BBVA | RESEARCH

Mexico Economic Outlook

First Quarter 2013

Economic Analysis

- The economic outlook is improving thanks to the easing of financial tensions in Europe, the agreements to avoid the fiscal cliff in the U.S. and the recovery in emerging economies
- Mexico will continue to grow at above 3.0% in 2013. The implementation of energy and fiscal reforms to boost investment and create a more formal labor market could increase potential GDP by around 0.9 percentage points
- Inflation will remain at under 4.0% throughout 2013, as no sudden upturns in service prices or contagion from supply shocks to other products are expected, and the peso remains anchored

BBVA Bancomer

Index

Closing Date: February 15, 2013

1. Summary

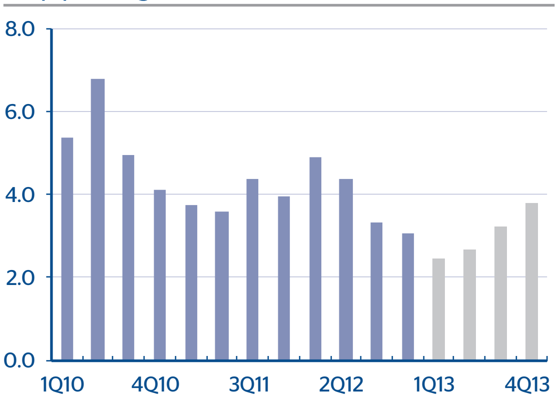
Mexico will continue to grow at above 3.0% in 2013. The implementation of energy and fiscal reforms to boost investment and create a more formal labor market could increase potential GDP by around 0.9 percentage points to 3.7%

The world economic scenario has improved over the last quarter thanks to the continued easing of global financial tensions, particularly in Europe, and with the agreement to avoid the fiscal cliff in the U.S. World growth will pick up from 3.2% in 2012 to 3.6% in 2013 and 4.1% in 2014, practically the same estimate as three months ago. **The appropriate policies have to be implemented in the U.S. and the euro area if the recovery is to continue**. The U.S. has to move beyond a temporary cushioning of the imminent tax hikes and remove uncertainty regarding debt payment and the distribution of the burden of fiscal consolidation. The euro area has to continue with the progress made in governance reform, in particular with respect to banking union.

Mexico will maintain growth at above 3.0% for the next two years in an environment of moderate foreign demand and favorable performance in employment, inflation and finance. Economic activity data for the last quarter of 2012 confirm that growth appears to be moderating. Nevertheless, the growth of automotive exports in January, job creation, and increased disposable income suggest that growth will remain above 3.0% in 2013. In addition, the good performance of the labor market has been reflected in consumer confidence and retail sales, both signs of a favorable performance of domestic demand.

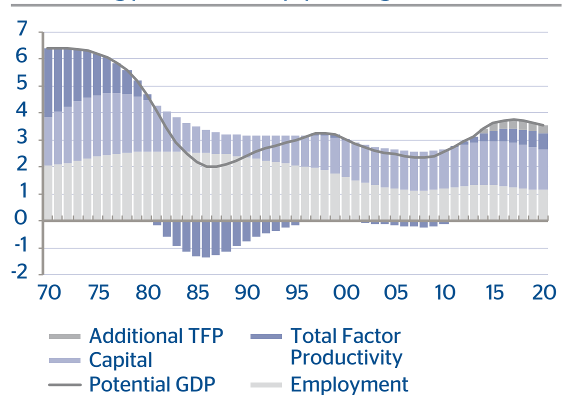
Recently there has been discussion of the possibility of an energy reform to boost investment in the sector, and a fiscal reform that could encourage greater formality in the economy and the extension of social security to the whole population. If these reforms are successful in achieving their aims, it is estimated that potential GDP could increase by some 0.9 percentage points to around 3.7%.

Graph 1
GDP growth (% y/y change)



Source: BBVA Research and INEGI

Graph 2
Potential GDP: breakdown in a scenario of fiscal and energy reforms (% y/y change)



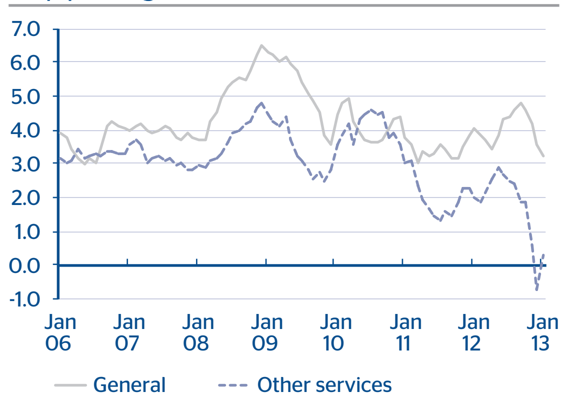
Source: BBVA Research

The outlook for economic growth in Mexico takes into consideration a slowdown in US growth from the 2.2% expected in 2012 to 1.8% in 2013 as a result of a weak housing sector and labor market, and the start of moderate fiscal consolidation. However, uncertainty regarding the US economy remains, due to doubts about the negotiations on fiscal consolidation and the approval of the debt ceiling between March and May, as well as the risk of the crisis worsening in Europe. Despite the difficult global environment, Mexico has maintained its policy of fiscal stability and its commitment to the convergence of inflation with the 3.0% target. This has contributed to its low country risk perception on the part of the financial markets, which could be accompanied by an improved credit rating if the structural reforms designed to promote growth and strengthen the public finances are implemented.

Inflation will remain under 4.0% in 2013. In recent months annual inflation slowed from 4.2% in November 2012 to 3.3% in January 2013, mainly as a result of three factors: 1) the supply shocks began to ease; 2) these shocks occurred in specific products that did not contaminate other prices; and 3) the telephony tariffs, particularly mobile telephony, surprised with strong falls in November and December. Estimates suggest **there are signs of a structural change in prices in the telecommunications sector, of reduced impact by supply shocks to other prices, and a greater importance of labor market conditions in the service sector**. However, given the continued slack in the economy one should be cautious with these results. This year we forecast inflation to remain below 4.0% throughout the year and close the year at around 3.6%. The estimate is based on the following factors: core inflation remaining low thanks to lower inflation in goods prices, partly due to the prospects of a stronger peso; no sudden upturns expected in service prices; and no forecast of additional upwards shocks. Non-core inflation should benefit from the recovery in egg production nationally, and from no acute upturns being expected in fruit and vegetable prices.

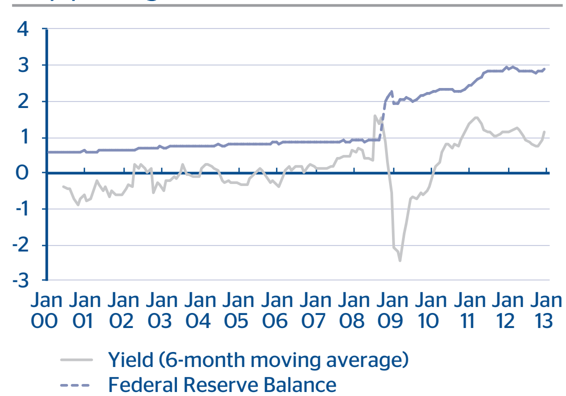
In the financial markets, abundant global liquidity in an environment of stability and a positive economic outlook has generated opportunities for arbitrage, which has contributed to an unprecedented increase in foreign capital flows into fixed-income investments. For example, in December Cetes bonds received all-time high inflows of USD 8 billion. The exchange rate also benefited from this environment, with a gain of around 8.0% in 2012. This appreciation is expected to continue in 2013 in response to the environment of growth, economic stability and the possibility of structural reforms in Mexico, together with a prolonged period of continued global liquidity.

Graph 3
Headline and other services inflation (% y/y change)



Source: BBVA Research and INEGI

Graph 4
1-month carry trade yield (annualized %)* and US Federal Reserve assets (USD billion) (% y/y change)

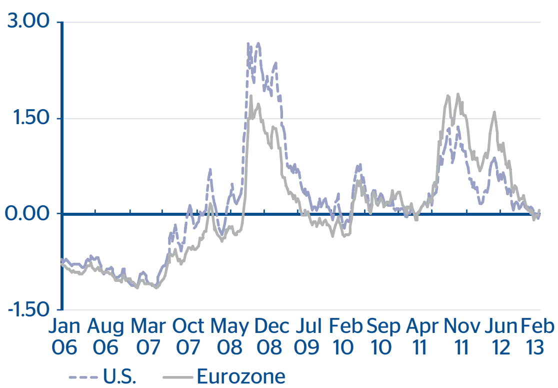


Source: BBVA Research *A carry trade investment consists of adopting a short position in a foreign-currency instrument with a low interest rate and a long position in a local-currency instrument that yields a higher interest rate than the foreign asset.

2. The global situation: a better outlook with fewer risks

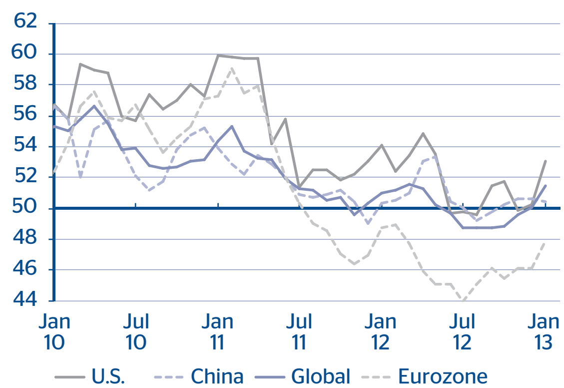
In the last three months some of the threats to world economic recovery have dissipated, giving rise to some optimism. Financial tensions have eased to two-year lows, in particular in Europe, and nearly all assets have benefited from this change of perception. The lower level of threats to world economic stability have also increased consumer and business confidence in various regions, with only a few exceptions. However, these upturns in the financial and confidence indicators have still not led to significant improvements in activity. As our global economic activity indicator (BBVA-GAIN) shows, the slowdown in the world economy in most of 2012 ended in the fourth quarter of the year. **The most recent data back up the outlook for a pick-up in GDP growth, though starting from rates that are well under their historical average** and only at a moderate pace. According to our estimates, world GDP grew by 3.2% in 2012, compared with 3.9% in 2011.

Graph 5
BBVA Financial Stress Indicator



Source: BBVA Research

Graph 6
Confidence indicator (PMI)



Source: Markit and BBVA Research

The increased confidence is a result of the resistance of the economy to uncertainty, combined with the progress made in implementing policies

The data show that China is not facing the prospect of a sharp slowdown. Since the third quarter of 2012, GDP growth has gathered pace in line with our forecasts. Much of the upturn in GDP can be explained by investment, thanks to stimulus policies that have been applied more skillfully in 2012 than in 2009. In addition, there is also an incipient upturn in exports, due to greater demand from Asian countries and the United States, though exports to Europe and Japan continue weak. In addition, political power has been transferred without any incidents.[1]

However, there are still some concerns regarding the sustainability of growth in China. The level of debt of local authorities and the rate of credit growth in shadow banking are probably the greatest financial threats to growth. Even in the short term, these threats could be an obstacle for the implementation of new stimulus measures, if they were to be necessary.

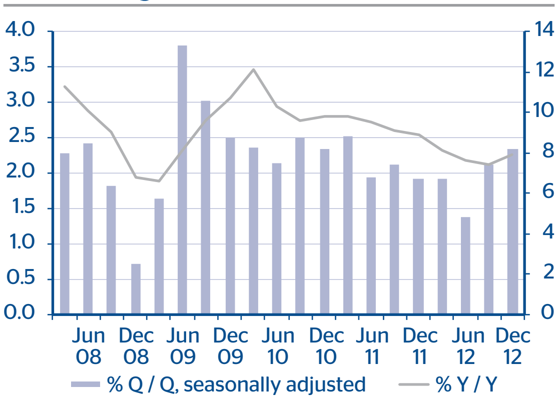
[1] The new administration has shown its intention of maintaining the same policies on growth and reforms. The GDP target will probably be 7.5%, the same as for 2012.

The upturn in the Chinese economy has been received well in the markets as being a key support for global economic recovery and in particular for other export-oriented economies and as a support for commodity prices, particularly in Latin America. Although current prospects for growth in China are not as optimistic as in the past, the markets appear relieved that the risk of a severe slowdown has diminished.

The United States did not fall off the fiscal cliff, and in fact its economy is resisting uncertainty well. The 0.1% fall in GDP in 4Q12 in annualized terms does not reflect the underlying state of the economy.[2] For some time it has been claimed that consumers and companies may slow down their spending in response to the impact that automatic cuts in expenditure and tax hikes of around 4% of GDP could have on their financial situation. However, the growth in consumption has remained fairly stable in recent quarters, averaging at a slightly under pre-crisis levels. At the same time, the housing sector has gained strength. However, it is difficult to measure the impact of fiscal uncertainty in economic indicators, particularly when other policies such as monetary policy through the quantitative easing program could have offset (partially) the negative impact of fiscal uncertainty.

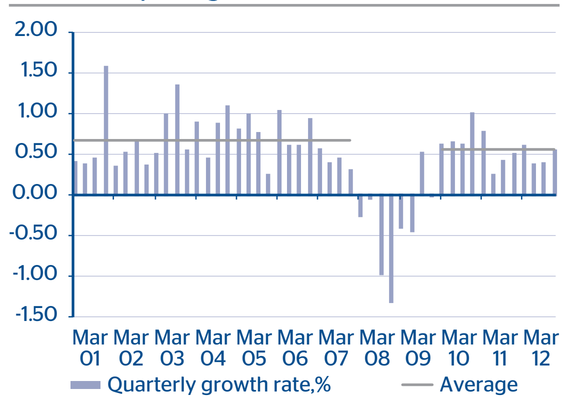
The fiscal agreement reached at the start of the year to extend the tax cuts of 2001, 2003 and 2010 and delay the automatic expenditure cuts by two months were well received by the markets. They have averted a steeper economic slowdown and helped improve US fiscal sustainability. However, the agreement does not completely eliminate a possible cut in expenditure; if such a cut was applied it would mean an additional burden on the economy of 0.8% of GDP. There was also no permanent agreement on the debt ceiling, although it was later postponed further until mid-May. Further negotiations will therefore take place in the upcoming weeks to avoid the risk of an economic contraction in 2013, and at the same time to contribute to fiscal sustainability. Nevertheless, a major fiscal agreement is improbable, given that it would require long-term bipartisan agreements on issues where there are major differences of opinion.

Graph 7
China: GDP growth (%)



Source: BBVA Research and Haver

Graph 8
US consumption growth (%)



Source: BBVA Research and Haver

Europe has also played its part: the progress made in banking union strengthens the commitment to preserve the euro. The agreement on Greece shows that Europe is committed to it remaining in the euro zone. The European and Greek authorities reached an agreement on some of the details of the bailout program, which has enabled payment of a second tranche.[3] The second factor supporting the positive perception of Europe is the progress made toward banking union during the European

[2] The aggregate GDP figure was dragged down by volatile components (inventories and federal defense spending) and exports.
[3] The agreement does not dissipate all the doubts regarding the sustainability of the Greek debt. In fact it is probable that the question could be reopened after the German elections in September, with discussions on a hypothetical restructuring of its debt in the hands of official institutions (supported by the IMF, but resisted by Europe).

summit in December. This factor is fundamental for breaking the vicious circle of public finance and bank solvency, and also for halting the capital outflows affecting some of the peripheral countries of Europe. Although the agreements reached at the December summit were not as ambitious as had been anticipated, they are still valued as positive, as they include a clear timetable for implementing a single supervisory mechanism and the initial steps towards a joint resolution mechanism.

Finally, **the ECB's outright money transactions (OMT) program appears to be having lasting effects in stopping the increase of financial tensions**, even though neither Spain nor Italy (the natural candidates) have requested its activation. This situation could continue, given that the governments in both the center and periphery of Europe have no incentives at this time to activate the program. With the Spanish bond trading at around 5.0-5.5% and the Italian at around 4.0-4.5%, public debt financing does not require the intervention of the ESM in the primary market or the ECB in the secondary market. In addition, the OMT program could continue to be effective in containing tensions, provided that the ECB's commitment to intervene in the market (which would undoubtedly result in a fall in interest rates), and the commitment of governments to request its activation if financing costs become more expensive, are both credible.

The improved outlook does not represent a change in the baseline forecasting scenario

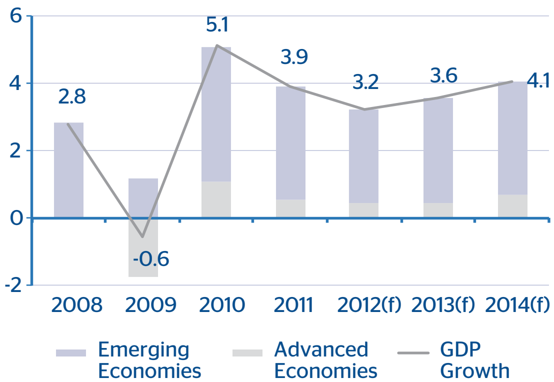
Stronger growth in China, partial agreement on the fiscal cliff in the U.S. and the effects of the ECB's OMT program are good reasons for thinking that the world economy has avoided a systemic risk situation, which the market could at least partly have been reflecting. However, the changes in the fundamentals are less conclusive; a moderate recovery continues to be the most probable scenario, above all given there is no significant upturn in the data on economic activity.

Even though the U.S. has avoided the fiscal cliff, US politicians will still have to reach agreement on some key questions such as the automatic expenditure cuts and the debt ceiling. Any of these points could derail the process. Even if agreements are reached, fiscal policy will become more contractionary in 2013. The real-estate sector is recovering, but **the deleveraging process is still having a significant impact, and the external sector is far from dynamic**. We therefore maintain the profile of our scenario for the U.S., although there is room for possible positive surprises. The US economy is expected to grow at 1.8% in 2013 (compared with 2.2% in 2012) and 2.3% in 2014.

In the euro zone the improvement in the financial markets has still not been backed up by data on economic activity, although there are signs of recovery in the confidence of economic agents and tail risks (unlikely but with a high negative impact) are now less probable. However, **the peripheral countries continue in recession, dragged down by fiscal consolidation and financing conditions.** Even if the external sector improves and imports boost the GDP, some economies still have a process of deleveraging and fiscal austerity ahead of them. However, some advance indicators in Germany and other central countries point to an improvement in prospects at the start of 2013. As a result, the forecasts for the euro zone have been maintained, with an upturn of 0.3% in 2013 (following a contraction of 0.5% in 2012), after which there will be growth of 1.3% in 2014. **The decoupling between the central and peripheral countries will be maintained throughout the forecast period**.

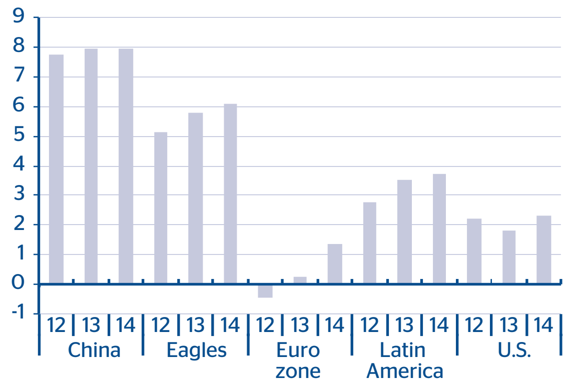
China is probably the economy in which the situation has become clearest in the short term. The new authorities have committed themselves to sustained growth, which involves a clear intention of using a sufficiently expansive economic policy. Forecasts have been revised slightly upward to a figure of 8% in 2013 and 2014. **The soundness of the Chinese economy and the capacity of the US economy to recover will support demand in most emerging countries**. In Latin America as a whole the forecasts have been revised slightly down, due to the weakness of Brazil and Argentina. In 2013, the Latin American economy grew by 3.5%, while in 2014 growth will be 3.7%, close to its potential. Emerging Asia will post a robust growth that will pick up to 6.6% in 2013, compared with 6.1% in 2012.

Graph 9
World GDP growth rate



Source: BBVA Research

Graph 10
GDP growth



Source: BBVA Research

Uncertainty regarding the global economic situation continues high, and has tilted the balance of risks downward, although the possibility of potential upward surprises has appeared for the first time in the last three years. The new institutional framework limits the probability and impact of potential risks, but financial tensions could still resurge for different reasons. First, the peripheral countries in Europe could fail to meet their fiscal targets. If governments implement more austerity in response, the crisis could deepen. However, this risk has a low probability level because the European Commission has made it clear it would not impose additional adjustments if the fiscal targets are not met due to the cyclical deterioration. At the same time, this will probably affect the markets and it may be necessary to activate the ECB support program. In this respect, although the ECB appears prepared to intervene, any potential disagreement between the central and peripheral countries on conditionality is a source of possible instability. Other factors may also play a significant role, such as the details of the bank bailout plan for Cyprus, which have yet to be specified, or political events such as the Italian elections. If the financial tensions increase as a result of one or more of these factors, the euro zone could continue in recession in 2013 as well.

The other significant source of risk is a potential political disagreement in the U.S. on how to tackle the fiscal deficit. Part of the original fiscal cliff has been avoided, but two other questions (sequestration and the debt ceiling) are still pending resolution. Discussions on these two issues may be a source of uncertainty that could halt consumption and investment. In addition, if the agreements are not reached, a tougher fiscal policy could be sufficient for the U.S. to register negative growth rates again.

According to our estimates, if both risks materialize the world economy would grow almost one percentage point under the baseline scenario, far below its historical average. **An adequate implementation of the governance arrangements in the euro zone and additional pacts on fiscal sustainability in the U.S. are necessary conditions for a sustained global recovery**.

3 Growth will continue, but the reforms could take it to a higher level

3.1 Mexico maintains its growth, with the domestic sector providing the main support

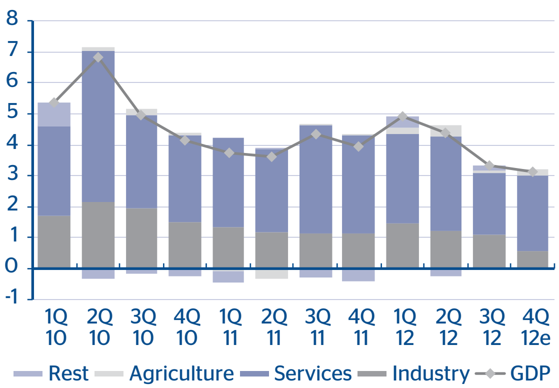
At the close of 2012 the economy continued to grow at a good pace, although there was a significant moderation in the last month of the year. The generally favorable tone was headed by the export growth, which influenced the performance of the industrial sector. Services continued to grow slightly above the rate of the industrial sector, so the rate of growth in the last quarter of the year would be around 0.5% in quarterly terms, similar to the figure for the previous quarter.

A boost in services offsets moderation in manufacturing

The service sector of the economy performed particularly well in the last quarter, with an estimated growth of around an annual 3.5%. It is of note that in December 2012 industrial output surprised with a fall of 2.1% on the previous month. The fall was linked to the contraction of output in key areas such as the automotive industry, non-metal minerals and metal products, which together account for around 28% of manufactures. In the last month of the year, around half of the branches of manufacturing industry presented falls in monthly terms. It was also a bad month for the construction industry, which closed the year with a monthly fall of 2.7%, mainly due to the drop in the building component. At the close of this report, no information is available on the service component for the month of December, but a significant proportion of the services linked to manufacturing are expected to have been impacted by the fall in December output, and the sector is estimated to have contracted in the last month of the year.

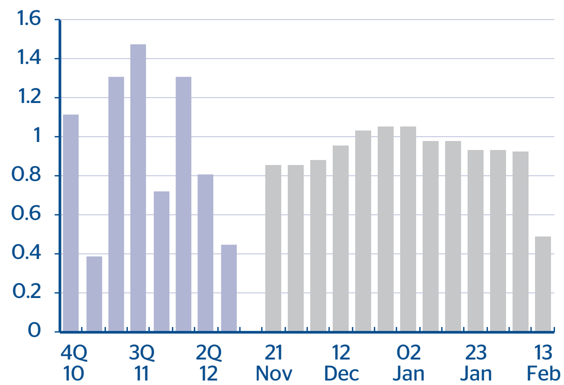
As a result, the BBVA MICA indicator, which measures economic activity with the most timely data available, reduced its estimate of quarterly growth for the fourth quarter from 0.9% to 0.5%, once data for industrial output are incorporated. In annual terms, GDP is expected to have grown by the order of 3.1% in the quarter and 3.9% in the year. We calculate that the contribution of industrial output to GDP growth fell from around 33% in the third quarter of 2012 to 18% in the fourth quarter, while services increased their contribution from 60% to 78% at the close of the year. If the expected growth is achieved, aggregate output will have maintained its rate of growth practically the same as in the third quarter and will have continued the steady moderation that was a feature of 2012.

Graph 11
Contribution to annual GDP growth, average



Source: BBVA Research with INEGI data

Graph 12
BBVA Research MICA real-time indicator of economic activity in 4Q12



Source: BBVA Research with INEGI and Bloomberg data

Manufacturing exports: the key to the strength of Mexican output

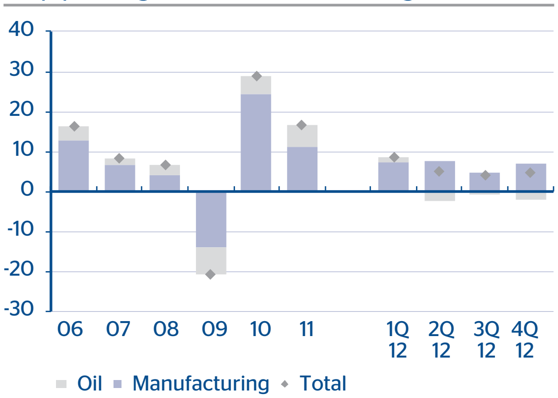
As is well known, the strong link that the Mexican industrial sector has with foreign demand implies that a large proportion of total output in the country is strongly related to the US industrial sector. The U.S. is the recipient of around 80% of total Mexican exports (the figure increased from 77% in 3Q12 to 79% in 4Q12).

Total exports grew at an annual average of 4.8% in 4Q12, slightly more than the 4.5% the previous quarter. Of particular note were manufacturing exports, whose contribution to growth increased by 5 percentage points (pp) in 3Q12 to 7 pp in 4Q12. The fourth quarter of the year showed a notable drop in the value of oil exports, in terms of both price and volume. The price of the Mexican oil mix in the last quarter was 8% below that of the same period the previous year, and the volume of exports was an average of 1,305 thousand barrels per day, 2.6% down on the last quarter of 2011.

Outstanding in the positive performance of manufacturing exports was automotive output, which in the last quarter of the year grew by around 9.4% in annual terms, while the rest of the manufacturing sector increased by an average of only 5.1%. It should be recalled that the weight of the automotive industry in the Mexican manufacturing sector as a whole is around 20%, so its strength is key. However, automotive exports continue to moderate, in line with the other branches. It is worth recalling that the fall in industrial output in December 2012 is strongly linked to lower automotive production for export, which in volume terms was 7.2% down on the figure a year earlier. AMIA figures for January suggest that this fall will have been offset, at least partially, in January, when growth was of the order of an annual 4.0%.

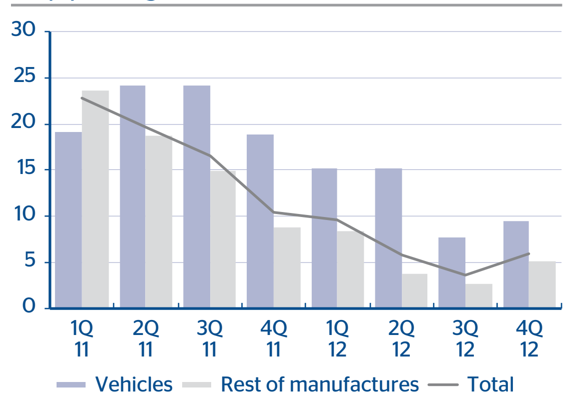
Remittances are another source of funds from abroad. At the close of 2012 they had accumulated a fall in year-on-year terms for the sixth consecutive month in dollar terms, due to the relative strength of the exchange rate and the weak job situation of Mexican migrants in the U.S. The average fall in remittances in dollar terms was 7.8% in the second half of the year, while in the first half the fall had only been an average of 5.1%. The inflow of foreign currency through remittances amounted to USD 22,436 million in 2012, slightly down on the figure of USD 22,797 million in 2011. The inflow of dollar revenues from tourism picked up significantly towards the end of the year, both in terms of dollars and in the flow of visitors entering the country. In the second half of the year, revenues from this item increased by 8.3% in dollar terms on the same period the previous year, with an increase of 2.8% in visitors.

Graph 13
Oil and manufacturing exports (% y/y change and contribution to growth)



Source: BBVA Research with INEGI data

Graph 14
Goods exports: vehicles and other (% y/y change)



Source: BBVA Research and INEGI

Good job figures at the end of the year boost domestic demand

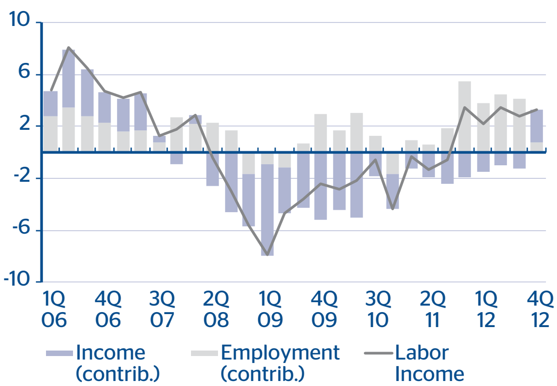
The rate of job creation in the formal private sector of the economy continued and even gathered pace slightly towards the end of the year. In the last quarter of the year, the number of workers in the Mexican social security system (IMSS) increased by 4.7% (0.4% average monthly growth in the two previous years). However, it is worth noting that the ENOE figures that include all the country's labor force show that employment growth in the last quarter was significantly weaker, at an annual 0.8%. There was significant growth in labor income in the last quarter. It increased for the first time since 2008, thus offsetting the lower growth in employment compared with previous months. The other side of this expansion in real income to be taken into account is employment by income level; here it is of note that most of the new jobs created are in low wage ranges: up to 3 times the minimum wage. This constitutes the main limiting factor for a sustained expansion of the components of domestic demand in the future.

The consumption indicators available suggest that stability in household spending will have been maintained, and investment will have continued to grow at a good pace to the end of the year. In particular, retail sales increased in the order of an annual 3.0% in the last quarter. This figure is slightly below that of the previous quarter, so that private household consumption will have grown by around an annual 2.0% in 4Q12. Based on the indicator of imports of capital goods, the imported component of investment, imported plant and machinery, will have closed the year at a good rate of growth. This would have helped boost total investment to around an annual 7.0% in the last quarter of the year.

The baseline scenario of BBVA Research suggests that in 2012 the rate of economic growth was very close to 4.0% y/y. In 2013 it will moderate slightly to the order of 3.1%. This moderation goes hand-in-hand with the expected growth of the US economy, where a rate of growth slightly below the figure for the previous year is expected (2.2% in 2012, 1.8% in 2013). This scenario is not without its risks, related mainly to a possible lack of positive resolution of the fiscal situation in the U.S., which could even lead to a recession. On the positive side, the possible deviations from this baseline scenario are based on future approval of a wide-ranging structural reform package that would imply an upturn in observed growth in the medium term in Mexico, as analyzed in Box 1 of this publication.

Graph 15

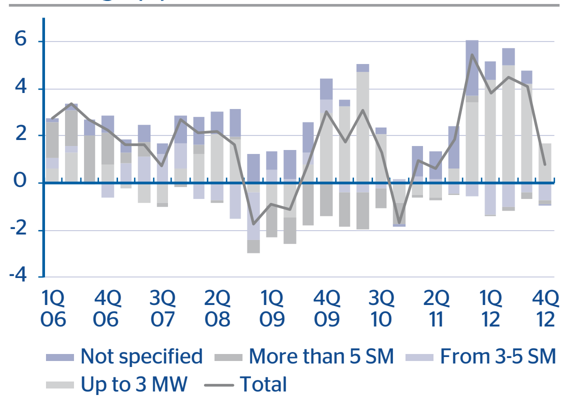
Total labor force and contribution (% y/y and contribution)



Source: BBVA Research with INEGI data

Graph 16

Employment by income level (% change y/y and contribution)



Source: BBVA Research with Infosel data

Box 1: Impact of possible reforms on Mexico's potential GDP

Potential growth is understood to be growth that is consistent with the output level when resources are being fully employed. The potential growth of the economy defines the capacity available for medium and long-term growth, which reflects efficiency in the use of the factors of production. Potential GDP is also related to the level of output that an economy could reach without over-employing its resources, so that no inflationary pressures are generated.

It is important to have a good estimate of Mexico's potential growth when evaluating the possible benefit of structural reforms.

This box describes the methodology used for calculating Mexico's potential GDP and the forecast for its growth.The baseline scenario used in this publication does not take into account the approval of any structural reform, but should rather be understood as an "inertial" scenario. [1] In addition, an estimate is made of the probable effect of a possible future approval of structural reforms. Given the lack of specific information on future reforms, two possible scenarios have been prepared to quantify the effect of energy and fiscal reforms.

Estimate of potential Mexican GDP

The concept of potential output is related in economic theory to the long-term aggregate supply curve, where prices and wages are completely flexible, so that changes in aggregate demand do not have real effects. Two of the commonly used approaches are based on functional relations between the factors of production. Three methods have traditionally been used to measure potential economic output: the first, such as Cobb-Douglass, estimates a function of production; the second estimates a structural VAR with long-term restrictions; and finally, the third uses statistical methods that aim to capture the output trend component. [2]

The calculation of potential GDP presented here is based on a production function of the Cobb-Douglas type, $Y_t = A_t K^{\alpha}_t L^{(1-\alpha)}_t$, which in logarithmic terms is expressed as $\ln Y_t = \ln A_t + \alpha \ln K_t + (1-\alpha) \ln L_t$, where **Y** is the value of GDP in real terms, **L** the level of employment, and **K** is the value of capital stock, also in real terms. A is the total factor productivity (TFP) or the Solow residual, in reference to Solow (1956). It aims to measure the efficiency with which factors combine.

The calculation of the Potential is based on an annual series since 1960 of GDP in real terms, taken from INEGI (Y factor) and an estimated capital level (K) constructed using an assumed initial capital stock K_0 for 1960 [3] and the addition of investment reported by INEGI and depreciated at a constant annual rate of 10%. The labor factor (L) is obtained as a result of the active population and unemployment rate congruent with the non-accelerating inflation rate of unemployment (NAIRU). Constant returns to scale are assumed, and the assumed parameter α value is 0.35, which is close to the contribution of the corresponding factors to national income. The observed and calculated data cover the period 1960 to 2011. From 2012 to 2020, the calculation is based on the baseline scenario estimated by BBVA Research.

Using this information, TFP is calculated as a residual by applying statistical filters to obtain the trend components of the series, consistent with sustainable long-term dynamics. The result of this methodology is an estimate that in the absence of reforms, potential GDP in Mexico would be around 2.8% on average for the period 2014-2018. The contribution of the factors in this period is estimated at 1.2% for labor, 1.4% for capital and 0.1% for TFP.

Fiscal and energy reforms: an estimate of their effects on potential GDP

The fiscal reform is assumed to be implemented with the aim of extending social security across the whole population. Companies and workers in the formal system are no longer responsible for making social security contributions to finance insurance for illness and maternity, health and safety at work, invalidity and life insurance, and retirement, unemployment at an advanced age and old age. Thus the increase in taxes through an increase in value added tax (VAT) would have the sole aim of offsetting the government revenues lost through this reform. In this way, the labor costs in the formal sector would fall and the effect on growth would be limited. In particular, there would be a reduction in non-wage labor costs of only 33% on the current level, and a neutral effect on GDP from the marginal increase in VAT. The simulation of a growth model in two sectors, one formal and the other informal, suggests that a reform under these conditions would generate an increase in the number formal workers, combined with an increase in capital, as this factor is necessary for formal workers to

[1] For more details see "Una Estimación del PIB Potencial de la Economía Mexicana" in Revista Situación Mexico, 4Q2009.
[2] Using Holdrick-Prescott or Baxter-King statistical filters.
[3] Formación y Acervos de Capital para México, 1949-1999", A. Mariña Flores, UAM Azcapozalco.

be integrated into the system of production.[4] As a result of this reform, investment would increase by 1.7 percentage points on average, and the employed population would rise slightly. The effect on potential GDP would be an increase of 0.29 percentage points.

In principle, the energy reform is considered to involve greater investment in the sector. Given that PETROBRAS investment in the energy sector was USD 44.8 billion in 2010, and that of PEMEX was USD 19.5 billion, we consider that a conservative estimate would be for investment of USD 25 billion over 5 years. This would mean that PEMEX would rise from around the 7th biggest investor terms of amount to 4th place in the first year of the refor.[5] Increased investment in the oil sector would mean that investment would rise from an average of 5.5% in the baseline scenario in the period 2014-2018 to 7.6% in the scenario including energy reform. Potential GDP calculated by the increase in the capital stock and the marginal reduction in unemployment would rise from the current 2.8% to 3.1% with the reform for the period under consideration (2014-2018), i.e. 0.28 additional percentage points.

Finally, increased investment and jobs can be expected to generate incentives for investment in education and in research and development, which would also contribute toward increasing total factor productivity (TFP). A reaction function for TFP with respect to capital and labor has been estimated in order to evaluate this effect. The results show that the additional increase in TFP would generate a rise in potential GDP of around 0.29% additional percentage points. This is in line with the proportion of TFP in potential GDP in Brazil measured when reforms including the oil sector were implemented in 1997. This proportion accounts for around 20% of potential GDP.

To sum up, energy and fiscal reforms as described here could increase potential GDP from the current 2.8% to levels of close to 3.7%.

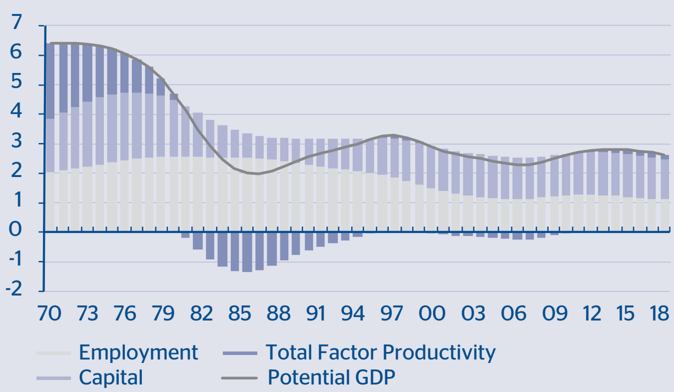
References

Solow, R. (1956), "A Contribution to the Theory of Economic Growth", The Quarterly Journal of Economics, Vol. 70, No. 1, pp. 65-94.

World Energy Outlook (2010), Global Energy Trends, OECD/IEA.

Graph 17

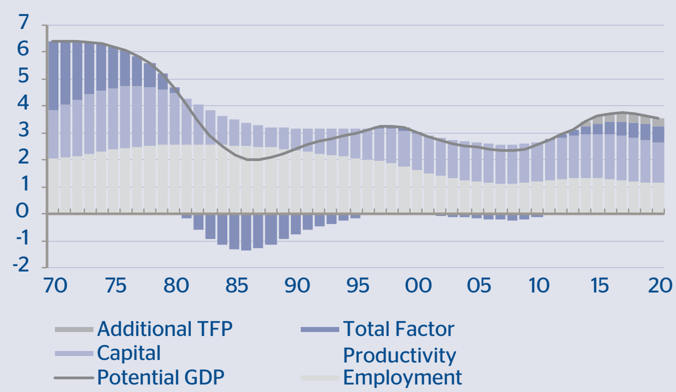
Estimated potential GDP: Baseline scenario



Source: BBVA Research, Bloomberg and CONAPO

Graph 18

Estimated potential GDP: Scenario with reforms



Source: BBVA Research, Bloomberg and CONAPO

[4] The model is outlined in López Marmolejo (2006), "Barriers to work, underground economy and aggregate fluctuations". UAB mimeo. This exercise does not consider the additional benefit of social security for the informal sector, as it assumes that this is neutralized through a tighter control of the sector.
[5] Source: World Energy Outlook 2010.

Box 2: New official demographic projections for Mexico

Recently the National Population Council (CONAPO) updated its forecasts of historical demographic indicators for Mexico. **The demographic adjustment exercise means that in 2050 the population of Mexico will be 12.8% higher than previously projected.** Below is an outline of the main changes made to demographic projections, a description of the current state of the population that lives in the Republic of Mexico, and the implications of the new official population data for the Mexican economy.

Using data from the 2005 Population and Housing Poll (CPV2005), the estimate for the Mexican population in 2010 was 108 million. This was later adjusted according to the preliminary results of the 2010 Population and Housing Census (CPV2010). As adjusted, the population of Mexico amounted to 112 million in 2010. However, in November 2012, CONAPO concluded its demographic adjustment exercise and thus generated new official demographic projections through 205. **These new projections, put the population of Mexico at 114 million in 2010. The difference between the figures based on the poll of 2005 and the census of 2010 is around 6 million for the same year.**

The main reason for the difference is the higher than anticipated birth rate, as well as the falling trend in emigration flows.

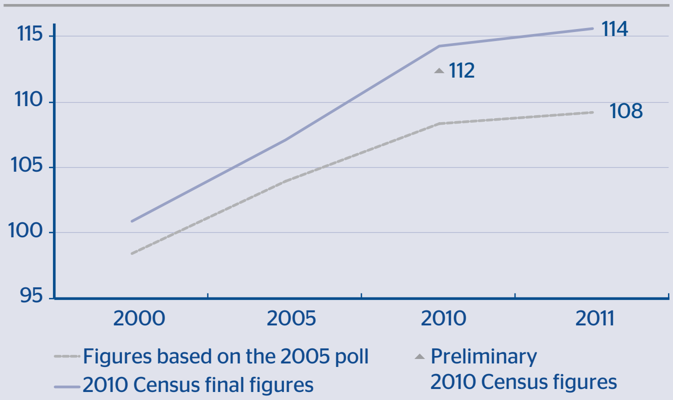
The indicators based on CPV2005 calculated a natural growth rate (the difference between the number of births and deaths per 100 people) of 1.28% in 2010, while the final results of CPV2010 suggested the figure was 1.41%. The rate for 2050 was 0.12% in CPV2005 and 0.48% in CPV2010. Emigration flows from Mexico, which in the five-year period 2000-2004 averaged 549,000 (541,000 in decade of the 1990s), fell significantly in the following 5 years to an average of 305,000.

The age groups with the biggest variation in population are children (to 12 years of age) and to a certain extent young people (around 13-25 years of age), mainly among the female population. The natural result of a higher than estimated fertility implies that in 2020 the population pyramid will have "widened", so there will be a greater infant and youth population. The population under 17 years of age will be on average 20% greater than estimated using preliminary figures. As a result of lower emigration, the population between the ages of 18 and 38 will be 5% higher than that originally calculated. The population between 14 and 65 years of age, which currently numbers 77.8 million (66.6% of the total) will number 85.2 million in 2020 (68.1% of the total). This represents a demographic dividend that should be taken advantage of.

Based on the final CPV2010 figures, the greater demographic growth and expected migration rates imply that by 2050 there will be 72.4 million women (52.7% of the total) and 65.0 million men. The natural rate of growth was estimated at 1.35% in 2012. It will fall to 0.48% in 2050. The CONAPO estimates show a striking continuous reduction in the fertility rate (defined as the average number of children that

Graph 19

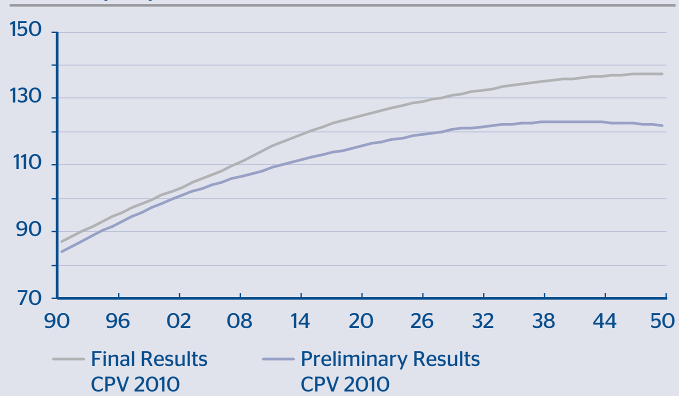
Population in Mexico: 2005 Poll and 2010 Census



Source: BBVA Research, Bloomberg and CONAPO

Graph 20

Official population estimates in Mexico (million people)



Source: BBVA Research and CONAPO

a woman can be expected to have had at the end of her reproductive life, in accordance with the fertility rates by age for a given year), which in the 1970s was 6.1 children per woman and is currently 2.2 (2.1 by 2050).

Other relevant figures in the new population forecasts are, as mentioned, the reduction in the expected rate of emigration, which amounted to an expected exit of 321,000 Mexicans in 2012 and 588,000 in 2050. No significant changes in flows from one state to another within the country are expected.

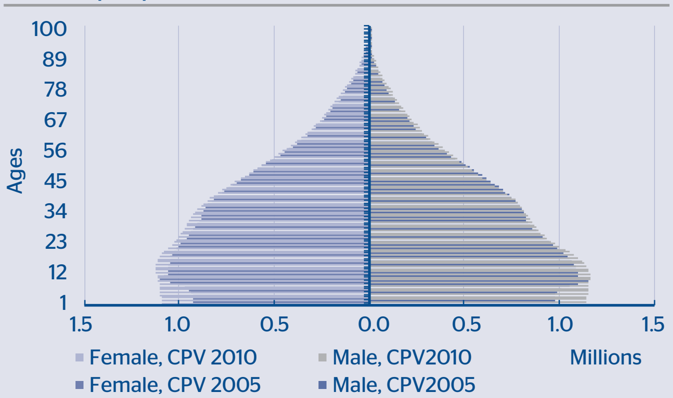
The adjustment in population size has effects in terms of economic analysis, including the figures on the conditions of the labor market in the National Occupation and Employment Survey (ENOE) and the calculation of potential GDP.

The National Occupation and Employment Survey (ENOE) takes as a base the preliminary 2010 Census figures (112 million population in 2010). It makes a quarterly estimate of the country's population, though this estimate does not take into consideration of the most recent adjustment made in 2012. If we use these 2012 figures, the absolute figures of strategic employment indicators such as the number of employed (48.7 million on average in 3Q12) and unemployed (2.6 million) will have to be adjusted upward in line with the new population projections. The same will be true for the estimate and forecasts of the Economically Active Population (51.4 million in 3Q12).

Another result of the population change is an adjustment in the calculation of potential GDP, calculated in accordance with the neo-classical theory of economic growth as a combination of the factors of labor and capital production combined with available technology. The contribution of the labor factor is obtained by taking into account the Economically Active Population (EAP) and an estimated natural rate of unemployment, so the new population levels imply a higher contribution from the labor facto. **However, this greater contribution is offset (pending an adjustment of the level of total economic output) by the loss in productivity per worker,** so the productivity component in the combination of the factors of production will be reduced.

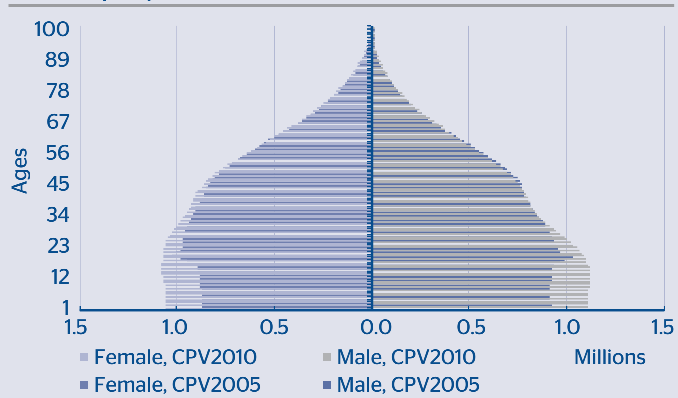
Mexico now has more finely-tuned figures on the profile and characteristics of its population. This is in itself of value due to the advantage it gives in terms of the planning and evaluation of development policies at all levels. One of Mexico's challenges for the future will be to take advantage of the demographic dividend that will kick over the coming years.

Graph 21
Official population estimates in Mexico (million people): 2010



Source: BBVA Research, Bloomberg and CONAPO

Graph 22
Official population estimates in Mexico (million people): 2020



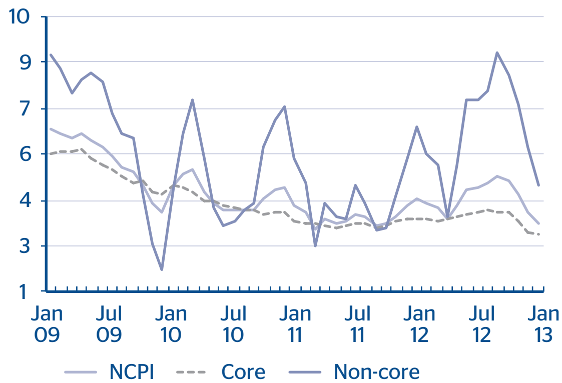
Source: BBVA Research, Bloomberg and CONAPO

3.2 Inflation returns to its variability interval as supply shocks dissipate and there is no contagion to other prices

Annual inflation was around 4.1% in the last quarter of 2012, above the Banxico target range. This was the result of a number of supply shocks since June that pushed it above that threshold to a maximum of 4.8% in September. However, starting in October inflation began a marked slowdown that took it to 3.6% in December. The slowdown in inflation was mainly due to three factors: 1) supply shocks began to ease; 2) they did not spread to other prices; and 3) telephony rates, particularly mobile telephony, fell steeply and surprisingly in November and December. (see Box 3 for an analysis of the structural change in prices).

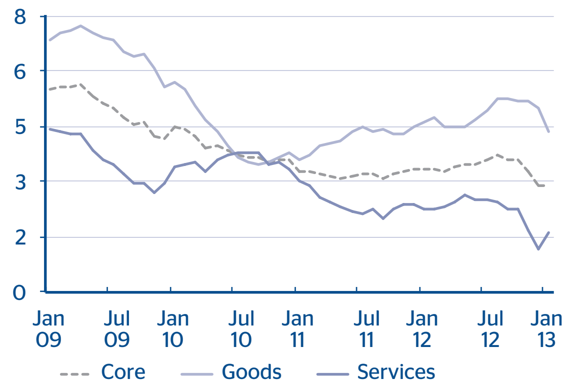
Mid-way through 2012 inflation picked up both in its core and non-core components. The increase in the non-core component was general, and only the sub-index of tariffs fixed by local governments remained steady at a low rate of inflation. The effect was more limited in the core component, where a large number of its sub-indices did not see inflation speed up. Below are details of the figures of both components.

Graph 23
Inflation breakdown (y/y % change)



Source: BBVA Research with INEGI data

Graph 24
Core inflation and components (y/y % change)



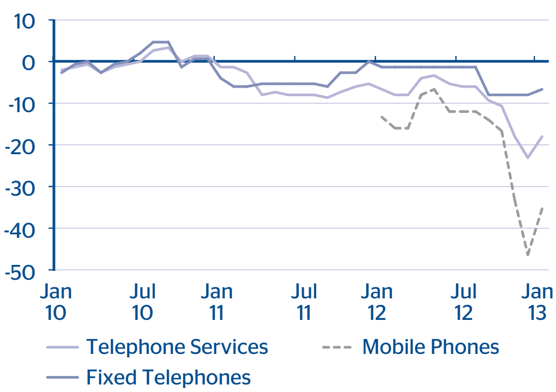
Source: BBVA Research with INEGI data

Since June 2010 annual core inflation has remained under 4.0%. However, in October 2011 it began to pick up pace steadily from 3.1% in September 2011 to 3.7% in August 2012 as a result of the supply shocks affecting its sub-indices of goods (i.e. processed food and other goods). Among these shocks are more expensive grains on international markets due to a disruption in production worldwide related to the climate, lower production of some grains in Mexico, such as corn and beans, and the weakness of the exchange rate between January and August 2012, when it weakened by an average of 11.4%. As a result, annual inflation in processed foods has remained above 4.0% since December 2010, and hit a maximum of 7.5% in October 2011. Since then it began to moderate steadily to 5.2% in January 2013, the first figure under 6.0% in 21 months. Inflation of other goods has been over 4.0% since August 2012, but given the improved exchange-rate conditions in 4Q12 and the slackness in the economy, in January 2013 it reached 3.7%.

The sub-index of services has been the main factor behind core inflation remaining under 4.0% for a prolonged period. In general its three components (housing, education and other services) have not been under pressure, in line with the prevailing slack in the economy, and even in the case of other services, changes in the setting of some specific prices led to a slight fall in inflation in December. The prices of housing and education have remained stable since 2011, with their inflation rate at around 2.0% and 4.4%, respectively. However, although no abrupt upturns are expected in either of the two components, their inflation rates should speed up slightly as spare capacity in the economy continues to be reduced. Inflation in other services has remained under an annual 3.0% since March 2011. This component has experienced a steep fall in inflation since June 2011, which led to a negative inflation of 0.72% in annual terms in December 2012, mainly as a result of unexpected reductions in the prices of telephone services, in particular mobile telephony, which fell by 46% in December 2012. Falls of this magnitude have not been observed before and could be due to a number of technological, regulatory and competition factors in the industry.

Graph 25

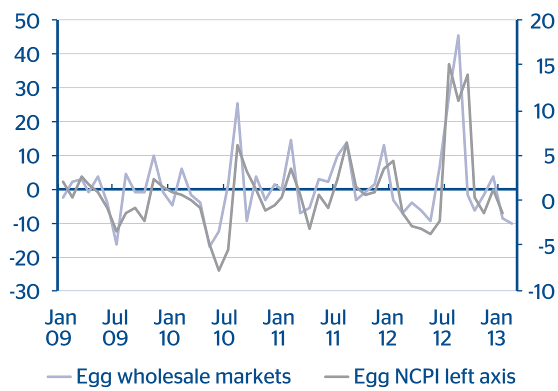
Inflation of telephony and selected sub-components (y/y % change)



Source: BBVA Research with INEGI data

Graph 26

Egg price inflation and wholesale markets prices (m/m % change)



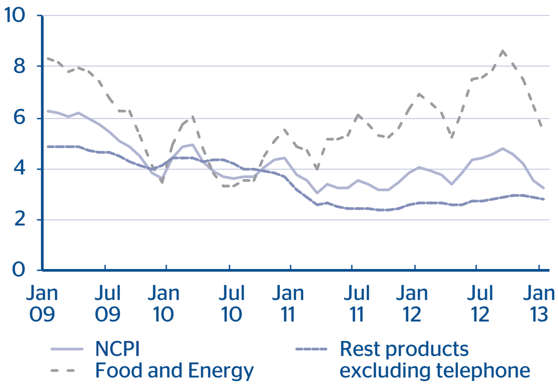
Source: BBVA Research with data from INEGI and SNIIM

Non-core inflation averaged 6.5% in 2012, though there were major fluctuations throughout the year, with a low of 3.5% in April and a high of 8.8% in September. This volatility throughout the year is not exceptional, given the nature of the non-core components; however, there were major contrasts between them in 2012. Agricultural and livestock prices are one example of this: while fruit and vegetable prices increased an average of 3.25% over the year, prices of livestock products did so by 13.3%. In the first half of the year prices of livestock products appeared to have moderated, from 12.7% in January to 10.4% in March. However, the outbreak of bird flu in the west of the country (mainly affecting egg production) led to an acceleration in these prices that pushed annual inflation up to 17.7% in September. This major supply shock prevented inflation in agricultural and livestock products from being lower, and it closed the year at 9.2%. There were also major contrasts in public prices, as inflation in energy products remained above 7.5% in the first nine months of the year, thanks to a weak peso and high world energy prices, particularly oil. This combination put pressure on electricity prices and meant that since the end of 2012 the government has adjusted gasoline prices more agresivelly, with the result that energy inflation averaged 7.3% in 2012. In contrast, the rates fixed by local government maintained inflation at below 1.0% for much of the year and constituted an anchor that prevented non-core inflation from being even higher at the moments of greatest pressure.

It is important to note that price formation in Mexico has resisted various shocks over the last three years, without contagion to the rest of the prices. This implies that economic activity was the main factor in price formation. This can be seen if we compare inflation of an index that contains food and energy with one that contains the rest of the products (and excluding telephony services to remove a strong downwards bias), and with the national consumer price index (INPC). It can be seen that the rises in the INPC are largely due to energy and food prices, and that these were not passed on to other prices. This implies that in general economic activity is one of the main factors determining inflation, and that inflationary expectations were not significantly contaminated.

Graph 27

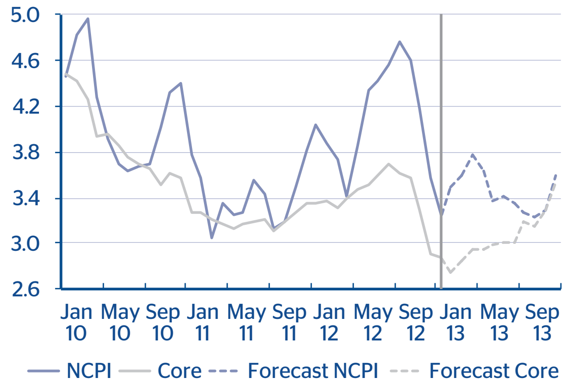
INPC inflation; food and energy and other goods excluding telephony (y/y % change)



Source: BBVA Research with data from INEGI and SNIIM

Graph 28

BBVA Research inflation scenario (y/y % change)



Source: BBVA Research

In 2013 the forecast is for inflation to remain below 4.0% throughout the year and close the year at around 3.6%. This is based on core inflation remaining low thanks to lower goods inflation and on no sudden upturns in service prices. This is because although commodity prices continue high, no additional upward shocks are expected. In addition, it is estimated that if global growth continues at its current trend, the peso will benefit and gain with respect to 2012 levels, so core inflation will close the year at 3.5%. Non-core inflation will benefit from the recovery in egg production at national level, as no sudden upturns in fruit and vegetable prices are expected. In addition, a stronger peso means lower pressure on energy prices, even if the oil price rises, so for the moment no abrupt changes are expected in this component from livestock or energy prices.

The main risks of our forecast are: 1) upward, a bigger than expected upturn in the tariffs set by the public sector, supply shocks that affect grain prices locally and internationally, and/or a renewed period of financial instability that generates a depreciation of the peso; and 2) downward, a possible new cycle of strong falls in telephony prices or a sharp fall in economic activity that increases economic slack again.

Box 3: Have there been recent structural changes in Mexican inflation?

The 1970s and 1980s in Mexico were notable as a period of high inflation. It was not until the 1990s, after a process to liberalize the economy was launched, that the Bank of Mexico was granted autonomy (in April 1994) and the exchange rate was made flexible and brought back on track. Agreements were achieved for fiscal discipline, and inflation entered a process of stabilization. In 2002 the Central Bank announced a long-term inflation target of 3.0%, with a band around the target allowing a variability of more or less 1 percentage point. This target has been reached occasionally since 2004 for brief periods. Average inflation between 2004 and 2012 was 4.26%, and inflation was within the maximum target band in 44% of the months during this period. However, since October 2012 inflation has shown a downward trend, from 4.77% in September to 3.57% in December. This trend continued in January 2013, when inflation stood at 3.25%. This adjustment process was partly due to the dissipation of various supply shocks that had pushed up non-core and core components in 2012. In addition, there was a major fall of inflation in the sub-index of other services in core inflation, due to the steep falls in telephony prices, and in particular mobile telephony. This downward shock led both core inflation and other services to fall to all-time lows of 2.90% y/y and -0.72% y/y, respectively.

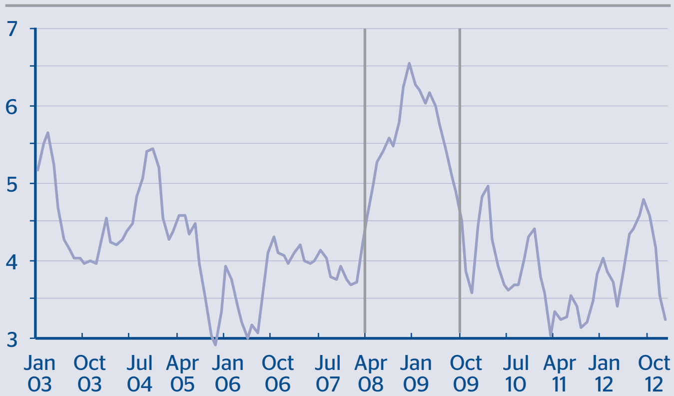
This box analyzes whether the recent fall in inflation is due to a structural change in prices as a whole, to a structural change within some sub-component of the price index, or is a temporary phenomenon. The question is of great importance, as it will help evaluate whether it is possible for inflation to stabilize consistently around the 3.0% target established by Banxico; and this in turn could lead to significant changes in monetary policy.

The first step has been to analyze structural changes by carrying out two statistical tests on the annual series for headline, services and other services inflation, and on their respective price indices. The two tests carried out detect unit roots as explained by Zivot and Andrews (1992) and by Clemente, Montañés and Reyes (1998) and also they identify the periods in which structural changes in the series occurred, particularly at the level and/or slope. The key difference between the results of the two methodologies is that the Zivot and Andrews test detects one period of structural change while that of Clemente et al. can detect two periods.

Given that in the last 18 years inflation has gone through various structural changes, the statistical tests applied on the period from 1990s on detect the changes closest to the start of the period. In order to detect recent changes, an alternative sample starting in 2003 is therefore studied. When carrying out tests on headline inflation, the Clemente et al. test (CMR) indicates that two structural changes took place in the period 2003-2012, one in the third quarter of 2008 when inflation increased sharply at the onset of the crisis, and the other in the first quarter of 2010 as a result of a number of fiscal changes. In what is a coherent result, the Zivot and Andrews (ZA) test also indicates a structural change in 2008. Thus the statistical tests do not appear to show that there has been a structural change in headline inflation in the recent period leading to a lower inflation level. Applying the tests on core

Graph 29

Periods of structural change for headline inflation



Source: BBVA Research, based on the Clemente et al. test (1998)

Graph 30

Periods of structural change for inflation in other services

Source: BBVA Research, based on the Clemente et al. test (1998) inflation, the result of the CMR test is the same as that obtained for the national consumer price index (INPC). This result is repeated when both tests are carried out on the sub-index of goods and their components. However, the results of the CMR test on the services sub-index, which includes the sub-components of housing, education and other services (and which in turn include telecommunications), show structural changes in the third quarter of 2009 and the first quarter of 2011. The first period is characterized by being the final period of falling inflation prior to its upturn due to the fiscal changes; and the second includes a change in the methodology used to measure telephony prices, which divided the generic "local telephony service" into two components, fixed and mobile telephony. Consistent with this, two periods with structural change have been detected in the sub-index of other services that includes these components, one in the first quarter of 2010, just after the tax increases, and the other in December 2010, just before the events related to telephony mentioned above. As a control against the effects of the telephony component, the CRM test has been carried out on an INPC index that does not include telephony prices, and the results were consistent with the test carried out on full headline inflation.

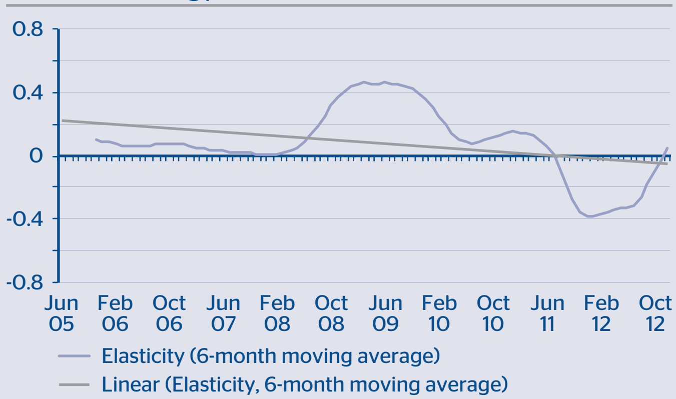
In addition to the structural tests in the series, a model has been constructed to determine prices, similar to that used in the Economic Watch "Inflation, influenced by slack in production factors".[1] The aim of this is to evaluate whether the weight of different determinants of inflation has changed significantly. Such a change could suggest a change in the process of price determination.

No substantial changes have been observed in the weight of the determinants of headline, goods and non-core inflation. However, there are indications of changes in some of the sub-components of inflation. First, when estimating the effect of inflation of products that have suffered recurring supply shocks, such as energy and food, on the rest of inflation (not including telephony), less transfer of these shocks was observed in 2011 and 2012. Among the factors behind this are the conditions of slack in the economy, which limit this transfer, and the central bank's greater credibility. In addition, the conditions of the labor market have gained weight in explaining inflation in services and other services. This result could suggest two things. One is that with high unemployment or very persistent unemployment levels, companies have to adjust prices downward more than proportionally. This could occur because in the face of a major fall or prolonged reduction in demand, companies have to make greater adjustments in prices to maximize benefits. Another possibility is that prices of services have begun to behave more coherently with the labor market conditions for a variety of reasons, such as greater competition, regulatory decisions, or the greater penetration of technology.

The conclusion is therefore that although there appear to be structural changes in the telecommunications sector, and second-order effects from supply shocks are passed on less, it is not clear that there is a general structural change in prices in Mexico, particularly in what is a markedly slack economic context.

Graph 31

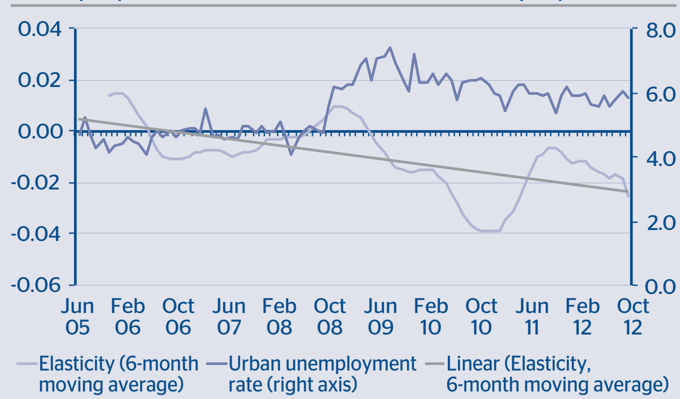
Estimate of second-order effects: elasticity between inflation excluding energy, food and telephony, and inflation in energy and food



Source: BBVA Research, based on the Clemente et al. test (1998)

Graph 32

Estimate of the effect of the labor market conditions on other services: elasticity between other services and unemployment, and the rate of urban unemployment



Source: BBVA Research, based on the Clemente et al. test (1998)

[1] Available http://www.bbvaresearch.com/KETD/fbin/mult/110801_InflacionMexico_71_tcm346-265004.pdf?ts=382011.

3.3 The clearly dovish tone of the Banxico statement suggests a cut in the coming months

The tone of the Banxico statement became unexpectedly dovish at the first meeting of the year, after inflation fell from 4.18% in November to 3.57% in December, ending the year within the variability range of the inflation target. The Central Bank maintained its monetary stance explicitly linked to the consolidation of the falling trend in inflation. It suggested that if this trend continued it would be advisable to reduce the funding rate. The change in the tone of the statement was unexpected, given the progressive way in which Banxico usually modifies its tone It was also a contrast with the November statement, which mentioned that if the downward inflation trend was not consolidated an increase in the rate would be in order. The steady change in the statements can be seen in the most recent period of inflation rises, with the clearly restrictive tone over four months, even when inflation was over 4.0%.

Similarly to the previous years when the communications became dovish, the Central Bank highlighted that a reduction in the rate would have the aim of making it easier to adjust the economy to a situation of lower growth and lower inflation. This idea relies on two arguments previously presented in the minutes of the meeting of March 15, 2012. The first is that the efficiency of monetary policy, which is based on the idea that convergence toward the inflation target, should be achieved at the lowest possible cost for the economy as a whole. Back in March 2012, when inflation had fallen to 3.87% after being above 4.0% in January, some members of the board mentioned that if the prevailing conditions of inflation and growth continued "convergence with the target at a lower inflation rate could be achieved, which would be positive for the economy." In the minutes of the most recent meeting it is argued that this reduction in the rate should be communicated as a one-off correction that reflected the gains in the fight against inflation, and not as the start of a cycle of easing.

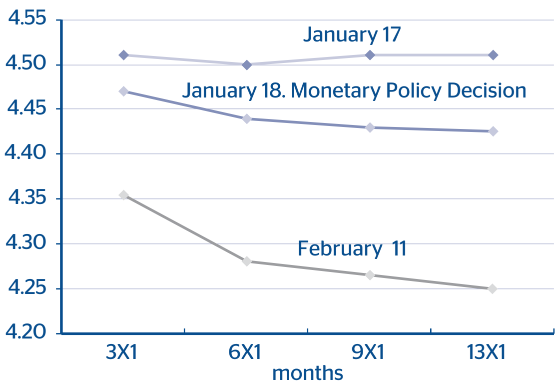
The second argument is that the adequate implementation of monetary and fiscal policies provides room for the Central Bank to adjust its monetary policy. In March 2012 it was mentioned that the credibility achieved over the last decade, as a result of implementation over a prolonged time of adequate monetary and fiscal policies, provided room for the Central Bank to adjust its monetary policy. Similarly, in the most recent minutes it is argued that a reduction in the funding rate, combined with the recently announced fiscal consolidation measures, could help the economy adjust to an environment of lower growth and inflation. Overall, it can be seen that following the fall in inflation and the improved balance of risks, structural arguments have gained force among the governing board.

However, there are some additional elements in the Central Bank's statement that make this new change in tone different. First, the repeated occasions in which the Central Bank has indicated that inflation in 2013 will remain close to 3.0% and that core inflation will be under 3.0% suggest greater confidence with respect to the inflation outlook and its movement toward convergence, even though inflation has not been at 3.0% for more than two consecutive months in the last 12. Second, the rejection of upward risks on inflation in the short term, since the possible effects of supply shocks or new episodes of volatility in the financial markets are considered temporary or limited. And third, a somewhat pessimistic message on the question of global economic activity and its influence on the domestic economy. In addition to these elements it should be noted that this statement was issued with core inflation at an all-time low of 2.88% in January, and after Banxico correctly anticipated the December fall in inflation, despite the fact that a fall of this size had only occurred three times in the last seven years.

The BBVA Research scenario considers an average inflation of 3.46% for the rest of the year. In particular, agreeing with Banxico, it expects inflation to increase toward April and then to fall to an average 3.3% in the last quarter of 2013, which appears in line with convergence to the target. This factor, combined with the emphatic tone of Banxico's statement, suggests that there will be a cut in the monetary policy rate of 50 basis points (bps) in April, once there is more information about the performance of the economy and inflation.

Graph 33

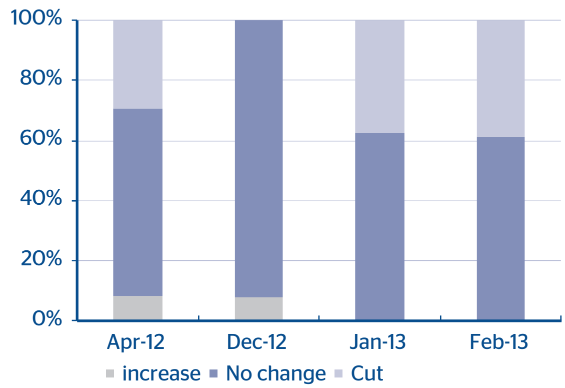
Expected funding rate implied in the IRS swap curve



Source: BBVA Research and Valmer

Graph 34

Expectations of movements in the monetary policy rate in coming 6 months (% analysts)



Source: Financial Market Analysts' Forecast Survey

The unexpectedly accommodative tone of Banxico contributes to financial markets turning their attention to domestic factors

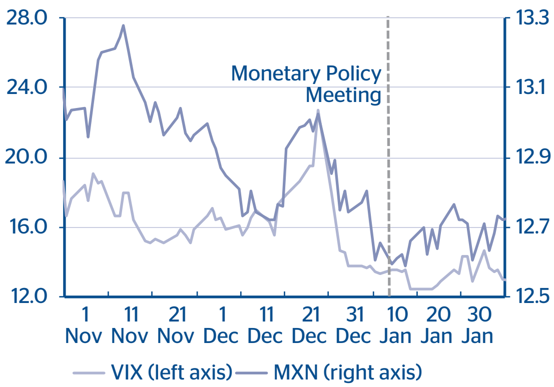
In recent months the discussion regarding the fiscal cliff in the U.S. and the change of tone of the Banxico statement have been the two main factors influencing the exchange rate. Once it was known that the Democrats would maintain their majority in the US Senate and the Republicans in the House of Representatives, there was an upturn in global risk aversion, as a clear sign of uncertainty regarding whether agreement would be reached to prevent the entry into force of the expenditure cuts and tax increases of the order of 3.9% of GDP programmed for January 1, 2013. In the following days of November and December the exchange rate strengthened from 13.3 to 12.7 pesos per dollar, as optimism regarding an agreement prevailed in the markets. However, as happened in 2011 with the discussion on the US debt ceiling, as the new year approached, the peso lost around 2.4% and fell back to 13 pesos to the dollar. Finally, toward the end of the first day of 2013 the House of Representatives approved the Senate proposal delaying expenditure cuts for two months and increasing taxes for households with income of over USD 400,000 per year. Once the agreement was known, global risk aversion plummeted and the financial markets returned on the path toward levels not seen since before the crisis. The peso appreciated 3.4% between December 28 and January 17, taking it to under 12.60 pesos/dollar, also supported by better than expected data on employment and the housing sector in the U.S.

The peso began to reverse its strong trend after the more accommodative than expected tone of Banxico's monetary policy statement. In a foreign-exchange market such as the peso, where abundant global liquidity has generated opportunities for arbitrage (see Box 4: "The effect of global liquidity on the opportunities for arbitrage" for a more detailed analysis of this subject), a reduction of the monetary policy rate is reflected in a lower yield from short-term investment strategies such as the carry trade, and a currency depreciation. Thus the peso lost 0.9% in two days and temporarily loosened its link to global risk. In recent weeks the peso has fluctuated between 12.60 and 12.73 pesos/dollar in an environment of global risk and sovereign risk aversion which are at all-time lows. In addition, markets are optimistic on the possibility that Mexico will carry out profound structural reforms. When the reforms are presented to Congress this could help the exchange rate maintain its trend towards gains, and even reach levels of close to 12.30 pesos/dollar.

Toward the end of February discussions will be resumed in the U.S. on the programmed government expenditure cuts, while the new debt ceiling will have to be approved in May. These episodes will very probably contribute toward a return of volatility to the foreign-exchange market.

Graph 35

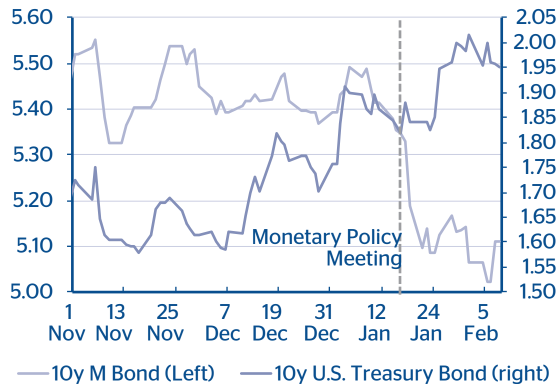
Exchange rate and global risk measured via the global volatility index VIX (pesos/dollar and %)



Source: BBVA Research and Bloomberg

Graph 36

10-yr Mbond and Treasury bond yield (%)



Source: BBVA Research and Bloomberg

With respect to short-term rates, the 28-day CETES fell sharply in December, with the yield falling to under 4.0% for the first time since August 2011. This movement was the result of the entry of foreign investment amounting to USD 8 billion, the biggest monthly entry of flows from abroad in history for these kinds of instruments. Foreign investors responded to the forward trading rate falling under the stop rate, thus allowing them to protect their dollar yields and increase the opportunities for arbitrage by ensuring an even greater yield in dollars than the spread between Mexican and US interest rates (see Box 4: The effect of global liquidity on opportunities for arbitrage). Later, given the greater volatility of the exchange rate, the CETES rates returned to the levels of recent months.

The long-term rates were strongly influenced by their positive relation to the US Treasury bond, even in the days before the agreement to postpone the fiscal cliff. This relationship was lost with Banxico's more accommodative tone and its forecast that inflation would reach levels of close to 3.0% in the rest of the year. As a result, the sovereign rate curve fell and long-term yields were close to the minimum levels reached in July 2012. For example, the 10-year Mbond yield has fallen by 29 bps since the monetary policy meeting on January 18. Over the next few weeks the curve is expected to continue responding to inflation data and market expectations of a cut in the monetary policy rate.

Box 4: The effect of global liquidity on opportunities for arbitrage

In recent years, the adoption of unconventional monetary policy measures by the central banks in developed countries has generated an increase in demand for financial assets of emerging countries as investors look for higher returns. This greater demand, combined with the recent reduction of global risk aversion following the reduced probability of a catastrophic event in Europe and the United States, have exacerbated opportunities for arbitrage in the foreign-exchange markets, above all in the short term. In particular, in the case of Mexico favorable expectations in December for the peso in the forward market in the light of a possible solution to the fiscal cliff in the U.S. have generated the conditions for inflow of a record USD 8 billion of foreign investment into CETES, seeking to obtain yields from the carry-trade strategy. This strategy consists of adopting a short position in a foreign-currency denominated instrument with a low interest rate and a long position in local-currency denominated instrument with a higher yield than the foreign-currency counterparty. The aim is to exploit a violation of the principle of interest-rate parity, according to which in an efficient market exchange-rate movements adjust in such a way that they compensate the interest rate spread between two countries. In other words:

$$f_{t+h,t} - s_t = i_t - i_t^* \quad (1)$$

$$\Delta s^e_{t+h,t} = s^e_{t+h,t} - s_t = i_t - i_t^*, \quad (2)$$

where i_t is the logarithm of the domestic interest rate,[1] i_t^* is the logarithm of the foreign interest rate, $f_{t+h,t}$ is the logarithm of the forward exchange rate for h future periods on date t, s_t is the logarithm for the exchange rate in period t and $s^e_{t+h,t}$ is the logarithm of the expected exchange rate h periods later on date t. The equation **1** is called covered interest rate parity (CIP), given that by buying a foreign-exchange forward contract the investment is covered. In contrast, equation **2** denotes an investment in which an exchange-rate risk is incurred, as there is no covering instrument, so it is called uncovered interest-rate parity (UIP). To analyze the relationship between the increase in global liquidity and the presence of positive returns in a carry trade strategy, the first step is to test of the efficiency of the Mexican foreign-exchange market; in other words, to check whether or not there is interest-rate parity. This exercise is based on the work of San Martín et al. (2009) for 1, 3, 6 and 12 month terms and based on the following regression analysis:

$$(f_{t+h,t} - s_t) = \alpha + \beta\,(i_t - i_t^*) + \varepsilon_t \quad (3)$$

$$(s_{t+h} - s_t) = \alpha + \beta\,(i_t - i_t^*) + \varepsilon_t \quad (4)$$

Where ε_t is a stochastic error. Note that in equation (4) the dependent variable is the observed depreciation/appreciation. This approach is used in the literature to test UIP.

If interest-rate parity holds α and β should not differ significantly from zero and one, respectively. The results of the calculation lead us to reject that the CIP and UIP are complied with by all the terms in question, with the exception of 12 months in the case of the CIP. This indicates the possible presence of opportunities for systematic arbitrage in the Mexican foreign-exchange market.

In addition, the calculation shows that the coefficient of β is greater than one in all cases. This indicates that for a foreign investor the gains from speculating in the foreign-exchange market using strategies such as the carry trade are greater than from simply investing in an instrument at the foreign interest rate. Although the calculation for the complete sample is relevant, it is even more important to know the behavior of this coefficient over time, with the aim of analyzing whether it is associated with the unconventional monetary policy measures mentioned earlier that have increased investment flows to emerging countries. To do so, a regression analysis has been carried out with moving four-year windows of equation 1 for the terms of 1, 3, 6 and 12 months. The coefficient β for the terms of 1 and 3 months is around 1 until the end of 2008, and then increases at rising rates until mid-2011. In fact, the increases in the size and rate of growth of the coefficient coincide with the entry into force of non-traditional monetary easing measures in the U.S. (Quantitative Easing or QE). In particular at the end of 2008 and 2010, when QE1 and QE2 came into force, the slope of the coefficient increased. In September 2012, when QE3 was announced, the coefficient also experienced an upturn. It is important to note that for the 6 and 12 month terms the coefficient shows a growing trend, although with greater variability.

With the aim of corroborating what has been shown in the charts with respect to the relationship between possible gains from the carry trade and global liquidity, a regression analysis has been carried out with coefficient β

[1] The domestic interest rate used was the interbank equilibrium interest rate (TIIE) at different terms, while the LIBOR was used for the foreign interest rate.

as a dependent variable and the assets on the US Federal Reserve balance sheet and a constant as regressors.[2] In this case, the FED assets are considered a proxy for liquidity at a global level. The results of the analysis show that in all cases the variable of assets on the FED's balance sheet is significant in explaining the behavior of coefficient β. In other words, the increase of global liquidity has had an effect on the presence of opportunities for systematic arbitrage in the Mexican foreign-exchange market.

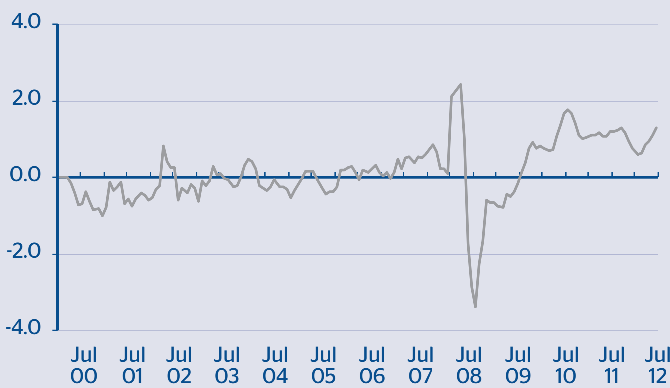
To sum up, we can reject the hypothesis of efficiency in the Mexican foreign-exchange market, and this has given rise to opportunities for systematic arbitrage, which have increased due to the non-conventional monetary policy measures in some industrialized countries. As a result, it cannot be ruled out that the withdrawal of these measures could generate episodes of volatility in the financial markets of emerging countries.

References

San Martín, Andrea y Gabriel López Moctezuma, 2009. "Ineficiencias en el mercado cambiario en México: ¿prima de riesgo o irracionalidad?" Thesis, Instituto Tecnológico Autónomo, Mexico.

Graph 37

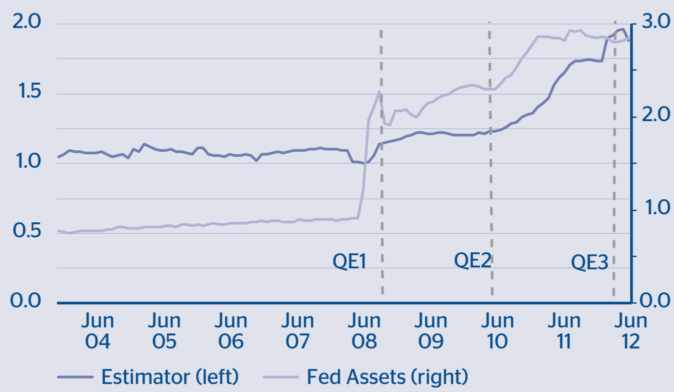
1-month carry trade strategy yield (annualized %)



Source: BBVA Research
Note: the strategy is a short position in an instrument that pays 1-month LIBOR and a long position in an instrument that pays a TIIE 28-day rate.

Graph 38

1-month covered interest-rate parity estimator β and assets on the FED balance sheet (USD billions)



Source: BBVA Research

[2] The variable of assets on the balance sheet of the Federal Reserve has been introduced either as amounts or differences, depending on the results of the unit root tests of this variable and the dependent variable.

4. Indicators and forecasts

Chart 1

Macroeconomic forecasts: Gross Domestic Product

(YoY growth rate)	2010	2011	2012	2013	2014
United States	2.4	1.8	**2.2**	**1.8**	**2.3**
EMU	1.9	1.5	**-0.5**	**0.3**	**1.3**
Germany	4.0	3.1	**0.9**	**1.0**	**2.0**
France	1.6	1.7	**0.0**	**0.4**	**1.5**
Italy	1.8	0.6	**-2.1**	**-0.7**	**0.9**
Spain	-0.3	0.4	**-1.3**	**-1.1**	**1.1**
UK	1.8	0.9	**0.0**	**1.0**	**1.9**
Latin America *	6.2	4.3	**2.8**	**3.5**	**3.7**
Mexico	5.4	3.9	**3.9**	**3.1**	**3.1**
Brazil	7.6	2.7	**0.9**	**3.6**	**4.0**
EAGLES **	8.4	6.6	**5.1**	**5.8**	**6.1**
Turkey	9.2	8.5	**2.6**	**4.4**	**5.5**
Asia Pacific	8.2	5.7	**5.2**	**5.6**	**5.8**
China	10.4	9.2	**7.7**	**8.0**	**8.0**
Asia (exc. China)	6.7	3.4	**3.6**	**4.0**	**4.4**
World	5.1	3.9	**3.2**	**3.6**	**4.1**

* Argentina, Brazil, Chile, Colombia, Mexico, Peru, Venezuela
** Brazil, Corea, China, India, Indonesia, Mexico, Russia, Taiwan, Turkey
Closing date: February 11, 2013
Source: BBVA Research

Chart 2

Macroeconomic forecasts: inflation (Avg.)

(YoY growth rate)	2010	2011	2012	2013	2014
United States	1.6	3.1	**2.0**	**2.1**	**2.2**
EMU	1.6	2.7	**2.5**	**1.6**	**1.5**
Germany	1.2	2.5	**2.1**	**1.7**	**1.6**
France	1.7	2.3	**2.2**	**1.5**	**1.5**
Italy	1.6	2.9	**3.3**	**2.0**	**1.7**
Spain	1.8	3.2	**2.4**	**2.0**	**1.1**
UK	3.3	4.5	**2.8**	**2.5**	**2.0**
Latin America *	6.4	8.0	**7.5**	**8.1**	**8.3**
Mexico	4.2	3.4	**4.1**	**3.5**	**3.7**
Brazil	5.0	6.6	**5.4**	**5.9**	**5.8**
EAGLES **	5.3	6.0	**4.2**	**4.4**	**4.5**
Turkey	8.6	6.2	**8.5**	**5.3**	**5.0**
Asia Pacific	3.6	4.8	**3.0**	**3.3**	**3.5**
China	3.3	5.4	**2.6**	**3.3**	**4.0**
Asia (exc. China)	3.7	4.3	**3.3**	**3.3**	**3.2**
World	3.8	5.2	**4.1**	**3.9**	**3.9**

* Argentina, Brazil, Chile, Colombia, Mexico, Peru, Venezuela
** Brazil, Corea, China, India, Indonesia, Mexico, Russia, Taiwan, Turkey
Closing date: February 11, 2013
Source: BBVA Research

Chart 3

United States indicators and forecasts

	2011	2012	2013	2014	1Q12	2Q12	3Q12	4Q12	1Q13	2Q13	3Q13	4Q13
Macroeconomic Indicators												
GDP (real % change)	1.8	2.2	**1.8**	**2.3**	2.0	1.3	3.1	-0.1	**2.0**	**1.9**	**2.5**	**2.3**
Personal consumption (real % change)	2.5	1.9	**1.7**	**1.8**	2.4	1.5	1.6	2.2	**1.2**	**1.6**	**2.0**	**2.1**
Gov. consumption (real % change)	-3.1	-1.7	**-0.6**	**0.6**	-3.0	-0.7	3.9	-6.6	**0.0**	**0.0**	**2.0**	**0.4**
Gross fixed investment (real % change)	6.6	8.4	**6.9**	**7.0**	9.8	4.5	0.9	9.7	**9.2**	**6.3**	**6.4**	**7.0**
Construction	-1.4	11.9	**10.4**	**6.5**	20.6	8.4	13.6	15.3	**10.4**	**8.2**	**7.0**	**6.6**
Industrial prod. (real annual % change)	4.1	3.7	**1.8**	**1.5**	4.4	4.7	3.4	2.4	**1.9**	**1.6**	**1.8**	**1.8**
Current account balance (% of GDP)	-3.1	-3.1	**-3.1**	**-3.6**	-3.5	-3.0	-2.7	-3.7	**-3.2**	**-3.1**	**-3.0**	**-3.1**
Final annual inflation	3.0	1.7	**2.7**	**1.6**	2.7	1.7	2.0	1.7	**1.6**	**2.6**	**1.8**	**2.7**
Average annual inflation	3.1	2.1	**2.1**	**2.2**	2.8	1.9	1.7	1.9	**1.8**	**2.2**	**2.2**	**2.3**
Primary fiscal balance (% of GDP)	-8.7	-7.0	**-5.4**	**-3.8**				-7.0				**-5.4**

Note: **Bold** figures are forecast
Source: BBVA Research

Chart 4

Indicadores y Pronósticos México

	2010	2011	2012	2013	1Q12	2Q12	3Q12	4Q12	1Q13	2Q13	3Q13	4Q13
Economic Activity												
GDP (seasonally-adjusted series)												
Real annual % change	5.3	3.9	**3.9**	**3.1**	4.9	4.4	3.3	**3.1**	**2.5**	**2.7**	**3.2**	**3.8**
Per inhabitant (US dollars)	9,594.8	10,390.8	**10,539.8**	**11,575.8**	10,600.0	10,367.1	10,417.6	**10,774.4**	**11,164.6**	**11,413.4**	**11,698.5**	**12,026.8**
US$ billions	1,032.5	1,139.4	**1,192.4**	**1,327.6**	1,174.7	1,140.1	1,193.1	**1,261.9**	**1,275.2**	**1,285.4**	**1,345.3**	**1,404.4**
Inflation (average, %)												
Headline	4.2	3.4	4.1	**3.5**	3.9	3.9	4.6	4.1	**3.5**	**3.6**	**3.3**	**3.4**
Core	3.9	3.2	3.4	**3.0**	3.3	3.5	3.6	3.3	**2.8**	**3.0**	**3.0**	**3.2**
Financial Markets (eop, %)												
Interest rates												
Bank funding	4.5	**4.5**	4.5	**4.0**	4.5	4.5	4.5	4.5	**4.5**	**4.0**	**4.0**	**4.0**
28-day Cetes	4.4	4.4	3.9	**3.9**	4.3	4.4	4.2	3.9	**4.4**	**4.1**	**3.9**	**3.9**
28-day TIIE	4.9	4.8	4.8	**4.5**	4.8	4.8	4.8	4.8	**4.8**	**4.4**	**4.4**	**4.4**
10-year Bond (%, average)	6.9	6.8	5.7	**5.0**	6.2	5.9	5.3	5.4	**5.0**	**4.9**	**4.9**	**5.2**
Exchange rate (average)												
Pesos per dollar	12.7	12.5	13.1	**12.6**	12.9	13.6	13.1	13.0	**12.7**	**12.8**	**12.5**	**12.3**
Public Finances												
*FRPS (% of GDP)	-3.4	-2.6	-3.1	**-2.4**	-	-	-	-3.1				**-2.4**
External Sector[3]												
Trade balance (US$ billions)	-2.9	-1.2	0.5	**-6.4**	1.9	1.6	-1.1	-2.0	**0.6**	**-0.8**	**-2.1**	**-4.1**
Current account (US$ billions)	-1.7	-9.2	**-8.9**	**-14.7**	0.2	0.9	-3.7	**-6.4**	**-2.8**	**-2.4**	**-3.6**	**-5.9**
Current account (% of GDP)	-0.1	**-0.8**	**-0.7**	**-1.1**	0.1	0.3	-1.3	**-2.0**	**-0.9**	**-0.7**	**-1.1**	**-1.7**
Oil (Mexican mix, dpb, eop)	72.3	101.1	101.8	**98.4**	110.5	100.6	99.7	96.6	**98.9**	**97.7**	**98.5**	**98.6**
Employment												
Formal Private (annual % change)	3.7	4.3	4.6	**4.1**	4.4	4.6	4.7	4.8	**4.4**	**4.1**	**4.0**	**4.0**
Open Unemployment Rate (% active pop.)	5.4	5.2	5.0	**4.7**	5.1	5.0	4.8	5.0	**4.8**	**4.7**	**4.6**	**4.5**

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Mexico indicators and forecasts

	2010	2011	2012	2013	1Q12	2Q12	3Q12	4Q12	1Q13	2Q13	3Q13	4Q13
Aggregate Demand [4] (annual % change, seasonally-adjusted)												
Total	8.6	4.7	**3.8**	**3.5**	5.2	4.4	2.7	**3.0**	**2.2**	**2.9**	**4.4**	**4.4**
Domestic Demand	4.9	3.9	**3.8**	**3.5**	5.1	4.2	2.8	**3.4**	**2.8**	**3.6**	**3.8**	**3.7**
Consumption	4.6	4.1	**2.8**	**2.8**	4.0	3.5	1.8	**1.8**	**2.1**	**2.8**	**2.8**	**3.4**
Private	5.0	4.4	**3.0**	**2.8**	4.2	3.7	2.0	**2.2**	**2.4**	**2.9**	**2.7**	**3.2**
Public	2.3	2.1	**1.3**	**2.5**	3.1	2.3	0.6	**-0.5**	**-0.1**	**2.4**	**3.2**	**4.3**
Investment	0.3	8.4	**7.0**	**5.0**	8.2	6.2	5.9	**7.6**	**4.9**	**5.2**	**5.5**	**4.5**
Private	-0.2	13.9	**4.8**	**5.0**	9.2	4.9	1.2	**3.9**	**3.2**	**5.0**	**7.1**	**4.8**
Public	2.7	-7.3	**12.1**	**7.2**	4.3	9.5	18.4	**16.2**	**15.2**	**6.3**	**4.6**	**3.5**
External Demand	21.7	7.6	**4.0**	**3.1**	5.8	5.1	2.7	**2.3**	**-0.2**	**0.9**	**5.3**	**6.6**
Imports	19.7	7.1	**3.4**	**4.8**	6.1	4.4	0.7	**2.6**	**1.6**	**3.6**	**7.7**	**6.3**
GDP by sectors (annual % change, seasonally-adjusted)												
Primary	2.9	-2.4	**6.1**	**1.9**	6.7	11.3	1.5	**5.6**	**1.3**	**2.1**	**1.4**	**2.7**
Secondary	6.2	4.0	**3.5**	**2.8**	4.8	4.1	3.6	**1.5**	**1.8**	**2.5**	**2.9**	**3.8**
Mining	1.2	-1.0	**1.1**	**-0.1**	0.8	-0.2	1.9	**2.1**	**-0.2**	**-0.2**	**0.1**	**-0.1**
Electricity	10.1	6.5	**2.4**	**2.2**	2.4	2.8	1.9	**2.4**	**2.3**	**1.9**	**2.0**	**2.7**
Construction	-0.1	4.6	**3.3**	**2.6**	5.4	4.9	4.0	**-1.1**	**-0.5**	**2.8**	**3.3**	**4.8**
Manufacturing	10.0	4.9	**4.0**	**3.6**	4.7	4.9	4.1	**2.3**	**3.1**	**3.2**	**3.5**	**4.7**
Tertiary	5.5	4.7	**3.8**	**3.5**	4.4	4.7	3.1	**3.2**	**2.9**	**2.9**	**3.8**	**4.2**
Retail	13.1	9.4	**4.7**	**3.8**	7.5	5.4	2.4	**3.8**	**3.2**	**3.2**	**4.2**	**4.7**
Transportation, mail and warehouse	7.6	3.2	**3.9**	**4.0**	5.2	4.1	3.6	**2.9**	**3.8**	**3.9**	**3.7**	**4.5**
Massive media information	1.6	5.1	**9.9**	**9.1**	7.7	10.2	10.1	**11.7**	**10.7**	**8.8**	**8.7**	**8.2**
Financial and insurance	13.1	10.1	**8.9**	**7.0**	12.7	11.6	6.3	**5.5**	**4.3**	**5.3**	**8.1**	**10.1**
Real-estate and rent	1.9	2.4	**2.1**	**1.7**	2.4	2.2	2.9	**1.1**	**1.2**	**1.2**	**2.1**	**2.3**
Prof., scientific and technical servs.	-1.1	4.8	**2.2**	**2.0**	5.1	0.9	0.6	**2.3**	**2.0**	**1.9**	**2.0**	**2.0**
Company and corporate management	4.9	2.1	**4.5**	**4.2**	4.8	3.8	4.5	**4.8**	**5.2**	**3.7**	**4.0**	**3.9**
Business support services	1.5	5.1	**3.6**	**3.0**	3.0	5.2	3.2	**3.1**	**3.0**	**2.8**	**2.9**	**3.1**
Education	0.2	1.8	**1.1**	**0.6**	1.9	0.9	0.6	**0.9**	**0.8**	**0.6**	**0.6**	**0.5**
Health and social security	0.7	1.8	**1.9**	**1.5**	2.1	1.8	2.2	**1.6**	**1.5**	**1.4**	**1.5**	**1.6**
Cultural and sport	5.9	2.5	**3.0**	**2.3**	-0.2	3.5	5.9	**2.9**	**2.4**	**2.2**	**2.3**	**2.3**
Temporary stay	3.2	2.5	**5.1**	**4.7**	4.6	4.2	5.7	**5.8**	**4.8**	**4.6**	**4.7**	**4.7**
Other services, except government activities	1.0	2.9	**3.8**	**3.1**	3.4	4.5	4.3	**3.2**	**3.2**	**3.1**	**3.1**	**3.1**
Government activities	3.1	-2.3	**0.1**	**0.2**	2.0	2.1	-1.1	**-2.5**	**-2.6**	**-1.4**	**2.4**	**2.4**

1: Residential investment
2: Fiscal balance (% GDP)
3: Accumulated, last 12 months
4: Base 1993=100; GDP by sector base 2003=100. The observed data of the primary sector, secondary and tertiary seasonally-adjusted by INEGI, the rest own seasonally-adjusted
dpb: dollars per barrel
*FRPS: Financial Requirements of the Public Sector
na: not available
Note: **Bold** figures are forecast
Source: BBVA Research with Federal Reserve, Bureau of Labor Statistics, Banco de Mexico, INEGI and SHCP data

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Editorial Board

Carlos Serrano

Jorge Sicilia

This report has been produced by

Editor
Arnoldo López
arnoldo.lopez@bbva.com

Cecilia Posadas
c.posadas@bbva.com

Pedro Uriz
pedro.uriz2@bbva.com

Iván Martínez
ivan.martinez.2@bbva.com

With collaboration of:
Economic Scenarios

Javier Amador
javier.amadord@grupobbva.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
Alejandro Puente
apuente@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
Av. Universidad 1200
Colonia Xoco
C.P. 03339 México D.F.
Publications:
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