.0	0.0	0.0	0.0	0.0
Veracruz	381.6	380.7	388.0	397.1	416.4	-0.4	-0.2	1.9	2.4	4.9	0.0	0.0	0.1	0.1	0.2
Yucatán	120.7	117.8	123.0	127.3	133.8	0.0	-2.4	4.4	3.5	5.1	0.0	0.0	0.1	0.1	0.1
Zacatecas	66.4	66.5	70.2	71.6	75.2	7.4	0.2	5.6	2.0	5.0	0.1	0.0	0.0	0.0	0.0

p/preliminary data; e/own estimates
Source: BBVA Research with INEGI data

3 Special Reports

3.a The household electrical appliances industry: challenges and opportunities to improve its competitive position

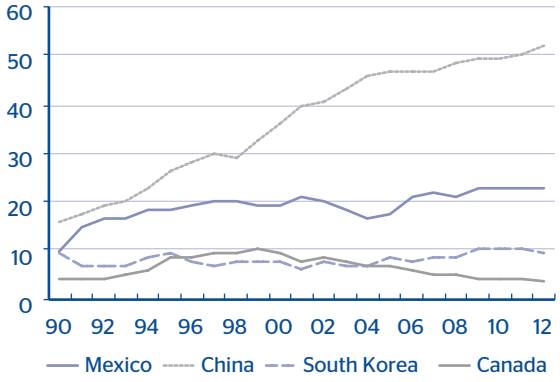
The household electrical appliances industry in Mexico is one of the most competitive in the world, together with those of China, Germany, Italy, the US, Thailand and South Korea. In 2011, Mexico was the sixth leading household electrical appliances exporter in the world, with the US being the primary destination for exports. Mexico registered the second largest share in the US market in 2012 (22.5%, compared with the 51.9% of China).

Table 8
Main household electrical appliances exporters

Ranking	2010	2011
1	China	China
2	Germany	Germany
3	Italy	Italy
4	U.S.	Thailand
5	Thailand	U.S.
6	Mexico	Mexico
7	South Korea	South Korea

Source: BBVA Research Mexico with Pro México data

Chart 28
Market share in household electrical appliances imports by the US (% of total)



Source: BBVA Research with data from the US Department of Commerce

Among the main exported household electrical appliances, only a few recorded positive growth in 2012. Fridge-freezer combos with separate exterior doors (the products that most contributed to household electrical appliances exports) were up 4.8%. Meanwhile, washing machines with a capacity of over 10 kg, dryers for loads between 10 kg and 70 kg, air conditioners with over 5 horsepower and electric stoves had annual growth rates of 13.5%, 10.8%, 8.1% and 5.2%, respectively.

Table 9
Main exported household electrical appliances and recent dynamics

Product description	2011-2010 (annual % change)	2012-2011 (annual % change)	Share in household electrical appliances exports (%)
Fridge-freezer combos with separate exterior doors	3.3	4.8	36.8
Compression refrigerators	4.9	-11.8	8.2
Washers with a dry clothing capacity of over 10 kg	44.5	13.5	6.8
Vacuums	7.0	-18.8	6.0
Gas stoves	10.5	-1.2	5.5
Water heaters (non-electric and heat accumulation)	1.5	-3.4	5.3
Air conditioners with over 5 hp	22.3	8.1	4.7
Electric stovetops	-5.9	5.2	3.6
Dryers for loads between 10 kg. and 70 kg	70.4	10.8	3.5
Washers with a dry clothing capacity of 10 kg or less	-36.4	-14.9	3.1
Electric water heaters other than water dispensing devices	4.9	-0.3	2.9

Source: BBVA Research with data from SACEM, INEGI, SIAVI and SE

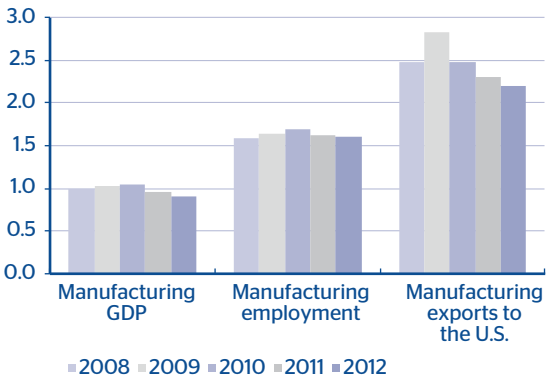
Factors such as the size of the US market, proximity to it, relatively low labor costs, tariff-free cross-border shipping and reverse logistics processes could be underlying the international competitiveness

of this industry; but in the medium and long term, the country will have significant opportunities and challenges in the metal-mechanical support area and in the manufacture of the new generation of "smart" household electrical appliances.

The importance of the household electrical appliances industry in Mexican manufacturing

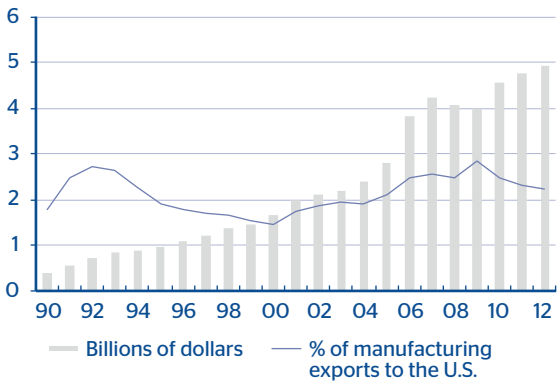
In 2012, the household electrical appliances industry accounted for 0.9% of the manufacturing sector's output and contributed with 2.2% of its exports to the US. In regard to employment, data up to December 2012 indicates the industry was responsible for 52,057 direct jobs, according to information from INEGI. In the period following the 2008-2009 global economic recession, a downward trend has been observed in the share of household electrical appliances in both manufacturing output and manufacturing exports (see Charts 29 and 30).

Chart 29
Importance of household electric. appliances* (% contribution)



* The 2012 figures for production and employment are subject to revision.
Source: BBVA Research with data from INEGI and the US Department of Commerce

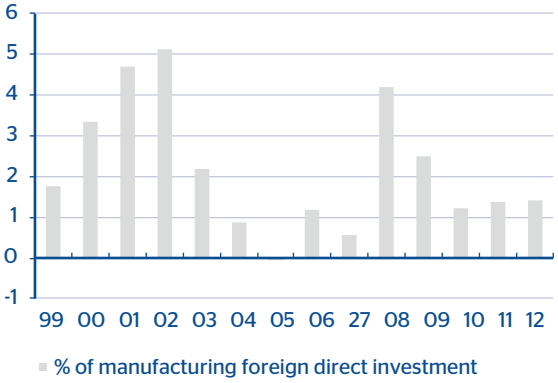
Chart 30
Household electrical appliances exports to the US



Source: BBVA Research with data from the US Department of Commerce

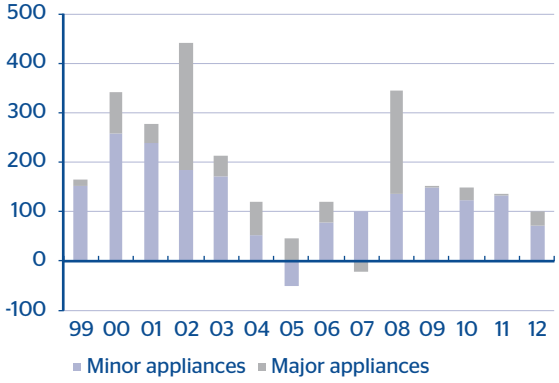
In contrast to the recent situation with respect to the share of household electrical appliances in manufacturing output and exports, a positive trend has been observed in the foreign direct investment (FDI) in household electrical appliances as a share of total FDI in the manufacturing sector (see Chart 31). Nevertheless, the absolute flows of FDI to the household electrical appliances industry fell back 25.3% in 2012 with respect to 2011. Although there was no fall in total FDI flows to the industry in 2012, those corresponding to the manufacturing of major appliances presented a substantial advance with respect to the previous year. It is also worth noting that, since 2009, the majority of the total flows have been oriented predominantly to the production of minor appliances (see Chart 32).

Chart 31
Foreign Direct Investment in household electrical appliances



Source: BBVA Research with data from SE

Chart 32
Foreign Direct Investment in household electrical appliances (millions USD)

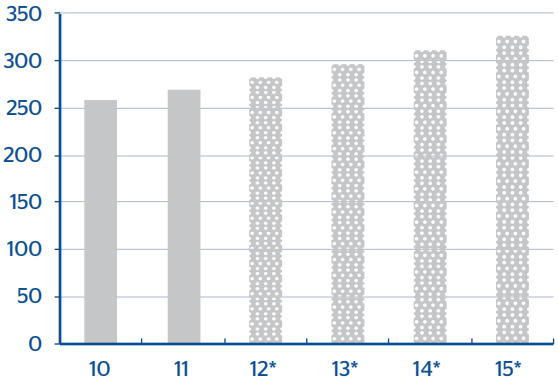


Source: BBVA Research with data from SE

The global household electrical appliances industry will continue to grow in the coming years

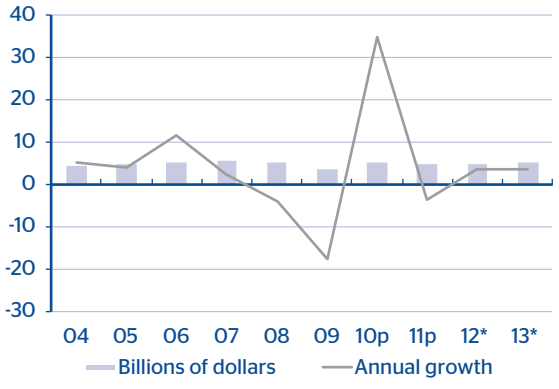
According to information from Datamonitor, the global household electrical appliances industry will expand 27.4% in nominal terms in the 2012-2016 period. Such growth implies an annual prorated nominal growth rate of 5.0%. The outlook for the output of the household electrical appliances industry is also positive in the short term. Our estimates indicate that its real growth will have been 3.8% in 2012 and will be 3.4% in 2013.

Chart 33
The global household electrical appliances industry (value in billions USD)



* Projections made by prorating the Datamonitor growth forecast for the 2011-2016 period
Source: BBVA Research with data from Household Appliances: Global Industry Guide 2011, February 2012, Datamonitor

Chart 34
Household electrical appliances output[1]

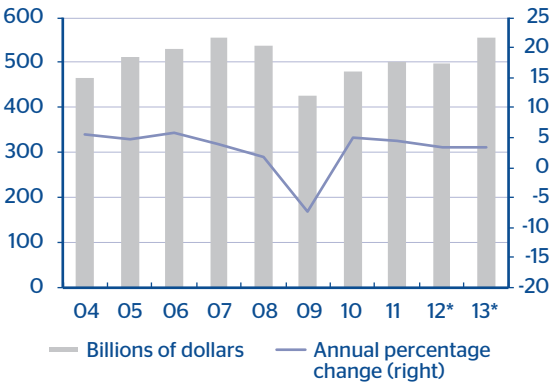


1/ Non-electrical home devices are not included.
p/ preliminary figures
* BBVA Research projections for growth in real pesos
Source: BBVA Research with INEGI data

Domestic consumption of household devices rose in 2012 vs 2011

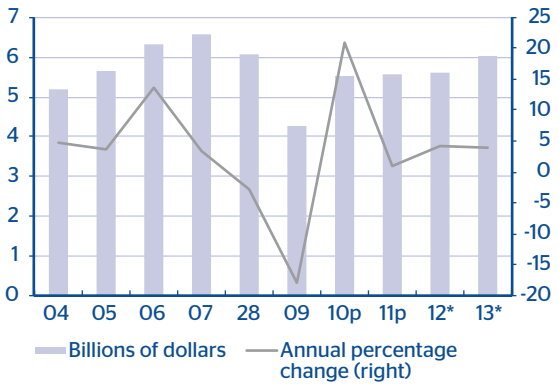
Our estimates indicate that the real growth in national consumption of household electrical appliances and other devices will stand at 4.1% in 2012 and 4.0% in 2013. Both forecasts are encouraging, given the relatively low 0.9% growth rate in 2011. Moreover, these figures are higher than those for private consumption, which grew at 3.4% and is expected to grow by 3.3% in the same years.

Chart 35
Private consumption



* BBVA Research projections for growth in real pesos.
Source: BBVA Research with INEGI data

Chart 36
Consumption of household devices



* BBVA Research projections for growth in real pesos.
Source: BBVA Research with INEGI data

Investment and output of household electrical appliances is concentrated in the Industrial region

The leading international household electrical appliances companies are found in Mexico. Seventy-eight household electrical appliances plants are located throughout the country.[1] The geographical proximity to the US, relatively low labor costs and exemption from cross-border tariffs with the US give Mexico a competitive advantage over other countries for the location of this type of firms.

Table 10

Location and country of origin for the leading household electrical appliances companies in Mexico

Refrigerators	Washing machines	Stoves
Electrolux (C. Juárez, Sweden)	Electrolux (C. Juárez, Sweden)	Whirlpool (Cel., USA)
Daewoo (Qro., Korea)	Daewoo (Qro., Korea)	LG (Mty., Korea)
Samsung (Qro., Korea)	Samsung (Qro., Korea)	Mabe (DF and SLP, Mexico)
LG (Mty., Korea)	LG (Mty., Korea)	
Mabe (Cel. and Qro, Mexico)	Mabe (Mty. and Sal., Mexico)	
Whirlpool (Apod., Cel. and R. Ariz, USA)	Whirlpool (Apod. and Cel., USA)	

Microwave ovens	Dryers	Compressors for refrigeration
Daewoo (Qro., Korea)	Electrolux (C. Juárez, Sweden)	Embraco (Mty., Brazil)
Panasonic (Ixta., Japan)		Mabe (SLP, Mexico)

Source: BBVA Research with journalistic information and data from the company websites.

In Mexico, the household electrical appliances output is primarily concentrated in the states of the Industrial region (60.3% of the total).[2] When comparing across states, Nuevo León, Guanajuato, San Luis Potosí and Querétaro contribute the most to the national output of this type of goods with 23.1%, 17.9%, 14.7% and 13.9%, respectively (see Table 11).

Although the household electrical appliances output is concentrated in the Industrial region, its economic importance in terms of the share in the total regional output and wages is greater in the Medium Development region. Specifically, the household electrical appliances industry in San Luis Potosí is more important within its local output structure than in other states (see Table 12).

Table 11

Household electrical appliances output (% contribution to national output)

National	**100.0**
Industrial Region	60.3
Nuevo León	23.1
Querétaro	13.9
Coahuila	7.2
State of Mexico	6.1
Tamaulipas	3.7
Chihuahua	3.3
Baja California	2.4
Jalisco	0.6
Medium Development Region	33.3
Guanajuato	17.9
San Luis Potosí	14.7
Puebla	0.4
Morelos	0.2
High Development Region or Mexico City	6.4

Source: BBVA Research with INEGI data

Table 12

Importance of the household electrical appliances industry (% share)

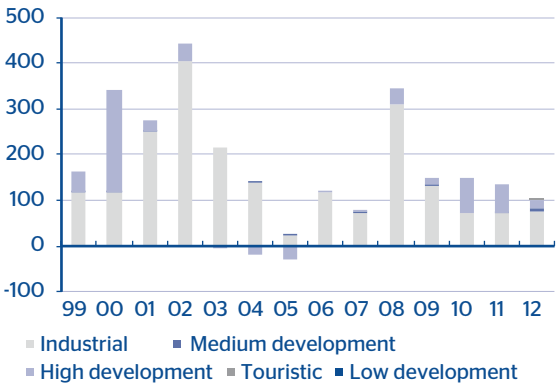
	GDP	Employment	Wages
National	**0.4**	**0.3**	**0.4**
Industrial Region	0.7	0.5	0.6
Querétaro	0.0	1.6	2.9
Nuevo León	0.0	0.5	1.2
Coahuila	0.0	0.5	0.7
Chihuahua	0.0	0.5	0.6
Tamaulipas	0.0	1.5	0.4
Baja California	0.0	0.5	0.4
State of Mexico	0.0	0.5	0.3
Jalisco	0.0	0.1	0.0
High Development Region	0.1	0.1	0.1
Medium Development Region	1.5	0.5	1.3
San Luis Potosí	3.5	1.3	3.0
Guanajuato	1.9	0.7	1.6
Morelos	0.1	0.0	0.1
Puebla	0.1	0.0	0.1

Source: BBVA Research with INEGI data

[1] Information drawn from the article "La industria de los electrodomésticos en México: bajo presión" by Lisa Bonnema, February 16, 2012.
[2] A detailed description of the regionalization can be found in Mexico Regional Sectorial Outlook "Agrupamiento Regional, Cómo y Para Qué", November 2007. BBVA Bancomer. Regions by economic vocation and level of development: High Development: 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

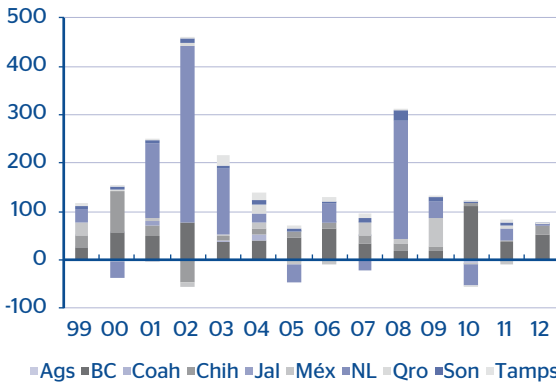
In regard to the destinations receiving FDI in the household electrical appliances industry, the High Development (DF) and Industrial regions have been the primary magnets for these flows (see Chart 37). In the Industrial region, the states that most benefited from FDI in 2012 were Baja California and Chihuahua with shares of 68.9% and 22.8% of the regional FDI in such industry, respectively (see Chart 38).

Chart 37
FDI in household electrical appliances by region * (millions USD)



* For further information on regionalization, please see Mexico Regional Sectorial Outlook, November 2007.
Source: BBVA Research with data from SE

Chart 38
FDI in household electrical appliances in the Industrial region (millions USD)



Source: BBVA Research with data from SE

Improving the competitive position through metal-mechanical support, investment in human capital and government incentives

In the 2010-2012 period, the share of Mexican products in the US household electrical appliances imports slightly decreased to 22.5% from 22.7%. In contrast, total manufacturing exports from Mexico to the US increased marginally to 12.3% from 12.2% in the same span of time. In addition, as mentioned previously, the household electrical appliances industry has been gradually losing importance within the output and exports of the manufacturing industry as a whole. This seems to suggest that the competitiveness of this industry has recently declined with respect to the other manufacturing sectors.

In order to improve the competitive position of the household electrical appliances industry in coming years, industry-specific technical aspects will need to be reinforced, and more incentives must be created for attracting new manufacturing plants. In terms of competitiveness, it is worth mentioning that although the reverse logistics processes (repair and maintenance) are facilitated by the geographical proximity to the US, when these processes involve metal-mechanical support, they provide Mexico with:[3]

- Opportunities due to the lack of interest among younger Americans to master trades associated with the use of tools (e.g. dies and die-cutting).

- Challenges due to both the scarcity of mentors to share the know-how and the high capital costs involved in delivering a more comprehensive metal-mechanical support service.

Moreover, the new generation of "smart" appliances will present additional challenges for the country. Even though the development of these new products could be affected in an environment of lower economic growth in industrialized economies, new schemes must be found to give way to human capital formation to manufacture those products. These efforts could be complemented with the other extremely important aspect for improving competitiveness: the provision of local government incentives for setting up new appliances manufacturing facilities.

[3] Information drawn from the article "La industria de los electrodomésticos en México: bajo presión" by Lisa Bonnema, February 16, 2012.

Box 1: Influence of the level of schooling and region on the possibility of purchasing household electrical appliances

An econometric analysis was done to determine whether sociodemographic variables such as the region to which consumers pertain or their level of schooling –a proxy variable for personal income– could influence their possibility of purchasing household electrical appliances in Mexico. For this end we used microdata from the National Consumer Confidence Survey (ENCO, for its acronym in Spanish).

The information about the possibility of purchasing such appliances was obtained from question 8 from the basic questionnaire of the ENCO survey, while the data on region and level of schooling was drawn from the socioeconomic questionnaire contained in the same survey. [1] The question is formulated as follows:

Comparing your CURRENT ECONOMIC SITUATION to that of ONE YEAR AGO, how do you consider AT THIS POINT your possibilities for you or somebody else in your household of buying items such as furniture, televisions, washing machines, other household electrical appliances, etc?

1. Greater
2. The same
3. Lower
4. Don't know

The econometric methodology used to analyze the qualitative responses to the question above was the multinomial logit model.[2] The dependent variable was constructed in such a way so as to indicate if the respondent had a greater, equal or lower possibility of purchasing household electrical appliances.[3] With a given a set of explanatory factors, we can proceed to estimate the probability of each of the three answers above.

Using the Wooldridge mathematical notation (2002), the multinomial logit model consists of the following: let ***y*** be a random variable that can take on the values ***k = 0***, **1,...,** ***C* - 1** where ***C*** is a positive integer number and represents the total number of classes; let ***x*** be a vector (***1 x N***) of explanatory variables with the first element equal to the unit. Thus, the multinomial logit model has the probabilities of response given by:

$$P(y=k|x)=\exp(x\beta_k)\Big/\left[1+\sum_{h=1}^{C-1}\exp(x\beta_h)\right],\ k=1,\ldots,C-1 \qquad (1)$$

where β_k is ***N x 1***, ***k* = 1,..., *C* - 1** Since the probabilities of response must add up to one, then

$$P(y=0|x)=1\Big/\left[1+\sum_{h=1}^{C-1}\exp(x\beta_h)\right]. \qquad (2)$$

The model given by equations (1) and (2) was applied to the answers to question 8 in order to determine whether the region and the schooling level of the surveyed people could be an influence on the possibility of purchasing household electrical appliances in relation to a given region or level of schooling. In order to do this, dummy variables were used to represent certain regions and various levels of schooling both arbitrarily defined.

The econometric results indicate that the surveyed people from the Touristic, Industrial, Medium Development and Low Development regions tend to respond significantly that they have a greater (rather than lower) possibility of making purchases than those surveyed in the High Development region. Moreover, if the level of schooling of surveyed people is lower than those with post-high school studies, then their propensity to respond "greater probability" (versus lower) is significantly below one, and decreases as this level falls (see Table 13).

One alternative to provide a better comprehension of the results in Table 13 would be to quantify the influence exerted by the region and level of schooling in terms of the estimated probability for each of the three responses analyzed in this research: greater, the same or lower possibility of purchasing appliances. The results are shown in Table 14.

[1] The data from the socioeconomic questionnaire contains information about the state to which the household of each given respondent pertains. The grouping per region was done according to economic vocation and level of development: High Development: 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. For more information on the method used for this regionalization, please see Mexico Regional Sectorial Outlook, "Agrupamiento Regional, Cómo y Para Qué", November 2007. BBVA Bancomer.
[2] Given that the dependent variable is discrete with various possible responses, the logit and probit multinomial are two possible methodologies to use in order to estimate the probability of each response. Kropko (2008) shows, through simulations, that the logit almost always provides more precise results than the probit. Likewise, Cameron and Trivedi (2009) state that the logit achieves a convergence much faster than the probit multinomial, which means less calculation time. An ordered logit model was also tried, but the estimated probabilities of the responses presented substantial differences with the shares in the sample of the responses for certain regions or levels of schooling. Therefore, a decision was made to use the multinomial logit model.
[3] For purposes of this econometric analysis, the respondents who chose the "Don't know" answer were not taken into consideration.

Table 13
Odds ratios and statistic values *t*[1]

	Greater		The same	
	Odds ratio	Statistic *t*	*Odds ratio*	Statistic *t*
Intercept	0.02 ***	(-26.52)	0.68 ***	(-11.8)
Touristic	14.54 ***	(16.1)	1.11 *	(1.73)
Industrial	8.27 ***	(14.25)	1.00	(0.13)
Medium Development	9.46 ***	(15.1)	1.22 ***	(5.68)
Low Development	9.75 ***	(13.82)	1.69 ***	(10.69)
None or preschool	0.09 ***	(-11.06)	0.21 ***	(-21.63)
Elementary or Secondary	0.34 ***	(-24.11)	0.43 ***	(-36.21)
High school	0.79 ***	(-4.45)	0.76 ***	(-9.58)

1/ The odds ratios indicate the number of times the probability of responding "greater" or "the same" versus "lower" in comparison with the High Development region or with a post high-school level of schooling.
* Significant at 10%; ** 5%; *** 1%.
Source, BBVA Research with INEGI data.

Table 14
Probabilities of responding "greater", "the same" or "lower" to ENCO's question 8 by geographical region and level of schooling*

	Greater				The same				Lower			
Region / Level of schooling	Post-high school	High school	Elementary or Secondary	None or pre-school	Post-high school	High school	Elementary or Secondary	None or pre-school	Post-high school	High school	Elementary or Secondary	None or pre-school
High Developmnt	0.01	0.01	0.01	0.00	0.40	0.34	0.23	0.13	0.59	0.65	0.77	0.87
Touristic	0.14	0.13	0.07	0.02	0.37	0.32	0.23	0.14	0.49	0.55	0.70	0.84
Industrial	0.09	0.08	0.04	0.01	0.37	0.31	0.22	0.13	0.54	0.60	0.74	0.86
Medium Develop.	0.10	0.09	0.05	0.01	0.41	0.35	0.25	0.15	0.49	0.56	0.70	0.84
Low Developmnt	0.08	0.08	0.04	0.01	0.49	0.43	0.32	0.19	0.43	0.49	0.64	0.79

*/ */ A multinomial logistic model was calculated without considering the response option "Don't know"; only 2011 and 2012 data were used.
Source: BBVA Research with INEGI data.

The results above must be interpreted with caution since the ENCO survey was designed to be representative at the national level. In other words, there is a relatively high probability that the surveyed people are not representative of each of the five regions or of each of the four levels of schooling used in this analysis.

References

Cameron, A. C. and P.K. Trivedi (2009). Microeconometrics Using Stata. TX: Stata Press.

Kropko, J. (2008). "Choosing Between Multinomial Logit and Multinomial Probit Models for Analysis of Unordered Choice Data." Document presented at the annual meeting of the Midwest Political Science Association, Chicago, Illinois, April 5, 2008.

Wooldridge, J.M. (2002). Econometric Analysis of Cross Section and Panel Data. Cambridge: MIT Press.

3.b The electronics industry in Mexico and the challenge of increasing productivity

This time the regional sectorial analysis will focus on the electronics sector, one of the two leading manufacturing sectors in Mexico in terms of contribution to total manufacturing exports. This special report of the Regional Sectorial Outlook consists of three sections. In the first, we address the electronics business model and how its components interact. In the second, we present the trends of the global electronics sector and the industry leaders. In the third, we will describe the importance of this industry in Mexico and its recent developments. To conclude, we will go over the challenges remaining to reinforce the sector's competitiveness.

Business model of the electronics value chain

The concept of modularity in the value chain is a variation of the global value chain in which the leading companies (OEMs)[1] concentrate on the development of the competitive advantage. However, due to the constant demands to reduce costs and increase the flexibility and agility of the manufacturing system, OEMs began to outsource the manufacturing services to the EMS.[2] Subsequently, ODMs[3] and ECMs emerge as a natural evolution from EMS.[4] The outsourcing of manufacturing processes give OEM companies access to production technologies and processes, reduce labor capital requirements, obtain greater flexibility in production and consolidate purchasing. The presence of ECMs has increased considerably in Mexico; there are 37 industrial plants pertaining to 22 ECMs operating in Aguascalientes, Chihuahua, Jalisco, Nuevo León and Tamaulipas.[5]

Table 15
The global value chain

OEMs (Dell, Hewlett Packard, IBM, NEC, Nokia, Panasonic, Sony, among others)	Design, innovation, marketing, distribution and sales	Industries: - Consumer electronics - Automotive industry - Renewable energy - Appliances - Electronic industry
EMS (Celestica, Elcoteq, Flextronics, Foxconn, Sanmina SCI, among others)	Manufacturing, final assembly, testing, post sales services, support, global handling of the supply chain, among others	
ODMs / CEMs (Asustek, Compal, Inventec, Quanta, Tatung, Wistron, among others)	Assembly, manufacturing and design	

Source: BBVA Research with data from the Minister of Economy

[1] OEMs *Original Equipment Manufacturers*.
[2] EMS, *Electronics Manufacturing Services*, are companies that work with manufacturers to reduce production costs and focus efforts on design, innovation, marketing, etc.
[3] ODMs, *Original Design Manufacturers* are companies that, in addition to providing manufacturing and assembly services, also offer design and engineering services. Some OEMs even offer and market their own products and have their own brands and plants in various countries.
[4] ECMs *Electronic Contract Manufacturing* contract manufacturing in which added value projects are offered: high/low mix volume, high flexibility, engineering, testing and customized solutions. They also cover R+D activities and global OEM clients.
[5] For more information, please see *Monografía de la Industria Electrónica*, October 2012, Minister of Economy.

How do these agents interact in the electronics industry?

Profound changes are being made in the international electronics industry in terms of product and process technologies, internal organization of companies, interaction between companies and marketing. This is, for example, reflected on the distribution of design and production activities in several countries (modular distribution of the value chain).

The digitization of electronics and information technology have led to standardization, broadening the scope of what can be achieved by allowing the components and elements of the system to be replaced without the need to completely redesign the product. This "product modularity" provides, in turn, for a high level of "value chain modularity", in which companies can contribute to carrying out multiple processes. In this way, component manufacturers can be replaced without the need for major engineering changes.[6]

Classification of electronics products[7]

For purposes of this document, the electronics sector includes:

Products for mass consumption: audio and video equipment, household electrical appliances and computing equipment.

Professional electronics products: industrial and medical electronic equipment, aerospace and defense equipment, as well as computing equipment such as servers, macrocomputers and data processing equipment in general, and telecommunications equipment for networks and infrastructure.

Automobile electronics products: equipment for engine, transmission and chassis control, as well as braking, suspension and stability control systems, and security and information equipment.

The importance of the global electronics industry

The electronics industry is the most dynamic industry in the world. It relies heavily on innovation and cutting-edge technology. The sector is highly globalized and strategic. Its presence in the production processes and contents of products manufactured in other sectors is constantly growing: automotive, household electrical appliances, measurement instruments, manufacturing machinery, medical, photographic and photocopying equipment and toys. Its constant, rapid evolution generates positive externalities: it is continuously boosting company productivity.

Key factors to a prosperous future for the industry in the world

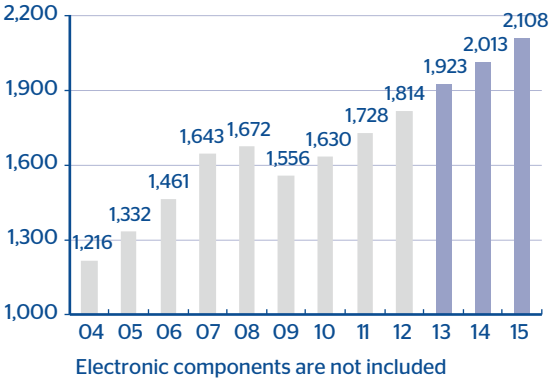
- Advances in investment in research and development have led to greater productivity and higher value-added of electric and electronic products.
- Increased FDI has led to accelerated growth in the production and export of electronic products. Foreign companies, which are now making major investments, are installing and extending their production capacity in developing countries.
- The increase of income and lifestyle improvements have resulted in an increased demand for electronics. This is especially true for consumer electronics.
- The fast pace of innovation in electronics is leading to a constant demand for new products.
- The production of items is gradually moving to low-cost destinations, markets that, in turn, provide a potential market in the medium term.

[6] For more in-depth reference, please see *Global Value Chains in Electronic Industry, Policy Research, Working Paper 5417, World Bank, September 2010*
[7] According to the classification of *World Electronics Industries*

Some recent trends

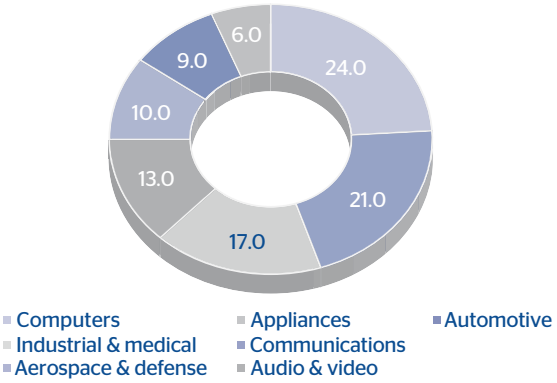
After the crisis, the global production of electronics experienced an average growth of 6.0%. In 2012, the global production of electronics (excluding electronic components) is estimated at 1,814 billion dollars; by 2015, the production value could therefore be over 2,100 billion dollars, with a compounded annual growth rate (CAGR) of 5.1% for the 2011-2015 period. Consumer electronics (computing, communications, audio and video, and household electrical appliances) account for the largest share of production (70%).

Chart 39
World electronics production (billions USD)



Source: BBVA Research with data from World Electronic Industries

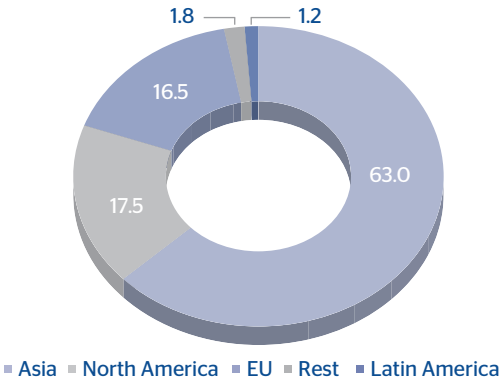
Chart 40
World electronics production (%, total)



Source: BBVA Research with data from World Electronic Industries

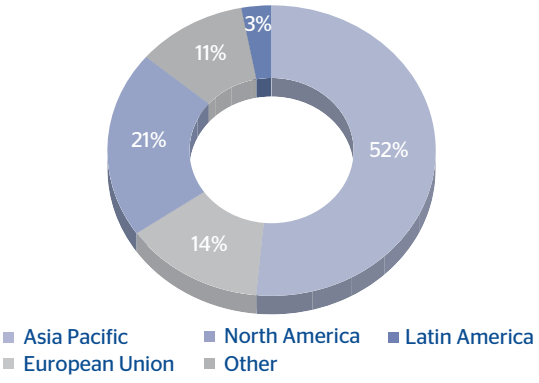
The geographical area with the biggest share of electronics production in the world is Asia Pacific. This region includes the three primary producers of electronics in the world: China, South Korea and Taiwan. North America is the second most productive region followed by the European Union. The leading consumers of electronics are China, Japan and Taiwan.

Chart 41
Global production by geographical area (%)



Source: BBVA Research with data from the Minister of Economy

Chart 42
Global electronics consumption by geographical area (%)



Source: BBVA Research with data from the Minister of Economy

Electronics in Mexico

Competitive advantages

In general terms, Mexico has both static and dynamic competitive advantages. The static advantages include: the strategic geographical location to supply one of the largest markets in the world (USA - less than one day from the border by land); abundant labor force at competitive prices (this has favored the migration of companies and return of others due to relatively lower costs); and preferential access

to third markets (Mexico has 43 trade treaties all over three continents), though the advantage is vanishing as other countries begin to participate.

The dynamic advantages primarily include investment and the country's capacity to develop its human resources (labor productivity) and infrastructure. Labor productivity in Mexican manufacturing has grown very little in the last 5 years and has been erratic, specifically with a 1.4% average in 2007-2012 compared with Korea's 5.2% average for the same period, which is reflected on low wages. The low productivity is the effect of unskilled workers, a low level of training and few refresher courses and little use of technology.

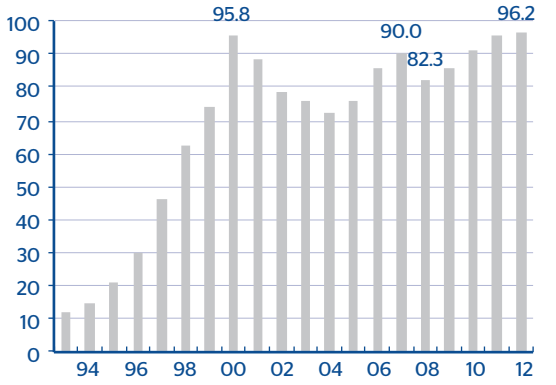
In the case of the electronics industry in Mexico, the static competitive advantage is normally the most important given short delivery times, preferential access to the primary market in the US and relatively low labor costs. This industry is primarily oriented to the export markets in which it is well positioned at the international level, especially in consumer electronics. The leading global companies are present in the country through their investment not only in manufacturing, but also in research and development: Samsung, LG, Toshiba, Foxconn, Flextronics and Intel.

Some recent trends

Production

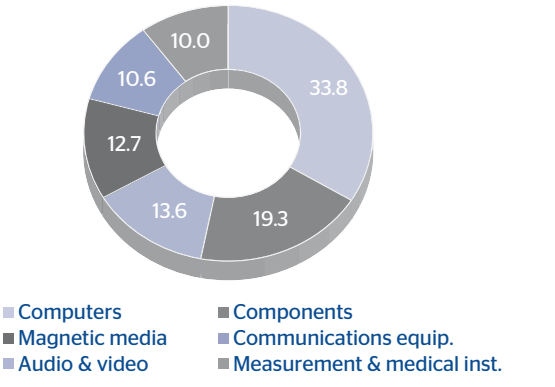
In 2008, production in Mexico shrank due to the world crisis and the slowdown of the US market. However, in 2012, it was able to return to the highest levels of recent years. The manufacture of computing equipment and peripherals represented the category with the greatest weight in production (33.8%), followed by electronic components (19.3%); the majority of production is concentrated on the consumer goods segment.

Chart 43
Production of electronic devices and equipment (billions of nominal pesos)



Source: BBVA Research with INEGI data

Chart 44
Structure of electronics production in 2012 (%)



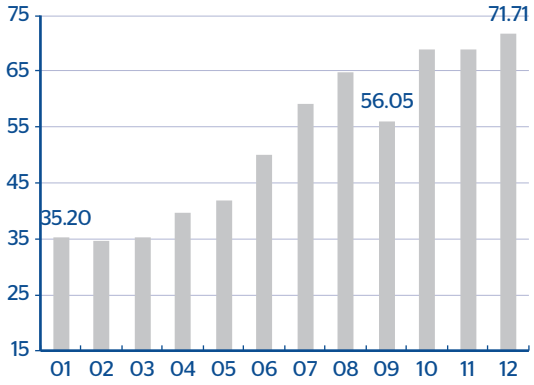
Source: BBVA Research with INEGI data

Exports

In 2012, exports were estimated to have reached a total of 71,700 million dollars, a rise of 4.2%. The United States and Canada were the primary destinations for the exports in 2012, with 84.0% and 3.0% shares in the total, respectively. China and Colombia were far behind, with a 1.1% share each of them.

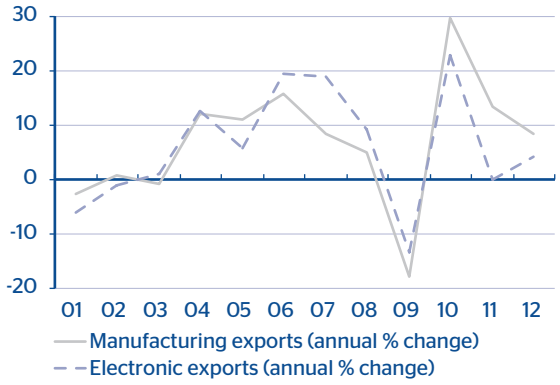
The products with the greatest share in electronics exports were computers (25.5%), televisions (24.2%), telephony devices (23.9%) and medical instruments (6.5%), together they represent 80.0% of total exports. This high level of concentration reflects Mexico's specialization in mass consumption products.

Chart 45
Mexico's electronics industry exports (billions USD)



Source: BBVA Research with INEGI data

Chart 46
Mexico's electronics industry exports (annual % change)



Source: BBVA Research with INEGI data

Table 16
Main electronic products exported by Mexico

	billions USD			% share in total			CAGR* (%)	
	2002	2007	2012	2002	2007	2012	2007/2002	2012/2007
Total	**34.8**	**59.3**	**71.7**	**00.0**	**00.0**	**00.0**	**11.3**	**3.9**
Industrial, commercial and medical	3.0	5.5	6.6	8.7	9.2	9.2	12.5	3.8
Medical devices	1.8	3.6	4.7	5.0	6.1	6.5	15.4	5.4
Others	1.3	1.9	1.9	3.7	3.2	2.7	7.9	0.4
Computer and office equip.	11.9	11.3	19.3	34.2	19.0	26.9	-1.1	11.3
Data processing mach.	9.3	8.9	18.3	26.6	15.0	25.5	-0.8	15.5
Others	2.6	2.4	1.0	7.6	4.0	1.5	-2.0	-15.3
Audio and video	15.4	36.1	39.5	44.2	60.8	55.1	18.6	1.8
Telephony devices	3.2	9.0	17.2	9.1	15.2	23.9	23.3	13.8
Televisions	6.7	21.8	17.3	19.3	36.7	24.2	26.6	-4.4
Others	5.5	5.3	5.0	15.8	8.9	7.0	-0.8	-1.1
Other	**4.5**	**6.5**	**6.3**	**12.8**	**10.9**	**8.8**	**7.8**	**-0.6**

* Compounded Annual Growth Rate
Source: BBVA Research with INEGI and SIAVI data

The majority of the electronic items are exported to the NAFTA zone - USA and Canada -, with only television and telephony devices presenting a modest diversification.

Table 17
Primary destination countries for electronic equipment (% share)

	2007	2008	2009	2010	2011	2012
TV sets						
U.S.	91.3	89.3	88.1	83.8	84.8	83.5
Canada	4.7	5.4	6.4	6.9	6.3	5.5
Colombia	1.4	1.7	2.2	3.0	2.6	3.0
Telephones						
U.S.	72.8	69.8	66.3	9.7	71.5	70.1
Canada	6.3	3.7	13.5	12.0	6.1	4.0
China	1.1	1.1	1.1	1.1	1.3	3.6

Source: BBVA Research with SIAVI data

Table 18
Primary destination countries for electronic equipment (% share)

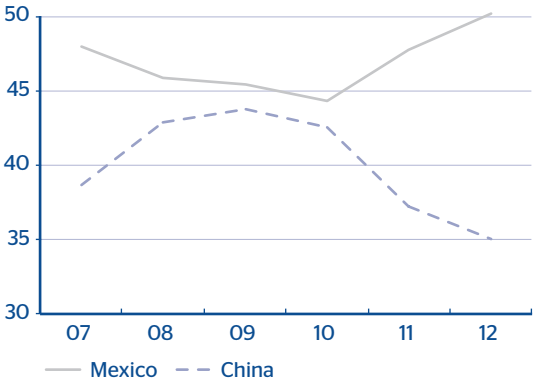
	2007	2008	2009	2010	2011	2012
Computers						
U.S.	83.7	85.7	90.3	93.2	93.1	91.9
Netherlands	3.6	1.9	0.6	0.5	1.0	0.8
Canada	2.3	2.3	1.5	1.0	0.8	0.8
Medical equip.						
U.S.	91.3	89.3	88.1	83.8	84.8	83.5
Canada	4.7	5.4	6.4	6.9	6.3	5.5
China	1.4	1.7	2.2	3.0	2.6	3.0

Source: BBVA Research with SIAVI data

US market share

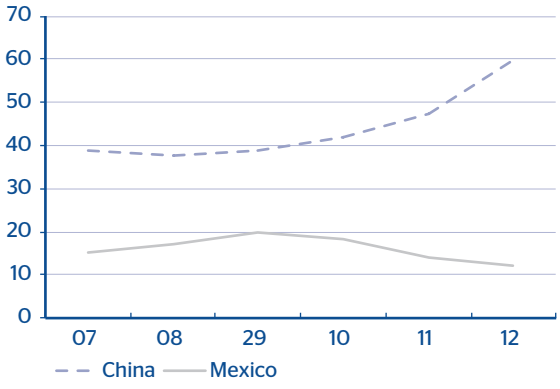
In the US market, the competitiveness of the televisions manufactured in Mexico is growing and the gap with its closest competitor (China) is widening. However, Mexico's competitiveness in telephone devices is falling significantly.

Chart 47
Competitiveness of TVs in the US (% share in US imports)



Source: BBVA Research with USITC data

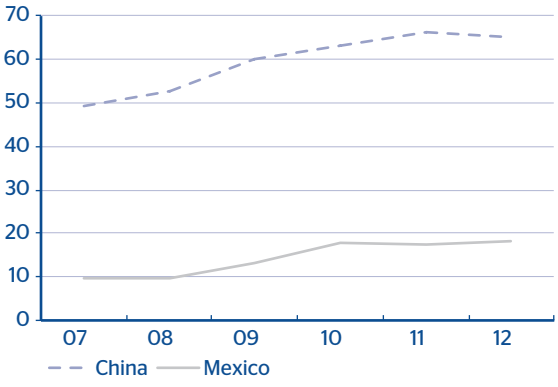
Chart 48
Competitiveness of telephony devices in the US (% share in US imports)



Source: BBVA Research with USITC data

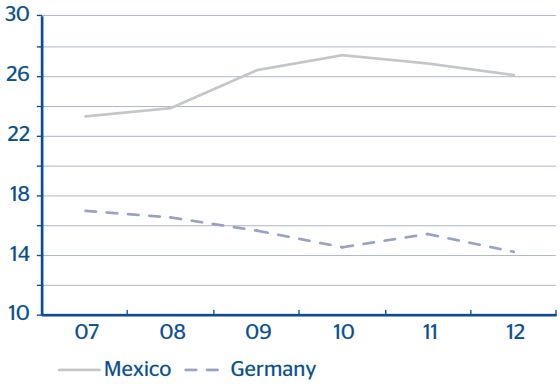
In the US market, the competitiveness of computers manufactured in Mexico is growing, but still lags far behind China. In medical equipment, Mexico's competitiveness remains distant from that of Germany, its main competitor.

Chart 49
Competitiveness of computers in the US (% share in US imports)



Source: BBVA Research with USITC data

Chart 50
Competitiveness of medical devices and equipment in the US (% share in US imports)

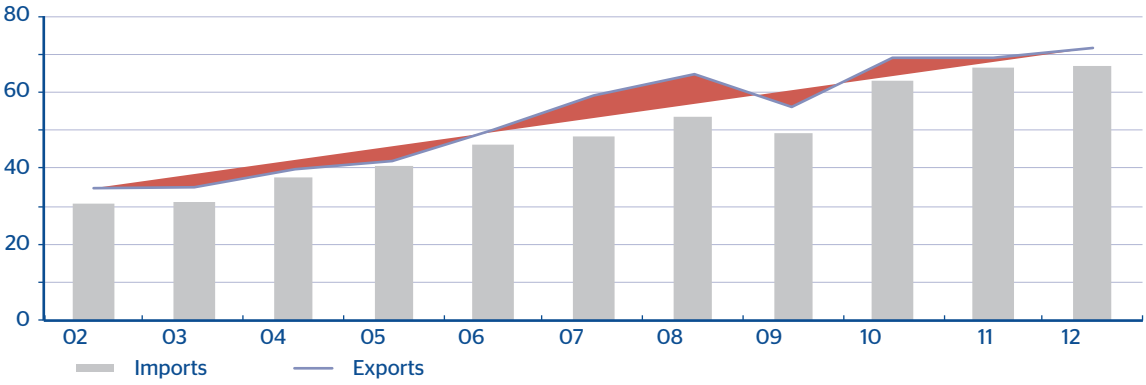


Source: BBVA Research with USITC data

Imports

In 2012, imports of electronic components, parts and consumption goods totaled 67 billion dollars. The import trend is upward, with the exception of some isolated cases. Because of its stimulating effect on economic growth, most countries have backed liberal policies promoting development of and guaranteeing access to advanced products, systems and services. Often, governments have supported incentives for investment, including that from multinational companies. The majority of Mexico's imports are parts and components used in the manufacture of televisions, computing equipment and telephony. Asia is the predominant origin of these components. Computers and mobile phones are the most significant consumption goods.

Chart 51
Imports by the electronics industry
(billions USD)



Source: BBVA Research with INEGI data

Table 19
Main electronic products imported by Mexico

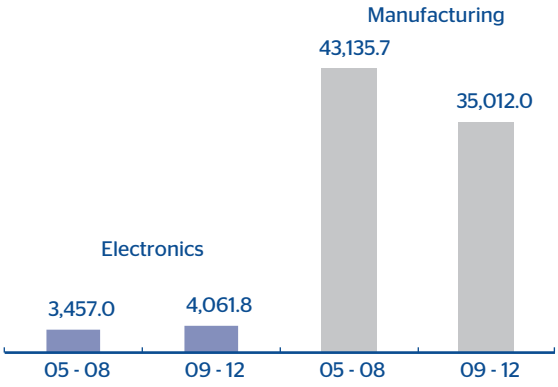
	billions USD			% share in total			CAGR* (%)	
	2002	2007	2012	2002	2007	2012	2007/2002	2012/2007
Total	**30.6**	**48.5**	**66.9**	**100.0**	**100.0**	**100.0**	**9.7**	**6.6**
Parts and components	13.5	16.3	20.1	44.2	33.6	30.0	3.9	4.2
Devices and semiconductors	1.2	1.7	2.5	4.1	3.5	3.7	6.1	8.2
Circuits and microstructures	7.5	9.0	11.6	24.7	18.6	17.3	3.7	5.0
Circuit connection and switching devices	3.6	4.6	5.1	11.7	9.5	7.6	5.2	1.9
Others	1.1	1.0	1.0	3.7	2.0	1.4	-3.1	-0.1
Computer and office equip.	8.7	9.9	13.7	28.4	20.4	20.5	2.6	6.8
Computers	4.5	5.8	8.2	14.8	12.0	12.3	5.2	7.1
Parts and accessories	4.2	4.0	5.5	13.6	8.3	8.2	-0.5	6.4
Audio, video & telecommunications equip.	6.7	19.6	29.8	21.9	40.3	44.5	24.0	8.7
Telephony devices	1.1	6.4	13.1	3.6	13.2	19.6	42.5	15.4
Parts for TV broadcasters and recorders	1.7	8.4	9.9	5.6	17.2	14.8	37.4	3.5
Others	3.9	4.8	6.7	12.7	9.9	10.0	4.3	6.9
Others	**1.7**	**2.8**	**3.3**	**5.6**	**5.7**	**5.0**	**10.2**	**3.9**

* Compounded Annual Growth Rate
Source: BBVA Research with INEGI and SIAVI data

Foreign Direct Investment

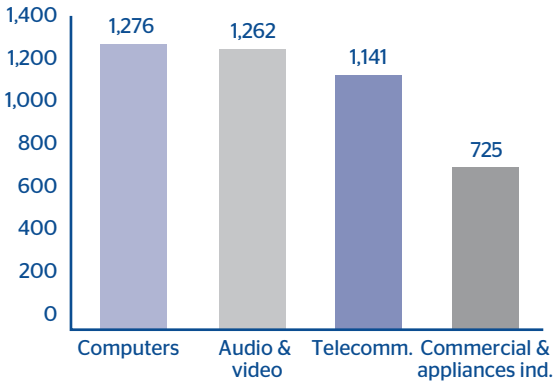
Foreign direct investment in electronics increased in the 2009-2012 period with respect to 2005-2008, in contrast to the downward trend of FDI towards manufacture in Mexico in the same periods. The growing flows to this sector is a positive determining factor for its growth as they increase the capital stock in Mexico, technology diffusion and labor productivity of the companies operating in Mexico, especially in areas where the human capital is more skilled.

Chart 52
Foreign Direct Investment in the electronics industry (millions USD)



Source: BBVA Research with data from the Minister of Economy

Chart 53
Foreign Direct Investment in various electronics products (millions USD)



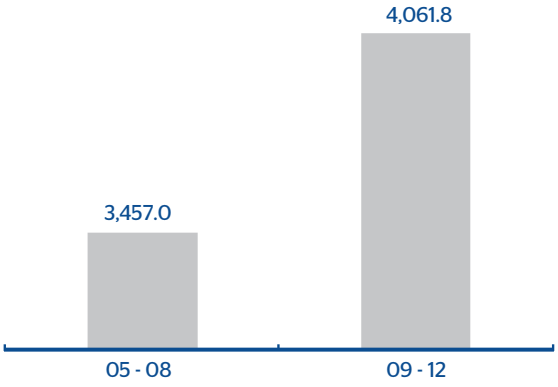
Source: BBVA Research with data from the Minister of Economy

In recent years, and even after the crisis, FDI in electronics has maintained an upward trend. By state, Chihuahua experienced the greatest growth in the recent period which positively contributed to employment and wages. The outstanding results in electronics have ended up in the creation of large-scale clusters, like those seen in Jalisco, Chihuahua and Baja California.

Chart 54
Geographical location of the electronics industry and sector of specialization

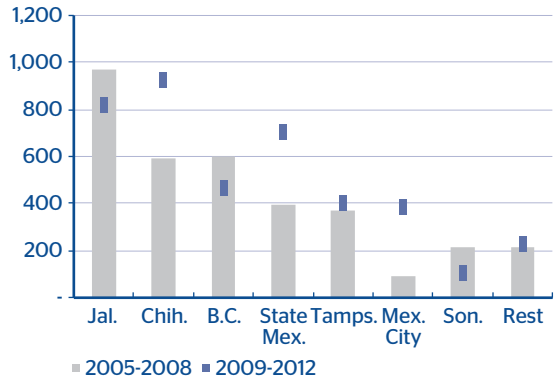
Source: BBVA Research with data from the Minister of Economy

Chart 55
Foreign Direct Investment in the electronics industry (millions USD)



Source: BBVA Research with data from the Minister of Economy

Chart 56
FDI in the electronics industry by state (millions USD)



Source: BBVA Research with data from the Minister of Economy

The weight of the electronics industry varies across the states. Electronics is more important in the economies of Chihuahua, Baja California and Tamaulipas, compared with Morelos, Coahuila and the State of Mexico, where their economies are more diversified.

Clusters in Mexico

Areas where Mexico is most attractive:

1) Products with high transportation costs; for example, nearly 20% of the final cost of a video game console is due to transportation. Large and heavy products are suitable for manufacturing in Mexico.
2) Products with complex logistics. In other words, those with last-minute configuration and short response times requirements. Transportation costs rise in the case of rapid shipment.
3) Products requiring intensive development. This refers to products with an intense interaction between design, research and development, engineering, configuration, testing and developing prototypes. They also tend to require close collaboration with engineering, with multiple changes being introduced during the launch of new products. Long distances and major time zone differences, as in the case of Asia, make this type of manufacture very difficult.
4) Regulated products: Specific regulations, like tariffs and rules of origin. For example, an 18% tariff is applied in the US to mobile phones manufactured outside of NAFTA; this has allowed the production of higher-value mobile phones to remain in Mexico, despite the fact that they are produced in large volumes in China, where it would be more appropriate to manufacture them.

The changes in the last decade in electronics have allowed for not only the development of new capacities, but have also have served to attract new high-mix, low-volume businesses. These are a reflection of the industrial modernization in which there is a shift towards a greater value-added or scaling up the value chain; but it is important to highlight that product development continues to take place abroad. There are three major electronics clusters in Mexico, and they are located in the states of Jalisco, Baja California and Chihuahua.

The Guadalajara, Jal. cluster

This state houses an important cluster of the electronics sector, made up of approximately 13 OEMs, 14 ECMs/EMS and 26 design centers.

It is the leading state in IT product manufacturing. There are also more than 150 software companies. The main OEMs established in this state include Continental, HP, IBM, Intel, PCE, Siemens VDO, VOIT and Technicolor.

One of the most important concentrations at the global level of electronic contract manufacturing (ECM) was developed in this state, with 6 of the largest having a manufacturing plant, including Celestica, Flextronics and Foxconn. It also has design centers including Global Vantage (electronic and mechanical design for the aeronautical industry) and Intel (integrated circuit design). The products it manufactures are computers (PCs), servers, printers, telephones, mobile phones, set-top boxes, CDs, DVDs and modular circuits (PCBAs).

Foreign direct investment targeted at the electronics sector in Jalisco totaled 819 million dollars in the 2009-2012 period. It accounts for 20.2% of total investment in electronics in Mexico (see Charts 55 and 56).

The Baja California cluster

Baja California hosts an important electronics sector cluster where world leaders in audio and video equipment have installed a manufacturing plant. The cluster is made up of approximately 212 companies; 15 OEMs and nearly 200 specialized suppliers. The principal OEMs established are: from Japan: Kyocera, Mitsubishi, Panasonic, Sanyo, Sony and Sharp; Korea: LG Electronics and Samsung; the United States: Skyworks and from China: Adi and Foxconn.

This state manufactures printed circuits, harnesses, marine sonar, inductors, connectors, mobile phones, electronic panels, microchips, semiconductors and mainly televisions, to name a few. Every year, more than 20.4 million televisions are manufactured, accounting for 62.4% of all televisions manufactured and exported to the United States in 2010; as a result, Tijuana is known as the TV capital of the world.

Five of the 25 leading electronics export companies in Mexico are located in Baja California: Samsung Mexicana (3), Sony (8), Sharp Electrónicos México (11), Panasonic AC Network (12) and Skyworks Solutions de México (17).

Baja California is also the fourth leading state in FDI reception in the electronics area. The FDI generated in the electronics sector by companies established in this state in the 2009 and 2012 period stood at 472 million dollars, representing 11.6% of the total investment generated by the electronics industry in that period. The origin is primarily Asia, and it has consolidated itself as one of the primary destinations for Japanese, Korean and Taiwanese investment in Mexico.

The cluster in Chihuahua

In Chihuahua, an important industrial cluster has also been developed; it focuses primarily on the manufacture of video equipment (color TVs) and, to a lesser extent, telecommunications equipment. Companies in the state: Ciudad Juárez (75%) and Chihuahua (25%). The main OEM firms include Lexmark, Scientific Atlanta de México, Thomson and Toshiba which operate as subcontracting manufacturers. Also, several important ECM companies are also located in this region: ECMMS, Flextronics, Foxconn, Jabil, Plexus, SMTC, Tatung and Wistron.

More than 6.3 million TVs are manufactured per year in Chihuahua, which represents 19.3% of the total TVs manufactured in 2010. In 2011, eight companies with manufacturing plants in Chihuahua housed the 25 largest electronics exporters in Mexico: PCE Technology de Juárez (1), ECMMS (6), Wistrón de México (10), Jabil Circuit de Chihuahua (15), Scientific Atlanta de México (16), Tatung de México (18), Foxconn México Precisión Industry (19) and IEC Technologies (21). Total exports from those companies accounted for 23.7% of all exports of the electronics industry in 2011.

The FDI generated by the electronics sector in Chihuahua in the 2009-2012 period stood at 932 million dollars, representing 23% of the total investment generated by that sector in the period.

Conclusions

At a global level, the electronics industry is undergoing a productive restructuring characterized by the emergence of digitization and, with it, the modularity of the industry. As a result, it has experienced significant levels of growth that are much higher than those from traditional industries. The growing presence of Asian countries such as Taiwan, Korea and Indonesia reflects increasing productive relocation, which has also benefited Mexico.

Electronics has established itself as one of the most important sectors in the manufacturing industry, as shown by its levels of production, FDI and, in particular, exports. Consumer electronics, particularly televisions, mobile phones and computers, have taken the form of large-scale clusters in diverse regions in the country. Nevertheless, the electronics industry in Mexico is at a critical phase of its development. On the one hand, there is slow growth of the US economy; and on the other, some depletion of Mexico's traditional competitive advantages (location, NAFTA and low cost of labor), which are no longer determining factors given the rapid advances of technology and emergence of digital technologies in which the dynamic competitive advantage plays an increasingly important role (skilled workers, energy prices, road and communications infrastructure).

The major challenge faced by the electronics industry today is scaling up to a higher level of value, for example, with the production of integrated circuits. However, their manufacture requires abundant water resources and effective environmental regulations to protect ecosystems.

3.c Key sectors to an effective energy reform

In the previous issue of ***Mexico Regional Sectorial Outlook*** we presented an article that describes the challenges and opportunities for several energy products that are key to economic development. In the text of such article, operational aspects specific to the oil, petrochemical, natural gas and electricity sectors were mentioned. The analysis of these aspects included the extraction, production and transportation of hydrocarbons, as well as the low geographical interconnection and relatively high reserve margin in the electricity sector. Moreover, topics regarding corporate governance and regulatory frameworks were highlighted for the two main state-owned energy companies: PEMEX and CFE.

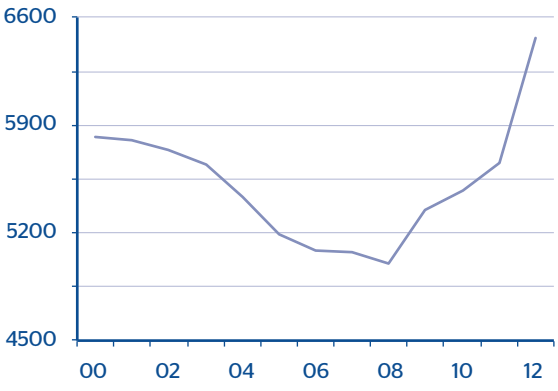
In this section, we will comment on the energy sectors that, if included as part of the energy reform bill, would increase its positive economic effects.

Oil production, commercialization and refining: three topics requiring a unifying approach

One of PEMEX's major challenges consists of maintaining or increasing crude oil production. This output peaked at 3.4 million barrels per day in 2004, then entered into a decline trend to level off at approximately 2.5 million barrels per day in recent years. Given the limitations of the state-owned company in its management and execution capacity (due to both its role as the primary source of fiscal revenue and its obsolete corporate governance scheme), the energy reform bill will necessarily have to provide room for private investment in oil exploration and production.[1]

But even if crude oil production in Mexico could be maintained or even increased, there is a significant cause for concern coming from the greater production of this hydrocarbon in our largest importer.[2] In recent years, the exploitation of large non-conventional oil fields (shale oil) in the US has contributed to raise the production levels. This situation has had an adverse impact on Mexican crude oil exports to the US, which have been showing a clear downward trend since 2004.[3] Using data from the Energy Information System (SIE, for its acronym in Spanish), our calculations show a 35.4% drop from the peak reached by exports in 2004. Furthermore, the US Energy Information Administration (EIA) expects the country's net imports to be down to 6 million barrels per day by 2014 (7.4 million in 2012). Consequently, crude oil exports to the US will very likely decline in the coming years and alternative markets will have to be found.

Chart 57
Crude oil production in the US (thousand barrels per day)



Source: BBVA Research with data from the Energy Information Administration

Chart 58
Crude oil exports to the US (thousand barrels per day)

Source: BBVA Research with data from SIE

[1] During the Mexico Energy Summit, held on March 6-7, 2013, Carlos Morales Gil, General Director of PEMEX *Exploración y Producción*, indicated that mature fields, Chicontepec, deep-water and non-conventional resources require a greater execution capacity than what is available. In other words, it will only be possible to generate greater net present value in these projects with greater investment.
[2] Our calculations using SIE data show that 76.2% of Mexican crude oil exports in 2012 went to the US.
[3] The SENER has warned that increased US oil production could mean that this country stops buying oil from Mexico, highlighting the need for a contingency plan. For more information see "*Alerta Sener efecto por EU*", April 5, 2013, Business section of the *Reforma* newspaper.

According to calculations by the Mexican Ministry of Energy, Mexico could shift from being a net exporter to becoming a net importer of hydrocarbons by the year 2022. In other words, the country will import more oil-related products than what it will export of oil.[4] This situation is an opportunity and, at the same time, a major challenge to make the oil refining industry an alternative market for the commercialization of the oil that could not be exported. Nevertheless, it is quite common that the oil that cannot be sold abroad often causes a considerable problem in the National Refining System (SNR, for its acronym in Spanish) since it does not guarantee a supply of a uniform oil mix and, therefore, of predictable quality.[5] For these reasons, a major boost to the refining infrastructure will have to be made through the reconfiguration and increase in the SNR's installed capacity, in order to make the alternative of using more crude oil for this process operational and profitable. Nowadays, PEMEX's capacity for executing refining projects would not be sufficient to make good on this alternative.[6] As a result, the energy reform bill, for example, would have to open up gasoline production and distribution to the private sector. It is worth mentioning that, in the short term, gasoline purchases would be more convenient than producing it due to reasons of comparative advantage.

Energy security is an issue that is undoubtedly related to the refining industry. This concept refers to the conditions that guarantee the quality, continuity and adaptation of the energy supply to a country.[7] In the case of gasoline, various elements reveal that these conditions are not in place. First, quality does not appear to be a real priority, given that the NOM 086, which was established to guarantee the ultra-low sulfur content requirements in accordance with the new environmental regulations, has not been binding. This situation has delayed Mexico's introduction of technologically advanced engines that emit fewer pollutants. Second, there are risks to the continuity of fuel supply given the inadequacy of the self-sufficiency in the domestic market. Using information from the SIE and Mexican Minister of Finance (SHCP, for its acronym in Spanish), our calculations reveal that the proportion of gasoline imports in the national consumption of gasoline was 52.3% in 2012.[8] Therefore, these two elements that are detrimental to energy security also expose the need to reconfigure plants and increase the refining capacity.

The elimination of the legal definition of basic petrochemicals, partnerships with the private sector and budget plans for more than one six-year term: elements to consider for an effective energy reform

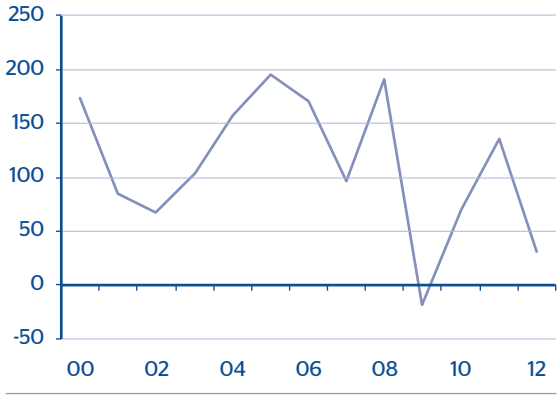
One of the most significant problems in the national petrochemical industry is the lack of production chains integration.[9] The current regulatory framework, which establishes the segmentation of petrochemicals into basic and secondary products, probably explains much of this problem. Other factors that could contribute to this disintegration of the production chains are the absence of public-private business associations that had prevailed until very recently and the lack of budget plans that extend beyond one federal government adminstration for both Pemex Gas y Petroquímica Básica (PGPB) and Pemex-Petroquímica (PPQ).[10]

[4] Within nine years, Mexico will import more gasoline, diesel, jet fuel, fuel oil, LP gas and natural gas than it will export of crude oil. For more information see the article "*Prevén déficit petrolífero*", April 5, 2013, Business section, *Reforma* newspaper.
[5] PEMEX Financial and Operational Indicators show that the SNR must be provided an average of 56% of light crude oil to maintain acceptable operating margins in more obsolete plants.
[6] During the Mexico Energy Summit held on March 6-7, 2013, Francisco Barnés de Castro, Commissioner of the Energy Regulatory Commission (CRE, for its acronym in Spanish), indicated that the total investment for the reconfiguration of several refineries and installation of two new plants would be approximately 51 billion dollars. This investment would be broken down into: (i) 22 billion dollars for the reconfiguration of the refineries in Tula, Salamanca and Salina Cruz; (ii) 11 billion dollars for each of the two new refineries (one in Tula and another with a capacity for 500 thousand barrels per day); and (iii) an additional 7 billion dollars for the new facilities. He also warned that, under the current PEMEX status quo, there would only be room for the modernization of plants provided that public funds were allocated to it. Our calculations show that 95.7% of the total public investment budget approved for PEMEX in 2012 would have to be allocated to this reconfiguration alone.
[7] For further details on the relevance of energy security, see the document "*Un nuevo comienzo para el petróleo mexicano: principios y recomendaciones para una reforma a favor del interés nacional*", November 2012, published by the Woodrow Wilson International Center for Scholars (Mexico Institute) and the *Instituto Tecnológico Autónomo de México* (ITAM, for its acronym in Spanish).
[8] To calculate the national consumption of gasoline, we added the sales of Magna and Premium PEMEX gasoline (net of exports) to an estimate of what the IEPS excise tax on gasoline alone would be. To make this calculation, the gasoline and diesel IEPS tax was multiplied by the share of gasoline domestic sales in the total sales of those types of gasoline and PEMEX diesel. Since the monthly sales data for 2012 was in pesos and the value of gasoline imports was in dollars, the average FIX exchange rate for the corresponding month was used to convert the gasoline sales figures to dollars.
[9] For a description of some disjointed production chains, see the document "*Los retos de Pemex en la petroquímica*", Raúl Livas, 2008.
[10] The PEMEX Board of Directors approved the Pemex-Petroquímica co-investment project with Mexichem for the integration of the Salt-Chlorine/Soda-Ethylene-MC production chain. Press bulletin No. 3, PEMEX, January 16, 2013.

The lack of production chains integration in the petrochemical industry seems to be reflected on the evolution of a decreasing trade balance surplus. Chart 59 illustrates how the balance has maintained a negative trend since 2005. It is worth mentioning that, in June 2012, the capacity utilization rate of the plants in operation in PPQ reached 65.6%, 15 percentage points lower than in the same period of 2011.[11] This was due primarily to the fact that the test runs in the continuous catalyst generation plant in La Cangrejera complex that had been scheduled to start in March 2012 were not completed, which adversely affected the production of aromatics and derivatives.[12]

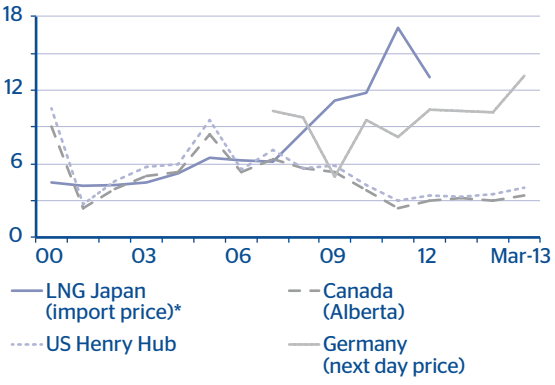
Currently, there is a favorable global economic environment for the development of the petrochemical industry, given the relatively low prices of its basic raw materials such as natural gas and ethanol. Particularly, in North America, the price of natural gas has remained at favorable levels in relation to other regions of the world. Now is the time to take advantage not only of this situation but also of the relatively favorable international position of Mexico in the eyes of global investors. The above situation could be capitalized through an energy reform bill that would include specific proposals that promotes the petrochemical national integration as well as modifications to the regulatory framework that give PGPB and PPQ enough flexibility to both to enable them to adapt their production levels to the dynamics set by competition and execute their investment projects in line with timetables.[13]

Chart 59
Petrochemical trade balance (millions USD)



Source: BBVA Research with SIE data

Chart 60
International natural gas prices[1] (dollars per million BTU)



1/ End of period prices
*/ Information corresponding to 2013 was not found in Bloomberg
Source: BBVA Research with Bloomberg data

Integrating petrochemicals with refining: a complementary way of increasing international competitiveness

One final element to mull over for making the energy reform bill even more effective would be the option of integrating the petrochemicals production into refining processes.[14] The petrochemicals industry is characterized by cyclical output price variations, relatively high energy and inputs transportation costs, little flexibility in the reprocessing of products and strict environmental regulations governing its operation. Because of these peculiarities, the integration of petrochemical processes with those of refining would improve competitiveness for the following reasons: (i) greater security of the supply of inputs with lower transportation costs and increased flexibility to use those more inexpensive; (ii) faster delivery of products and efficiency gains in their distribution; (iii) savings in storage and energy costs in the case of well-integrated hydrocarbon processes; and (iv) greater profit margins.[15]

[11] For more information, see the *Sexto Informe de Gobierno de la Presidencia de la República*, September 2012.
[12] For more information, see the 2012 Annual Report of Pemex-Petroquímica, February 2013.
[13] In the forum "*México, oportunidad y crecimiento*," organized by ProMéxico and the Council of the Americas, Emilio Lozoya mentioned that the PEMEX improvement process includes granting greater budget and operational flexibility to the company as well as implementing corporate best practices. *El Universal* newspaper, April 17, 2013.
[14] During the Mexico Energy Summit held on March 6-7, 2013, Abraham Klip Moshinsky, Chief Operating Officer of Industrias Bre S.A. de C.V., indicated that it would be advisable to integrate PGPB, PPQ and Pemex-Refinación (PR) into a single entity given the competitive advantages of integrating petrochemical processes with those of refining.
[15] For more information on the benefits of refining and petrochemicals integration, see the presentation "*Refining and Petrochemicals Integration: Drivers and Challenges*", Hussain A. Al-Qahtani, Saudi Aramco, XXVII JCCP *International Symposium*, Japan, January 29, 2009.

Liberalization of the retail electricity market and rates that reflect the cost of providing the service are relevant elements to consider when drafting an energy reform bill

Boosting renewable energy is extremely important for meeting the target of generating at least 35% of electricity using non-fossil sources by 2024. Our calculations using SIE data indicate that this target is very far from being met: 18.3% of electricity was generated using renewable sources (including hydroelectric and nuclear) in 2012. At the same time, the installed capacity for the generation of this type of source stood at 27.3% at the end of 2012. By late 2018, an additional 28,000 megawatts of generation capacity will be required, or 13.4% more than the capacity figure of 2012. There are plans to meet this increase with 18,000 megawatts of renewable energy.[16] In other words, this would be equivalent to increasing the installed capacity of these sources to 29.1% by the end of 2018. A simple approximation using the rule of three, everything else being equal, indicates that only 19.5% of electricity would be produced with clean energy in 2018.[17]

The diagnosis contained in the paragraph above implies that under the current paradigm of investment in renewable energy sources, it would be practically impossible to meet the target of 35% by 2024. Experts in the field have warned that the market for these sources does not have much room for growth as it responds exclusively to forms of independent production and self-supply. In order to achieve a greater expansion in the use of renewable energy, they propose the liberalization of the retail electricity market and thus ending the state's monopoly in the provision of this service.[18]

Electricity subsidies: a high opportunity cost for public expenditure and the economy

Another relevant element to factor in to increase the effectiveness of an electricity reform would be related to the gradual withdrawal of electricity subsidies. In Mexico, subsidies on consumption and production accounted for 0.5% of GDP in 2011.[19] This cost was equivalent to slightly more than a quarter of PEMEX public investment in 2011. Given the adverse impact of this situation on government finances, Brazil's experience with regard to the 1993 reform of electricity rates could serve as a guideline to mitigate this problem. Of particular importance in the Brazilian reform was the strategy for reducing opposition to the withdrawal of subsidies: the government applied a policy of lower rates for low-income households as well as conditional money transfers programs.[20]

It is worth noting that subsidies on residential electricity consumption prevent the price system from being able to signal scarcity problems. This does not only jeopardize energy efficiency in consumption, but it also represents an opportunity cost for the whole economy in terms of the employment that could be created directly in the so-called Energy Services Companies (ESCOs) and indirectly in other contractors. In more developed electricity markets, ESCOs play a fundamental role in the design of demand response programs and enable consumers to generate electricity savings at both residential and industrial levels. According to information from NAESCO (the National Association of Energy Services Companies), approximately one third of the funds for projects geared towards energy efficiency programs has been channeled to the creation of direct and indirect jobs.

[16] At the Mexico Energy Summit held on March 6-7, 2013, María de Lourdes Melgar Palacios, Deputy Secretary of Electricity of SENER, mentioned the figure of 28,000 megawatts investment requirements in installed capacity and the corresponding 18,000 megawatts in renewable sources by the end of 2018.
[17] Gerardo Gutiérrez Candiani, Chairman of the *Consejo Coordinador Empresarial*, stated that the country has an enormous potential in renewable sources such as wind, solar, geothermal and mini-hydraulic, to name a few, and that generating up to 20% of electricity with those sources is feasible by 2020. *Milenio* newspaper, April 22, 2013.
[18] For more information on this topic, see the article "*Piden reforma para electricidad*", *Reforma* newspaper, April 3, 2013.
[19] This figure was obtained from the document "*CASE STUDIES ON ENERGY SUBSIDY REFORM: LESSONS AND IMPLICATIONS*," IMF, January 28, 2013.
[20] For more information on the relatively successful energy reform in Brazil, see the document "*CASE STUDIES ON ENERGY SUBSIDY REFORM: LESSONS AND IMPLICATIONS*", IMF, January 28, 2013.

4. Appendix

4a. Indicators of economic performance by state

Table 20
Selected indicators

					CAGR[2], % 2003 - 2011			Ranking in the nation					
	GDP* 2011 (millions of pesos)	Population[1] (persons)	GDP* 2011 (millions of USD)	GDP* per capita 2011 (USD)	Real GDP	Population	Real GDP per capita.	Real GDP 2011	Real GDP per capita 2011	Foreign Direct Invest. 2012	Employ.[3] 2012	Fed. Res.[4] 2012	Competi-tiveness[5] 2012
National	13,843,758	115,682,868	1,113,251	9,623	2.5	1.6	0.9						
Aguascalientes	146,869	1,215,094	11,810	9,720	3.7	2.1	1.6	27	8	13	19	29	8
Baja California	369,005	3,275,399	29,674	9,060	2.3	2.7	-0.4	12	13	6	8	15	10
Baja California Sur	79,509	672,682	6,394	9,505	4.7	4.3	0.4	29	9	11	29	32	3
Campeche	816,135	852,373	65,630	76,997	-3.7	1.8	-5.3	11	1	16	26	27	6
Coahuila	427,343	2,818,077	34,365	12,194	2.7	1.8	0.9	8	5	18	20	19	4
Colima	79,751	672,263	6,413	9,540	3.8	2.5	1.3	31	12	23	7	31	9
Chiapas	261,119	4,980,633	20,998	4,216	1.8	2.1	-0.4	18	32	30	9	5	31
Chihuahua	396,029	3,559,248	31,847	8,948	1.7	1.4	0.3	10	15	4	31	14	7
Mexico City	2,291,441	8,928,400	184,267	20,638	2.0	0.2	1.8	1	2	1	1	2	1
Durango	178,934	1,690,418	14,389	8,512	1.7	1.4	0.2	25	17	12	21	23	20
Guanajuato	537,704	5,614,698	43,240	7,701	2.8	1.8	1.0	6	16	2	6	7	21
Guerrero	198,145	3,473,454	15,934	4,587	1.7	1.2	0.5	21	30	8	28	11	30
Hidalgo	219,006	2,730,570	17,611	6,450	3.0	1.9	1.0	23	28	31	23	18	24
Jalisco	854,666	7,543,233	68,728	9,111	2.5	1.6	0.9	4	14	29	2	4	13
Mexico	1,285,851	15,845,558	103,402	6,526	3.6	1.9	1.6	2	22	5	3	1	23
Michoacan	335,233	4,458,100	26,958	6,047	2.2	1.2	1.0	15	25	28	15	10	27
Morelos	148,766	1,827,187	11,963	6,547	2.0	1.7	0.3	26	21	32	22	25	17
Nayarit	81,409	1,132,215	6,547	5,782	3.5	2.2	1.3	30	26	19	30	28	12
Nuevo Leon	1,035,043	4,797,263	83,233	17,350	3.9	2.0	1.9	3	3	3	4	8	2
Oaxaca	216,617	3,901,419	17,419	4,465	1.8	1.2	0.6	22	31	22	25	9	32
Puebla	469,628	5,935,014	37,765	6,363	3.4	1.4	1.9	7	23	9	12	6	28
Queretaro	260,688	1,881,105	20,963	11,144	4.6	2.6	2.0	17	7	7	14	22	5
Quintana Roo	192,738	1,395,357	15,499	11,108	4.0	3.7	0.3	20	6	10	18	26	16
San Luis Potosi	259,118	2,647,570	20,837	7,870	3.1	1.2	1.8	19	19	20	16	20	22
Sinaloa	279,062	2,878,525	22,441	7,796	2.4	1.2	1.2	16	20	17	13	17	11
Sonora	377,104	2,767,364	30,325	10,958	3.6	2.0	1.6	14	11	26	11	16	15
Tabasco	604,769	2,283,140	48,633	21,301	4.8	1.8	3.0	13	4	21	24	13	25
Tamaulipas	403,928	3,376,515	32,482	9,620	1.7	1.7	0.0	9	10	14	10	12	14
Tlaxcala	72,114	1,206,291	5,799	4,807	1.5	1.9	-0.3	32	29	25	32	30	29
Veracruz	644,157	7,791,801	51,800	6,648	3.0	1.1	1.9	5	24	24	5	3	26
Yucatan	187,084	2,009,160	15,044	7,488	3.6	1.5	2.1	24	18	27	17	21	19
Zacatecas	134,794	1,522,741	10,840	7,118	3.8	1.2	2.5	28	27	15	27	24	18

[1] Mexico population projections 2010-2050, CONAPO
[2] Compounded Annual Growth Rate
[3] Total registered urban workers affiliated to the Social Security Institute (IMSS)
[4] Federalized resources, only federal participations and contributions included
[5] 2012 state competitiveness index (IMCO)
* GDP, current prices
Source: BBVA Research with INEGI, Conapo, Banxico, IMSS, SHCP, IMCO (Instituto Mexicano de la Competitividad, A.C.) data

4b. Indicators by state

Table 21
Region: High Development*

	Distrito Federal					
	2011	2012	1Q12	2Q12	3Q12	4Q12
Economic Activity (QIEAS) Total**	3.4	3.5	4.6	5.0	2.9	1.9
Primary Sector	8.1	0.7	5.3	-8.6	-5.0	13.1
Secondary Sector	3.6	4.0	7.9	6.7	2.1	0.0
Tertiary Sector	4.5	3.7	5.0	5.4	3.1	1.7
Manufacturing production	-1.1	-0.7	2.3	1.3	-2.0	-4.1
Construction	36.3	12.1	28.8	14.6	3.6	8.8
Public works	45.8	16.3	16.9	21.1	10.3	18.4
Private works	26.8	4.9	63.8	0.3	-9.3	-7.2
Retail sales	6.1	3.6	6.0	4.8	3.4	0.9
Wholesales	1.7	-0.8	1.5	0.2	1.5	-5.6
Total Employment	4.3	4.6	4.4	4.6	4.7	4.7
Permanent	3.3	4.0	3.2	3.6	4.6	4.7
Temporary (urban)	13.3	6.6	8.6	7.4	6.1	4.6
Total air traffic (passengers transport)	9.1	11.6	21.0	11.5	9.2	6.9
Federalized resources***	4.2	-0.1	4.0	-8.6	2.5	1.5
Participations (Branch 28)	3.5	-5.7	-8.2	-8.7	0.8	-5.5
Contributions (Branch 33)	5.3	7.9	29.5	-8.4	4.8	9.2
Foreign Direct Investment (millions of USD)	13618.7	3480.1	2902.5	2403.8	905.1	-2731.3

* All indicators, except Foreign Direct Investment, are real annual percentage changes
** Quarterly Indicator of Economic Activity Statewide (Indicador Trimestral de la Actividad Económica Estatal) *** Includes only federal participations and contributions
na = does not apply; nd = not available
Source: INEGI, STPS, Sectur, SHCP and SE

Table 22
Region: Touristic*

	Baja California Sur						Quintana Roo					
	2011	2012	1Q12	2Q12	3Q12	4Q12	2011	2012	1Q12	2Q12	3Q12	4Q12
Economic Activity (QIEAS) Total**	4.5	4.7	3.9	7.6	3.4	3.6	5.2	5.4	5.7	5.7	4.3	6.0
Primary Sector	-0.7	8.0	10.9	19.2	20.1	-15.2	8.0	2.3	6.1	1.1	-2.5	1.9
Secondary Sector	4.9	1.9	-2.6	6.5	-2.1	5.2	4.9	-1.9	-0.3	-3.5	-3.4	0.1
Tertiary Sector	5.3	5.3	6.2	7.0	3.8	4.4	5.7	6.3	6.9	7.0	5.0	6.3
Manufacturing production	-3.5	-5.6	-5.0	-1.7	-13.2	-2.9	-1.1	-1.9	-5.8	-3.3	0.1	1.6
Construction	-10.2	23.5	13.5	18.6	27.4	33.2	52.8	-21.1	-3.1	-12.6	-37.7	-25.9
Public works	-27.7	42.2	-3.2	49.4	67.6	60.1	59.6	16.5	18.4	61.4	-9.6	7.1
Private works	8.4	10.2	29.7	-5.7	7.8	14.4	50.2	-36.4	-15.3	-37.4	-47.0	-39.9
Retail sales	-1.4	-2.9	0.2	-3.3	-6.6	-1.7	2.9	7.5	11.7	7.7	5.1	5.8
Wholesales	5.0	2.3	0.6	4.0	4.7	0.2	5.1	7.2	8.5	10.7	2.9	6.9
Total Employment	2.4	5.5	6.3	6.4	4.9	4.5	3.1	2.5	1.2	1.6	3.4	3.9
Permanent	1.7	5.1	5.2	5.9	4.8	4.4	1.2	1.7	0.4	1.0	2.6	2.6
Temporary (urban)	5.8	7.4	11.3	8.8	5.3	4.7	11.1	6.0	4.1	4.1	6.7	9.0
Total air traffic (passengers transport)	1.7	6.2	7.3	3.8	4.8	8.7	4.8	11.4	9.9	8.7	12.8	14.4
Federalized resources***	4.5	0.3	-5.1	3.2	-2.7	7.1	5.3	0.8	5.9	11.3	-7.0	-6.7
Participations (Branch 28)	7.0	-2.4	2.7	-13.4	0.4	1.1	6.0	-2.3	1.5	-8.2	0.0	-2.5
Contributions (Branch 33)	2.5	2.6	-11.2	19.6	-5.2	12.3	4.6	3.8	10.9	30.2	-13.2	-10.9
Foreign Direct Investment (millions of USD)	218.6	340.1	65.0	126.2	32.4	116.5	246.2	374.8	101.1	55.4	81.2	137.1

* All indicators, except Foreign Direct Investment, are real annual percentage changes
** Quarterly Indicator of Economic Activity Statewide (Indicador Trimestral de la Actividad Económica Estatal) *** Includes only federal participations and contributions
na = does not apply; nd = not available
Source: INEGI, STPS, Sectur, SHCP and SE

Table 23
Region: Industrial*

	Aguascalientes						Baja California					
	2011	2012	1Q12	2Q12	3Q12	4Q12	2011	2012	1Q12	2Q12	3Q12	4Q12
Economic Activity (QIEAS) Total**	4.5	4.7	9.8	7.0	0.2	2.5	6.4	5.4	6.3	7.9	4.2	3.2
Primary Sector	7.9	4.7	7.5	19.5	-17.5	17.7	3.9	0.1	-0.8	14.8	-5.3	-9.6
Secondary Sector	4.0	3.8	13.7	7.3	-1.7	-2.8	9.6	8.5	8.3	13.3	7.4	5.5
Tertiary Sector	5.2	5.6	7.4	6.2	3.8	5.4	5.1	4.0	5.7	4.8	2.9	2.7
Manufacturing production	6.9	3.4	15.2	11.5	-4.9	-5.3	9.0	8.4	12.5	14.6	5.8	2.1
Construction	-1.7	14.8	35.6	9.3	18.0	4.0	3.2	13.6	-9.1	6.6	22.1	31.4
Public works	-27.3	3.0	18.0	20.2	33.2	-40.9	15.2	13.6	-8.4	21.6	10.4	28.0
Private works	19.4	20.7	44.8	4.2	11.0	29.6	-7.6	13.5	-9.7	-8.4	37.6	35.3
Retail sales	4.9	6.2	10.4	7.2	6.4	1.9	3.0	3.9	7.9	6.7	3.6	-1.8
Wholesales	7.4	-1.5	3.6	-3.3	-0.7	-5.0	2.0	-4.7	-0.8	2.3	-7.1	-11.8
Total Employment	2.8	5.3	4.4	4.8	5.5	6.5	3.6	3.4	2.9	2.7	3.6	4.3
Permanent	1.8	5.1	4.0	4.6	5.3	6.5	3.3	3.4	2.8	2.6	3.5	4.6
Temporary (urban)	13.1	7.1	8.4	6.1	7.3	6.7	7.3	3.9	5.2	4.4	5.2	1.0
Total air traffic (passengers transport)	10.9	22.5	17.8	30.5	24.4	16.7	-2.1	8.6	3.7	11.6	12.6	6.0
Federalized resources* **	4.2	1.8	12.7	1.2	-3.4	-3.1	2.1	2.6	9.4	2.8	-3.4	1.4
Participations (Branch 28)	5.5	1.4	12.2	-5.8	4.1	-4.7	0.5	2.4	12.3	-3.8	4.3	-3.3
Contributions (Branch 33)	3.0	2.1	13.2	8.1	-9.9	-1.7	3.7	2.8	6.5	9.1	-10.7	7.2
Foreign Direct Investment (millions of USD)	155.0	307.0	303.0	-41.3	12.0	33.3	673.5	590.7	183.8	123.1	163.9	119.9

	Chihuahua						Coahuila					
	2011	2012	1Q12	2Q12	3Q12	4Q12	2011	2012	1Q12	2Q12	3Q12	4Q12
Economic Activity (QIEAS) Total**	2.3	3.8	3.5	3.8	3.6	4.3	5.8	6.0	4.6	8.0	5.4	6.0
Primary Sector	1.0	3.0	-4.3	10.7	-3.0	5.1	3.1	2.2	3.6	1.0	5.4	-0.9
Secondary Sector	-0.7	5.8	7.0	4.9	6.1	5.4	6.0	7.8	2.7	11.7	9.3	7.8
Tertiary Sector	4.4	2.9	2.4	2.7	3.2	3.5	6.1	4.9	7.0	5.4	2.6	4.6
Manufacturing production	-0.4	5.1	5.8	4.8	3.4	6.4	6.2	10.4	5.3	11.6	13.2	11.7
Construction	-3.8	-1.5	12.9	-5.3	3.2	-11.1	7.5	0.7	-3.4	23.9	-6.6	-8.1
Public works	-8.2	5.6	27.8	-9.9	24.2	-6.0	6.8	-7.5	-2.9	7.1	-15.0	-20.5
Private works	-0.3	-6.7	3.6	-1.2	-11.0	-15.0	7.8	4.5	-3.6	33.0	-2.8	-3.7
Retail sales	6.5	6.0	7.4	6.4	7.5	3.3	3.8	2.4	5.8	-1.0	1.4	3.5
Wholesales	1.2	2.5	9.8	3.2	2.8	-4.6	2.8	1.8	5.2	7.4	0.7	-5.2
Total Employment	2.8	4.7	3.3	4.7	5.2	5.6	8.4	6.2	5.9	6.8	6.4	5.6
Permanent	2.5	3.7	2.3	3.4	4.2	5.0	7.1	5.8	5.2	6.0	6.2	5.8
Temporary (urban)	7.7	16.9	16.5	20.8	17.7	12.8	19.3	8.9	11.7	12.9	7.9	3.7
Total air traffic (passengers transport)	-1.0	9.4	15.4	5.8	10.8	6.4	11.3	11.6	21.7	9.1	11.1	6.5
Federalized resources* **	2.5	1.8	8.5	1.4	-3.9	1.6	4.8	0.5	6.6	3.1	-3.1	-4.9
Participations (Branch 28)	0.6	2.1	11.7	-5.5	5.0	-3.1	5.6	-0.5	9.3	-4.9	3.4	-9.8
Contributions (Branch 33)	4.4	1.6	5.3	7.8	-11.6	6.1	4.1	1.5	4.1	12.1	-9.5	0.2
Foreign Direct Investment (millions of USD)	930.1	967.6	160.3	117.1	428.7	261.4	89.7	106.3	27.2	16.8	39.0	23.3

* All indicators, except Foreign Direct Investment, are real annual percentage changes
** Quarterly Indicator of Economic Activity Statewide (Indicador Trimestral de la Actividad Económica Estatal) *** Includes only federal participations and contributions
na = does not apply; nd = not available
Source: INEGI, STPS, Sectur, SHCP and SE

Table 24
Region: Industrial*

	Jalisco						State of Mexico					
	2011	2012	1Q12	2Q12	3Q12	4Q12	2011	2012	1Q12	2Q12	3Q12	4Q12
Economic Activity (QIEAS) Total**	4.6	3.7	3.9	3.7	3.1	4.2	4.2	3.9	5.5	3.0	3.4	3.7
Primary Sector	-2.3	4.4	1.4	8.6	-0.3	7.5	-9.1	13.3	-1.7	26.2	1.4	21.5
Secondary Sector	5.8	1.9	0.4	1.2	2.1	3.7	3.1	2.0	5.9	0.6	2.5	-0.6
Tertiary Sector	5.0	4.5	6.0	4.5	3.7	3.8	5.6	5.0	5.7	4.2	4.2	5.6
Manufacturing production	3.8	3.2	3.4	2.3	1.8	5.2	6.8	4.7	9.9	4.8	4.1	0.8
Construction	12.5	0.6	-9.9	-2.0	14.2	-1.3	-20.5	-15.0	-21.5	-26.3	0.3	-10.9
Public works	21.3	-21.6	-28.0	-20.2	-18.7	-19.0	-29.3	-19.5	-21.2	-35.5	-6.7	-13.0
Private works	5.6	20.8	10.4	15.4	43.6	11.8	-10.1	-10.9	-21.8	-17.8	7.2	-9.2
Retail sales	5.6	2.5	5.9	3.3	2.3	-0.7	9.4	6.4	10.9	7.1	7.4	1.3
Wholesales	0.9	-0.3	0.5	3.1	-1.3	-3.5	4.8	-1.0	3.4	0.8	-2.1	-5.4
Total Employment	4.0	2.9	3.3	3.0	2.7	2.6	4.6	5.6	6.1	5.7	5.4	5.1
Permanent	3.4	2.7	3.2	2.9	2.5	2.1	4.4	5.3	5.5	5.2	5.2	5.3
Temporary (urban)	9.6	4.7	3.7	3.8	4.8	6.6	5.7	6.8	9.1	8.2	6.0	4.0
Total air traffic (passengers transport)	0.7	2.8	4.1	1.5	4.6	1.2	-31.8	-39.2	-47.6	-47.4	-29.9	-24.4
Federalized resources* **	6.1	-0.6	2.1	-3.2	-2.0	0.8	7.4	0.4	5.2	-3.1	-1.1	0.4
Participations (Branch 28)	6.4	-2.6	1.4	-10.7	3.5	-4.3	8.0	-1.2	6.3	-9.8	4.1	-5.8
Contributions (Branch 33)	5.7	1.9	3.1	6.3	-8.0	6.6	6.7	2.3	3.7	5.0	-6.8	7.6
Foreign Direct Investment (millions of USD)	-0.3	11.7	10.1	-8.9	28.4	-17.9	632.4	771.8	300.6	113.9	148.0	209.3

	Nuevo Leon						Queretaro					
	2011	2012	1Q12	2Q12	3Q12	4Q12	2011	2012	1Q12	2Q12	3Q12	4Q12
Economic Activity (QIEAS) Total**	6.0	4.4	5.5	5.3	4.0	3.1	7.7	5.3	8.2	6.7	4.3	2.2
Primary Sector	-9.5	3.6	-9.3	10.4	-0.5	9.7	-4.0	13.0	14.2	11.5	11.8	14.8
Secondary Sector	8.2	2.7	4.5	4.4	3.5	-1.2	10.9	6.5	12.2	10.6	5.1	-1.1
Tertiary Sector	5.4	5.6	6.4	6.0	4.4	5.6	6.6	5.0	6.3	5.1	5.8	4.5
Manufacturing production	10.8	4.6	8.1	6.7	3.4	0.4	10.0	7.0	14.0	11.4	3.9	-0.6
Construction	-2.7	-3.0	-8.5	1.8	5.2	-9.1	23.0	3.2	21.9	17.1	-0.9	-14.8
Public works	-0.4	-8.0	-3.0	2.6	-2.4	-24.6	21.0	-35.4	-8.2	-28.5	-41.8	-55.7
Private works	-4.2	0.2	-11.9	1.2	10.0	0.6	24.2	26.2	42.1	44.4	24.0	7.1
Retail sales	4.7	7.8	11.2	8.2	9.4	3.6	6.1	5.0	10.5	6.1	5.3	-0.3
Wholesales	7.1	3.6	7.6	8.7	1.7	-3.0	16.7	3.1	13.6	10.6	2.2	-10.6
Total Employment	5.2	4.0	4.2	4.2	4.0	3.5	9.3	7.8	8.4	7.8	7.5	7.7
Permanent	4.6	3.8	3.9	3.7	3.8	3.6	8.8	7.2	7.9	7.3	6.7	7.1
Temporary (urban)	9.7	5.7	6.9	7.5	5.6	3.0	11.2	10.3	10.5	9.7	10.5	10.6
Total air traffic (passengers transport)	3.7	9.6	6.1	7.3	13.5	10.4	34.6	54.1	27.1	32.2	44.1	107.4
Federalized resources* **	5.6	-0.7	7.7	3.0	-14.8	3.4	6.1	2.0	9.0	1.3	-4.8	2.9
Participations (Branch 28)	6.5	-4.3	8.5	-1.7	-20.3	-0.5	7.0	4.0	14.9	-1.5	4.2	-1.4
Contributions (Branch 33)	4.4	4.7	6.6	9.7	-5.5	8.6	5.1	-0.1	2.6	4.2	-13.5	7.3
Foreign Direct Investment (millions of USD)	1378.3	1157.8	578.8	261.3	370.5	-52.8	446.7	529.9	77.2	64.7	238.4	149.7

* All indicators, except Foreign Direct Investment, are real annual percentage changes
** Quarterly Indicator of Economic Activity Statewide (Indicador Trimestral de la Actividad Económica Estatal) *** Includes only federal participations and contributions
na = does not apply; nd = not available
Source: INEGI, STPS, Sectur, SHCP and SE

Table 25
Region: Industrial*

	Sonora						Tamaulipas					
	2011	2012	1Q12	2Q12	3Q12	4Q12	2011	2012	1Q12	2Q12	3Q12	4Q12
Economic Activity (QIEAS) Total**	7.3	4.6	7.4	7.1	2.4	1.9	1.1	2.5	4.8	1.6	2.0	1.6
Primary Sector	-0.9	11.8	21.0	9.2	15.1	5.3	-5.1	3.9	-7.1	18.3	3.9	5.4
Secondary Sector	11.2	4.6	8.2	10.8	0.8	-0.4	-3.6	0.3	6.7	-2.4	-1.3	-2.3
Tertiary Sector	6.6	3.8	6.1	5.0	2.0	2.5	4.5	3.9	5.2	3.2	3.9	3.5
Manufacturing production	7.0	0.3	4.1	6.2	-7.8	-1.2	-4.9	0.8	0.7	-0.7	-0.1	3.4
Construction	17.5	9.0	4.5	27.4	9.6	-1.3	2.9	-8.6	23.3	-8.0	-4.6	-31.8
Public works	26.8	-12.0	-21.7	17.0	-9.4	-24.8	-0.8	-4.9	32.9	-11.4	5.9	-29.7
Private works	10.4	27.3	33.6	35.2	24.8	18.9	9.5	-14.4	10.2	-2.4	-21.0	-35.6
Retail sales	6.5	8.2	14.5	12.9	8.2	-0.5	0.8	3.7	8.6	3.7	1.7	1.5
Wholesales	4.0	-0.6	-0.4	-1.0	8.5	-9.3	0.4	-3.8	-5.4	-6.1	-6.6	3.1
Total Employment	5.3	5.5	5.3	5.8	5.5	5.6	0.8	2.8	1.4	2.4	3.2	4.0
Permanent	5.0	4.7	4.3	4.7	4.8	4.9	1.2	1.9	0.7	1.5	2.3	3.2
Temporary (urban)	7.9	12.6	13.1	15.2	11.0	11.3	-1.6	9.7	6.6	10.6	11.2	10.2
Total air traffic (passengers transport)	2.9	3.8	12.9	4.9	0.5	-1.4	14.5	15.8	35.5	10.1	10.2	13.4
Federalized resources* **	5.3	0.1	-6.5	18.1	-12.4	3.1	2.1	0.7	11.0	0.9	-5.0	-4.3
Participations (Branch 28)	6.9	-0.8	-0.3	-7.3	7.3	-2.1	1.3	2.0	10.3	-1.0	4.1	-5.5
Contributions (Branch 33)	3.3	1.2	-13.5	55.3	-37.4	9.8	3.0	-0.6	11.7	2.9	-13.6	-3.1
Foreign Direct Investment (millions of USD)	158.7	27.4	18.9	34.7	-9.6	-16.6	426.2	288.2	66.8	61.5	87.7	72.2

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** Quarterly Indicator of Economic Activity Statewide (Indicador Trimestral de la Actividad Económica Estatal) *** Includes only federal participations and contributions
na = does not apply; nd = not available
Source: INEGI, STPS, Sectur, SHCP and SE

Table 26
Region: Medium Development*

	Campeche						Colima					
	2011	2012	1Q12	2Q12	3Q12	4Q12	2011	2012	1Q12	2Q12	3Q12	4Q12
Economic Activity (QIEAS) Total**	-3.7	-0.7	-2.8	-2.6	1.2	1.4	10.1	2.5	0.6	5.6	0.5	3.2
Primary Sector	-5.6	4.8	23.9	5.9	-8.5	1.7	7.8	-9.4	2.4	-11.5	-18.8	-7.9
Secondary Sector	-5.4	-1.6	-4.4	-3.8	1.2	0.6	28.9	-1.4	-6.9	7.6	-7.8	0.6
Tertiary Sector	4.8	3.1	3.2	2.4	2.2	4.6	3.1	5.6	4.6	6.1	6.7	5.0
Manufacturing production	-4.5	-9.7	-2.4	-16.8	-11.2	-9.4	5.5	4.1	2.8	12.9	8.9	-6.8
Construction	-4.0	11.0	2.8	9.0	18.2	14.4	26.0	-20.2	-27.9	-5.5	-29.7	-16.6
Public works	-2.5	14.9	14.3	19.0	14.5	12.5	35.2	-26.6	-25.3	-15.2	-47.2	-20.0
Private works	-15.1	-23.4	-50.6	-50.8	84.6	62.8	6.8	-3.2	-32.4	38.2	28.7	-8.7
Retail sales	1.8	1.5	1.7	0.2	0.0	4.0	3.2	2.0	10.5	1.4	2.0	-4.3
Wholesales	7.4	5.5	16.9	6.6	3.0	-2.9	19.1	-3.2	18.3	15.7	-12.3	-29.4
Total Employment	5.5	10.6	8.9	10.7	10.0	12.7	6.0	2.4	1.5	1.7	2.6	3.7
Permanent	5.5	10.9	10.4	11.4	10.4	11.5	4.3	1.5	0.2	0.9	2.1	2.7
Temporary (urban)	5.4	9.3	3.0	7.7	8.5	17.6	14.9	6.7	8.3	5.3	4.9	8.6
Total air traffic (passengers transport)	5.2	18.9	24.1	17.0	14.4	20.7	8.3	24.4	17.0	24.8	57.1	15.1
Federalized resources* **	3.3	5.1	15.8	11.2	-3.0	-2.3	4.8	1.8	14.2	1.6	-6.8	-2.2
Participations (Branch 28)	2.8	8.5	24.3	13.1	0.7	-2.3	6.6	2.1	13.8	-6.1	3.9	-2.7
Contributions (Branch 33)	3.8	1.5	7.0	9.2	-6.8	-2.2	3.3	1.5	14.5	9.1	-15.5	-1.8
Foreign Direct Investment (millions of USD)	67.2	136.1	-156.7	-74.0	371.4	-4.6	25.4	45.3	2.5	23.8	1.7	17.3

	Durango						Guanajuato					
	2011	2012	1Q12	2Q12	3Q12	4Q12	2011	2012	1Q12	2Q12	3Q12	4Q12
Economic Activity (QIEAS) Total**	3.3	1.6	1.2	2.8	2.0	0.5	4.7	4.0	4.8	0.6	5.9	4.8
Primary Sector	-5.3	9.0	-0.1	9.5	16.0	8.7	0.9	0.2	-2.4	-8.6	11.9	3.4
Secondary Sector	8.5	-2.2	-2.6	1.5	-2.5	-4.8	4.5	4.8	5.4	-3.0	9.5	7.3
Tertiary Sector	3.1	2.6	4.8	2.7	1.6	1.5	5.3	3.8	5.0	4.0	3.2	3.2
Manufacturing production	2.5	-1.8	1.1	-0.7	-4.8	-3.0	1.3	2.3	2.5	-6.2	6.9	6.3
Construction	25.6	-19.6	-28.2	-12.7	-16.7	-19.6	26.2	27.6	35.4	24.9	31.5	21.1
Public works	25.1	-29.2	-47.6	-17.9	-21.0	-25.0	22.1	15.5	17.9	-3.0	27.7	17.4
Private works	26.8	4.9	63.8	0.3	-9.3	-7.2	29.3	36.3	47.2	44.9	34.1	24.0
Retail sales	2.6	5.2	8.5	6.5	3.5	2.9	5.1	5.5	10.4	4.4	6.1	2.1
Wholesales	-4.7	-2.5	0.1	0.8	-4.5	-5.8	8.1	-0.8	0.1	3.3	-4.0	-2.3
Total Employment	4.8	8.0	6.1	8.0	8.8	9.1	5.3	5.6	5.7	5.8	5.7	5.2
Permanent	3.8	6.2	4.9	6.0	6.9	7.0	4.6	4.7	5.0	4.6	4.7	4.6
Temporary (urban)	13.2	22.2	15.5	23.8	24.1	25.0	11.4	12.2	10.9	15.0	13.3	9.7
Total air traffic (passengers transport)	9.6	7.9	17.2	9.0	4.2	3.6	0.5	11.0	12.5	13.5	9.4	9.2
Federalized resources* **	3.6	1.2	7.5	2.6	-5.2	-0.5	8.2	0.0	3.7	-2.6	-3.6	2.6
Participations (Branch 28)	4.2	1.7	11.3	-6.3	5.4	-3.5	9.9	-0.8	5.4	-9.7	5.1	-4.3
Contributions (Branch 33)	3.3	0.9	5.3	8.7	-11.6	1.4	6.6	0.8	1.9	4.1	-10.8	8.9
Foreign Direct Investment (millions of USD)	159.3	335.8	21.2	32.3	72.8	209.6	692.0	1556.1	-77.5	585.2	936.7	111.6

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na = does not apply; nd = not available
Source: INEGI, STPS, Sectur, SHCP and SE

Table 27
Region: Medium Development*

	Hidalgo						Michoacan					
	2011	2012	1Q12	2Q12	3Q12	4Q12	2011	2012	1Q12	2Q12	3Q12	4Q12
Economic Activity (QIEAS) Total**	4.7	2.6	3.8	4.3	1.1	1.6	4.0	2.4	4.4	2.2	1.5	1.8
Primary Sector	-10.7	11.4	1.0	26.0	0.6	15.4	7.4	6.9	3.5	9.5	9.7	4.8
Secondary Sector	6.7	3.1	3.1	5.3	1.9	1.9	2.2	-1.9	1.8	-5.3	-2.9	-0.9
Tertiary Sector	4.8	1.8	4.6	2.3	0.7	0.0	4.2	3.1	5.4	3.3	1.9	1.9
Manufacturing production	3.4	2.4	-0.2	4.7	1.8	3.1	-3.9	-1.1	-3.7	-4.6	-0.3	4.1
Construction	-0.4	13.6	10.9	25.4	11.1	8.2	15.3	-9.3	19.8	-17.2	-13.6	-21.9
Public works	14.3	20.8	12.8	24.7	25.9	20.1	-4.8	7.3	52.9	-9.6	0.6	-12.1
Private works	-11.1	6.8	9.5	26.1	-4.3	-3.2	33.9	-20.2	-4.8	-20.9	-22.2	-29.7
Retail sales	nd	nd	nd	nd	nd	nd	7.8	3.3	6.9	4.0	3.2	-0.3
Wholesales	nd	nd	nd	nd	nd	nd	-1.7	-7.1	-3.1	-6.2	-8.1	-11.0
Total Employment	7.6	5.0	6.3	5.2	4.9	3.6	3.4	2.0	3.5	2.0	1.2	1.5
Permanent	3.6	3.1	3.0	2.7	3.8	2.9	2.6	2.3	2.5	2.1	2.1	2.7
Temporary (urban)	25.8	12.1	19.9	15.0	9.0	6.0	9.1	-0.2	11.2	1.2	-5.1	-6.8
Total air traffic (passengers transport)	na	na	na	na	na	na	-10.7	9.5	15.4	15.3	6.4	3.1
Federalized resources* **	5.2	1.9	6.5	3.0	-0.1	-1.6	5.8	-1.2	-3.3	-0.4	-9.2	9.5
Participations (Branch 28)	8.2	3.8	13.5	0.4	7.5	-5.8	7.9	-0.7	5.7	-9.8	5.5	-4.1
Contributions (Branch 33)	3.4	0.7	1.9	4.7	-4.8	1.2	4.4	-1.6	-9.9	6.9	-18.1	20.6
Foreign Direct Investment (millions of USD)	54.7	9.0	3.0	4.8	0.7	0.5	37.9	20.0	2.4	5.2	2.4	10.0

	Morelos						Nayarit					
	2011	2012	1Q12	2Q12	3Q12	4Q12	2011	2012	1Q12	2Q12	3Q12	4Q12
Economic Activity (QIEAS) Total**	3.9	4.2	5.9	3.4	5.3	2.3	2.1	3.5	0.4	4.8	1.4	7.2
Primary Sector	-6.2	2.5	-1.3	1.9	-4.3	12.5	12.3	1.6	-0.2	5.3	0.2	1.4
Secondary Sector	4.4	3.2	7.9	0.2	9.6	-3.8	-4.4	10.5	-1.9	13.6	4.0	28.2
Tertiary Sector	4.4	4.9	5.4	5.7	3.7	5.0	2.8	1.8	1.5	2.1	0.9	2.7
Manufacturing production	9.2	5.8	8.5	5.9	9.6	-0.6	-4.0	6.5	4.7	8.1	5.1	8.3
Construction	-6.3	-7.3	-16.6	-13.1	-1.4	3.7	7.0	13.3	4.5	27.5	-1.5	24.4
Public works	-32.6	50.3	-2.1	-9.4	321.4	166.3	-5.5	30.2	17.4	53.3	6.7	52.9
Private works	2.2	-19.6	-22.3	-14.3	-29.5	-11.3	30.9	-10.0	-13.0	-4.3	-16.5	-7.4
Retail sales	2.0	3.5	7.5	4.0	5.2	-1.9	nd	nd	nd	nd	nd	nd
Wholesales	-1.0	28.9	18.0	33.4	35.5	28.1	nd	nd	nd	nd	nd	nd
Total Employment	4.7	5.1	4.9	5.6	5.4	4.6	3.2	3.7	2.2	3.4	3.9	5.1
Permanent	4.3	4.7	4.6	5.0	4.9	4.2	3.9	2.7	2.9	2.7	2.6	2.8
Temporary (urban)	7.4	8.1	7.2	9.5	8.3	7.6	-0.5	8.1	-0.9	7.0	10.4	16.6
Total air traffic (passengers transport)	266.7	45.3	-10.4	-11.5	92.6	104.6	16.5	15.7	3.0	-13.6	0.3	77.1
Federalized resources* **	5.5	-2.1	1.4	-4.6	-5.0	-0.1	3.6	1.3	12.8	-1.1	-8.7	2.3
Participations (Branch 28)	7.8	-4.0	4.1	-17.3	3.2	-5.3	3.7	-0.4	8.2	-14.1	6.2	-1.3
Contributions (Branch 33)	3.6	-0.4	-1.0	7.8	-11.6	4.3	3.5	2.5	16.5	9.4	-17.9	5.1
Foreign Direct Investment (millions of USD)	106.4	5.3	-4.6	9.2	-1.4	2.0	107.3	91.3	16.9	46.5	17.1	10.8

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na = does not apply; nd = not available
Source: INEGI, STPS, Sectur, SHCP and SE

Table 28
Region: Medium Development*

	Puebla						San Luis Potosi					
	2011	2012	1Q12	2Q12	3Q12	4Q12	2011	2012	1Q12	2Q12	3Q12	4Q12
Economic Activity (QIEAS) Total**	5.7	7.4	7.5	9.3	6.4	6.6	5.9	6.1	7.2	7.4	4.5	5.5
Primary Sector	-3.2	8.2	-0.9	19.0	5.8	8.1	-7.7	10.4	7.0	9.9	8.0	16.2
Secondary Sector	8.9	11.9	10.5	16.8	11.2	9.2	9.6	10.9	10.6	11.7	9.3	12.0
Tertiary Sector	4.7	4.6	6.6	4.1	3.2	4.7	5.1	3.0	5.7	4.8	1.6	0.2
Manufacturing production	11.3	11.0	7.2	15.4	12.3	8.9	14.2	12.0	13.3	13.3	11.1	10.4
Construction	-16.3	24.1	29.4	63.2	-4.4	11.2	3.1	6.6	10.9	-1.7	-10.4	27.7
Public works	-18.9	57.4	93.8	171.4	-9.8	20.4	-31.6	55.4	2.6	35.6	62.9	117.8
Private works	-13.9	-4.9	-13.7	-7.2	2.3	1.4	28.0	-12.0	14.6	-15.8	-37.8	-3.9
Retail sales	4.4	3.8	7.3	4.0	4.6	0.3	4.6	8.1	15.0	10.2	6.7	2.4
Wholesales	-2.1	-3.5	-1.4	-3.0	-3.9	-5.5	4.9	1.6	8.3	10.3	2.3	-11.8
Total Employment	4.4	5.6	5.8	6.1	5.2	5.4	6.5	5.5	6.4	6.0	5.5	4.3
Permanent	3.4	5.1	5.6	5.5	4.6	4.8	5.1	4.8	5.6	5.3	4.8	3.7
Temporary (urban)	10.4	9.0	7.2	10.0	9.2	9.5	15.6	9.8	12.0	10.1	9.9	7.4
Total air traffic (passengers transport)	-33.2	25.6	22.9	23.8	29.0	25.9	8.1	11.6	23.2	10.1	12.5	2.8
Federalized resources* **	4.7	3.5	13.0	-1.1	1.2	0.1	4.2	0.3	4.4	1.0	-4.4	0.8
Participations (Branch 28)	3.4	2.8	12.9	-7.6	7.3	-1.6	6.3	1.0	8.2	-4.9	7.1	-6.2
Contributions (Branch 33)	5.7	4.1	13.1	4.5	-3.4	1.5	2.8	-0.1	1.5	5.1	-11.4	5.6
Foreign Direct Investment (millions of USD)	423.6	403.5	183.0	61.2	86.0	73.3	162.7	85.5	7.6	18.5	8.2	51.2

	Sinaloa						Tabasco					
	2011	2012	1Q12	2Q12	3Q12	4Q12	2011	2012	1Q12	2Q12	3Q12	4Q12
Economic Activity (QIEAS) Total**	0.0	3.3	10.1	4.7	-4.9	3.6	5.2	4.0	7.0	5.1	2.0	2.2
Primary Sector	-19.9	18.7	64.4	62.8	-34.9	-1.2	-1.8	13.3	7.1	6.5	23.1	18.7
Secondary Sector	0.4	-6.8	-3.4	-14.1	-10.5	3.3	5.3	3.4	6.7	5.4	0.6	1.3
Tertiary Sector	3.9	4.0	5.9	5.0	1.0	4.3	5.4	5.0	7.9	4.9	4.3	3.3
Manufacturing production	2.4	5.8	6.5	5.5	4.9	6.2	10.2	3.1	-1.6	7.5	-2.2	9.2
Construction	-10.4	-25.6	-11.4	-31.4	-41.8	-11.4	19.8	26.0	40.1	49.3	11.5	12.4
Public works	0.7	-29.5	-8.7	-31.4	-46.0	-25.0	13.7	27.1	24.4	47.6	19.2	19.6
Private works	-21.9	-20.4	-14.6	-31.4	-36.9	12.3	47.8	22.5	114.6	56.6	-10.6	-9.6
Retail sales	5.2	7.2	16.0	6.8	4.9	2.5	4.7	3.2	5.2	0.2	2.7	4.4
Wholesales	-14.4	2.4	-5.1	3.0	8.2	2.9	4.2	-2.1	6.3	2.0	-4.2	-10.7
Total Employment	2.5	4.4	3.8	4.5	5.1	4.2	5.6	8.3	9.4	9.1	7.5	7.3
Permanent	2.3	3.6	3.2	3.7	4.0	3.5	3.7	6.5	7.2	6.8	6.1	5.8
Temporary (urban)	4.7	11.3	8.9	12.0	14.3	10.1	15.5	17.1	21.0	20.2	13.8	14.1
Total air traffic (passengers transport)	-2.9	1.5	0.0	0.1	1.4	4.1	17.1	12.8	18.7	14.8	9.0	10.0
Federalized resources* **	3.6	1.6	7.3	0.7	-4.0	2.3	2.4	1.9	8.2	4.6	-3.9	-0.6
Participations (Branch 28)	2.7	1.6	12.8	-6.3	3.5	-3.7	0.5	4.3	12.5	4.1	2.9	-1.8
Contributions (Branch 33)	4.4	1.6	1.9	7.8	-10.7	8.0	5.6	-1.7	1.5	5.3	-13.9	1.4
Foreign Direct Investment (millions of USD)	78.7	114.6	53.7	46.1	10.4	4.4	6.7	79.1	-0.2	5.7	2.4	71.3

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Source: INEGI, STPS, Sectur, SHCP and SE

Table 29
Region: Medium Development*

	Tlaxcala						Veracruz					
	2011	2012	1Q12	2Q12	3Q12	4Q12	2011	2012	1Q12	2Q12	3Q12	4Q12
Economic Activity (QIEAS) Total**	2.0	4.2	4.9	5.2	1.7	4.9	2.4	4.9	4.4	5.5	5.8	3.8
Primary Sector	-26.4	43.4	-19.9	77.4	19.2	64.8	0.6	4.3	5.1	0.6	3.2	8.5
Secondary Sector	3.2	0.0	5.2	-0.7	-3.0	-1.3	0.7	7.2	5.7	9.0	10.9	2.9
Tertiary Sector	3.4	4.3	5.9	4.2	3.2	4.1	4.0	3.9	4.1	4.3	3.2	3.8
Manufacturing production	5.9	-1.5	0.5	-3.7	-2.9	0.0	1.2	3.2	2.9	1.4	7.3	1.4
Construction	-31.3	11.0	119.0	71.2	-16.1	-20.6	-9.3	11.1	-4.1	14.2	22.6	12.2
Public works	-50.7	-1.3	119.8	94.6	-63.2	-30.8	-14.9	21.9	5.9	27.6	31.5	23.1
Private works	44.6	27.4	117.4	36.4	181.1	-12.8	4.2	-9.8	-23.3	-9.0	4.8	-10.6
Retail sales	nd	nd	nd	nd	nd	nd	3.5	4.5	7.0	5.3	4.7	1.7
Wholesales	nd	nd	nd	nd	nd	nd	-3.3	-4.5	-5.1	1.8	-2.5	-11.3
Total Employment	4.3	4.8	4.2	3.8	4.1	7.1	1.8	4.8	3.9	4.9	5.6	4.8
Permanent	2.1	4.4	4.0	3.3	4.4	6.0	2.5	4.2	3.3	4.0	4.7	4.7
Temporary (urban)	14.8	6.4	5.0	5.6	3.2	12.0	-1.8	8.3	7.3	9.7	10.7	5.7
Total air traffic (passengers transport)	na	na	na	na	na	na	2.9	6.3	9.1	0.4	5.7	10.3
Federalized resources* **	4.7	1.9	7.0	2.9	-3.6	1.5	5.7	-0.4	8.0	-3.5	-1.8	-4.6
Participations (Branch 28)	4.6	0.0	8.9	-5.4	1.7	-5.0	7.8	-1.5	6.5	-9.5	3.3	-6.7
Contributions (Branch 33)	4.8	3.5	5.4	10.1	-7.7	6.8	4.0	0.5	9.4	1.5	-5.6	-2.8
Foreign Direct Investment (millions of USD)	84.3	34.4	-1.6	16.7	4.5	14.8	95.3	43.9	35.7	7.9	4.9	-4.6

	Yucatán						Zacatecas					
	2011	2012	1Q12	2Q12	3Q12	4Q12	2011	2012	1Q12	2Q12	3Q12	4Q12
Economic Activity (QIEAS) Total**	3.4	5.1	7.3	4.6	4.4	4.3	1.9	5.1	5.7	4.6	5.4	4.6
Primary Sector	0.6	0.6	0.4	1.2	2.8	-1.5	-13.7	29.0	-3.5	12.8	31.0	48.9
Secondary Sector	-0.4	7.4	11.8	7.3	5.9	4.8	6.7	0.8	8.4	3.7	0.7	-8.3
Tertiary Sector	5.1	4.7	6.3	4.2	4.0	4.3	2.4	4.0	5.6	4.3	3.1	3.2
Manufacturing production	-0.8	-0.3	-0.2	0.9	-1.2	-0.8	-3.4	-0.3	5.7	0.2	0.1	-6.5
Construction	-2.9	47.3	46.6	63.2	34.2	43.2	10.5	-14.4	19.5	-13.1	-29.8	-26.7
Public works	-19.7	18.9	56.7	36.8	-23.4	6.0	9.0	-20.7	-9.4	4.1	-31.1	-38.6
Private works	18.3	71.5	40.1	89.2	88.3	76.6	12.2	-7.9	51.8	-28.5	-28.0	-17.3
Retail sales	4.6	3.5	3.5	5.4	3.3	2.0	3.0	6.6	13.8	8.1	4.3	1.9
Wholesales	1.4	3.1	4.5	6.5	2.6	-1.0	1.5	0.5	8.1	3.4	-3.7	-5.0
Total Employment	2.9	4.4	4.5	4.6	4.4	4.2	4.6	4.0	4.7	4.1	3.7	3.6
Permanent	2.1	4.2	3.9	4.2	4.4	4.3	2.1	4.2	3.9	4.2	4.4	4.3
Temporary (urban)	12.4	6.7	11.5	8.5	4.1	3.3	15.2	6.1	12.4	6.5	4.9	1.1
Total air traffic (passengers transport)	7.7	1.3	15.3	-3.7	1.0	-4.6	-7.9	2.8	21.6	2.8	6.6	-13.2
Federalized resources* **	4.4	2.6	14.4	-0.7	-3.0	-0.4	4.7	-1.6	13.2	-6.0	-7.3	-6.6
Participations (Branch 28)	4.6	1.2	11.9	-8.9	4.5	-2.7	6.1	-2.6	2.3	-12.0	3.4	-3.7
Contributions (Branch 33)	4.3	3.7	16.5	6.3	-8.8	1.6	3.7	-0.8	22.0	-1.4	-14.3	-8.6
Foreign Direct Investment (millions of USD)	69.9	26.8	4.1	15.8	4.5	2.4	36.6	144.2	25.7	81.5	31.8	5.2

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Source: INEGI, STPS, Sectur, SHCP and SE

Table 30
Region: Low Development*

	Chiapas						Guerrero					
	2011	2012	1Q12	2Q12	3Q12	4Q12	2011	2012	1Q12	2Q12	3Q12	4Q12
Economic Activity (QIEAS) Total**	3.2	2.6	4.8	3.7	1.3	0.7	0.9	1.4	-1.1	2.8	0.4	3.3
Primary Sector	3.1	0.8	4.4	1.8	-3.1	-1.3	0.9	-1.3	-5.5	11.8	-11.1	0.5
Secondary Sector	1.1	1.3	10.1	2.8	-1.9	-4.8	-2.9	-0.3	-6.8	1.9	-1.8	5.4
Tertiary Sector	4.2	3.5	3.2	4.6	3.2	2.9	1.9	2.1	0.7	2.4	2.1	3.1
Manufacturing production	-3.9	7.5	4.8	7.4	3.4	14.8	3.9	2.5	3.0	1.4	2.5	3.1
Construction	-8.3	13.3	12.9	-15.9	33.9	26.1	-6.4	-23.0	-27.7	-14.5	-17.0	-30.4
Public works	-14.2	13.7	47.8	-11.8	8.8	24.5	-6.3	-17.2	-33.2	-3.7	-16.8	-10.0
Private works	6.9	12.5	-30.4	-24.3	105.6	30.3	-6.4	-29.6	-19.9	-24.7	-17.2	-48.2
Retail sales	5.2	4.2	9.9	4.1	2.8	0.9	-3.4	2.9	-1.5	2.6	5.4	5.1
Wholesales	-2.9	1.6	-5.2	-0.2	5.4	6.7	-7.5	-12.1	-13.1	-15.1	-10.0	-9.9
Total Employment	4.5	4.8	4.6	4.1	6.1	4.4	-0.3	-0.6	-2.0	-1.6	-1.0	2.1
Permanent	4.6	4.7	4.3	3.7	5.7	4.9	-0.2	-0.6	-1.7	-1.5	-0.9	1.6
Temporary (urban)	3.5	5.9	6.6	8.1	10.1	-0.9	-1.1	-0.6	-3.3	-2.0	-1.4	4.2
Total air traffic (passengers transport)	15.2	-1.9	5.8	-9.2	-4.8	1.6	-13.1	-7.3	-11.6	-9.9	-3.2	-2.7
Federalized resources* **	5.4	10.0	17.3	11.4	7.3	4.4	5.9	2.4	5.7	-1.0	-0.4	5.1
Participations (Branch 28)	5.3	2.5	13.6	-6.2	6.0	-3.3	11.1	1.1	14.2	-12.3	7.2	-4.8
Contributions (Branch 33)	5.4	15.4	19.9	24.1	8.1	10.3	3.6	3.0	1.7	5.0	-3.8	10.2
Foreign Direct Investment (millions of USD)	0.0	9.8	9.8	0.0	0.0	0.0	279.0	496.8	77.6	104.7	103.3	211.1

	Oaxaca					
	2011	2012	1Q12	2Q12	3Q12	4Q12
Economic Activity (QIEAS) Total**	1.6	3.9	2.5	4.0	5.1	4.2
Primary Sector	-1.4	4.5	1.5	3.4	4.0	8.5
Secondary Sector	2.9	7.9	-0.6	11.9	11.9	8.3
Tertiary Sector	1.7	2.8	3.9	1.9	3.1	2.2
Manufacturing production	2.4	-2.3	-4.3	0.7	0.5	-6.0
Construction	16.1	23.4	32.7	32.7	25.5	7.3
Public works	8.4	11.1	12.3	36.4	24.0	-16.5
Private works	71.3	79.2	130.5	20.9	31.0	193.3
Retail sales	-1.1	7.7	8.9	5.7	10.0	6.3
Wholesales	-3.1	6.3	6.0	7.1	5.3	6.6
Total Employment	2.5	5.7	5.3	4.8	6.1	6.6
Permanent	2.1	3.6	3.7	3.1	3.4	4.3
Temporary (urban)	5.6	21.2	17.6	18.6	25.8	22.2
Total air traffic (passengers transport)	2.7	13.3	27.1	14.0	9.0	6.3
Federalized resources* **	4.8	2.1	2.7	3.5	-2.8	6.7
Participations (Branch 28)	6.8	2.0	15.2	-6.9	3.3	-3.7
Contributions (Branch 33)	3.8	2.2	-2.6	8.3	-5.7	15.7
Foreign Direct Investment (millions of USD)	42.8	68.8	1.9	52.7	14.1	0.1

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Editorial Board

This report has been produced by

Editor
Carlos Serrano
carlos.serranoh@bbva.com

Alma Martínez
ag.martinez2@bbva.com

Arnulfo Rodríguez
arnulfo.rodriguez@bbva.com

BBVA Research

Group Chief Economist
Jorge Sicilia

Emerging Economies:
Alicia García-Herrero
alicia.garcia-herrero@bbva.com.hk

Cross-Country Emerging Markets Analysis
Álvaro Ortiz Vidal-Abarca
alvaro.ortiza@bbva.com

Asia
Stephen Schwartz
stephen.schwartz@bbva.com.hk

Mexico
Carlos Serrano
carlos.serranoh@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
Oswaldo López
oswaldo_lopez@bbva.com

Developed Economies:
Rafael Doménech
r.domenech@bbva.com

Spain
Miguel Cardoso
miguel.cardoso@bbva.com

Europe
Miguel Jiménez
mjimenezg@bbva.com

United States
Nathaniel Karp
nathaniel.karp@bbvacompass.com

Financial Systems & Regulation:
Santiago Fernández de Lis
sfernandezdelis@grupobbva.com

Financial Systems
Ana Rubio
arubiog@bbva.com

Pensions
David Tuesta
david.tuesta@bbva.com

Regulation and Public Policy
María Abascal
maria.abascal@bbva.com

Global Areas:

Financial Scenarios
Julián Cubero
juan.cubero@bbva.com

Economic Scenarios
Sonsoles Castillo
s.castillo@bbva.com

Innovation and Process
Clara Barrabés
clara.barrabes@bbva.com

BBVA Research Mexico
Avda. Universidad 1200
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