BBVA Research

Servicio de Estudios Económicos
del Grupo BBVA

Mexico

Economic Outlook

Fourth Quarter 2010

Economic Analysis

- Global outlook, slow for the North and fast for the South
- Anchored inflation and an even more prolonged monetary pause
- GDP potential, greater growth with reforms or getting used to lower growth.
- Violence and growth: there is a relationship

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Contents

Closing date: October 29, 2010

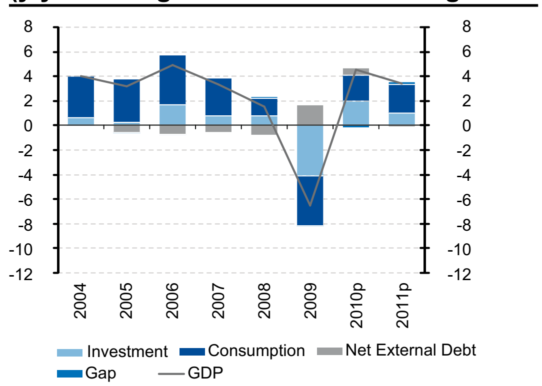
1. Summary

If 2010 is the year of recovery, 2011 will be that of the maturing of the economic cycle in Mexico, with a growing contribution from domestic sources of growth. In an environment in which there is growing concern regarding the strength of the cycle of growth in the United States and Europe, which continues to show vulnerability in the financial sector, the emerging economies are showing strong growth. Mexico confirms the continuity of its recovery, with foreseeable growth in 2010 between 4.5% and 5%. The most recent data reflect that, at least for now, the slowdown in the United States is not having as intense an impact on the Mexican economy as might have been foreseen and some indicators of the performance of domestic demand and in particular employment show a resistance that allows expecting that the recent increases in household spending will continue. Nevertheless, the brake on labor income of some wages, which have not grown in real terms, and the high elasticity of imports with regard to domestic growth, forecast the gradual moderation of growth down to a 3.4% average in 2011.

The isolation of the Mexican economy from financial tensions, a factor of support. Among the most exogenous factors under which Mexico develops, the slowdown expected in the U.S. will end up assuming lower growth of goods exports, but from the standpoint of the labor market, the flexibility of Mexican immigrants, who are increasing their participation in the U.S.labor market, implies support for disposable income in Mexico. From a more endogenous standpoint, although not exempt of factors unrelated to the Mexican economy, the real cost of the use of capital could be falling. As regards the public sector, as illustrated through the calculation of a synthetic interest rate of Mexican government issues, the rate has dropped by more than three percentage points the last two years and, as regards companies, the credit market is posting maximum issue levels and minimum spreads. The global abundance of liquidity and the search for profitability are elements that support this phenomenon, but it is also the result of the healthy financial situation of Mexican corporations.

Graph 1

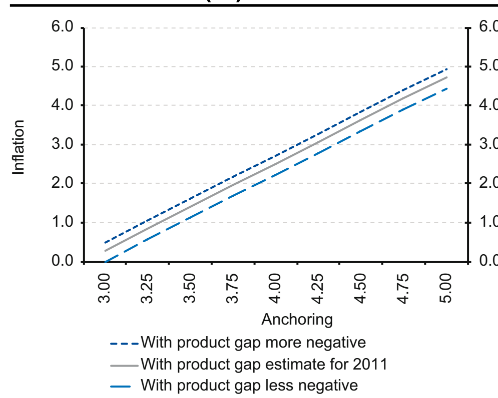
GDP: Components of demand (y/y % change and contribution to growth



Source: BBVA Research

Graph 2

Consistency between funding rates and inflation levels (%)



Source: BBVA Research

The intense disinflationary process of 2010 will continue in 2011. The downward trend in inflation has been the great surprise of 2010, with a tax increase that had a lower impact than expected, lower pressure from demand, which led to an increase in sales and promotions and an exchange rate with a trend toward the appreciation of the peso. Thus, the inflation projection for 2011 is revised downward, to 3.8% on an annual average, three tenths of a percentage point lower than that estimated three months ago in the previous edition of this publication. There are arguments to expect that the underlying component of the INPC (the National Consumer Price Index) will continue at historically low rates, even more so in 2011 than in 2010. In the first place, the output gap will continue to be negative in 2011; in addition, wage costs will continue to reflect a labor market with an abundant supply of work. In the second place, we believe that the second round of measures of quantitative monetary expansion by the Federal Reserve will continue to favor the search for greater profitability, so the entry of external flows will favor the appreciation of the peso at least in the first half of the year. Finally, we believe that, in general, the world will continue experiencing a situation of contained inflation, due to which we don't expect external inflationary pressures.

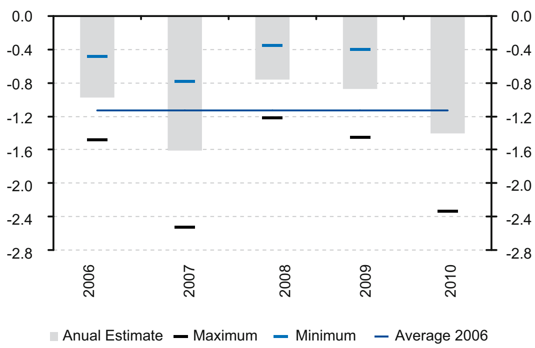
Banxico, Mexico's central bank, which will initiate 2011 with a renewed communication scheme, will maintain the monetary pause at least throughout all of 2011, with a (reduced) probability downward. In the central scenario of moderate growth--with a negative output gap--and contained inflation in which the Mexican economy will develop in 2011, there is no need to move the current rates, which is consistent with the diagnosis provided by the monetary rules. Considering, in addition, the performance of the exchange rate, the monetary conditions in which the Mexican economy is developing are broadly accomodating, so there is no need to rush toward lower interest rates. According to our calculations, an appreciation of the peso would be needed from its current levels of about 12.5 ppd (pesos per dollar) to around 11.3 ppd, for monetary conditions to be uncomfortable for the central bank's risk balance. In terms of inflation, as shown in this publication, the threshold on which a decline could be based is close to 3%, provided there are no significant downward risks with regard to growth. According to our forecasts, rates slightly higher than 3% are feasible in March of 2011, but only in that month, with a rebound beginning as of that time. A somewhat more intense appreciation of the peso would be needed compared to that foreseen, or depresed economic perspectives for Banco de Mexico to reduce the funding rate. Without being the base scenario, this is the one with the highest probability.

The perception that violence in Mexico could be putting a brake on the performance of the Mexican economy is consistent with the analysis made, which we present in this publication, although quantification of the impact is uncertain and dependent on the variables and methods of approximation chosen. The violence will have a transversal impact on the economy, increasing production and transaction costs and reducing the accumulationof physical and human capital, thereby affecting both annual growth as well as the capacity for growth in the medium term. The analysis made, both with time series for Mexico as well as with panel data using a sample of Latin American countries, leads us to conclude that there is a negative impact on growth as a consequence of the deterioration of public safety or the increase in the homicide rate, variables that are considered respectively in each of the methodologies. In any case, the impact, although negative is not very vulnerable to changes in econometric specifications and have high ranges of uncertainty. Additionally, it should be noted that the estimate presented of the cost of violence is a partial calculation to the extent that it does not incorporate the present value of the cost, which in the long term, implies that there is no shortcut to this problem. In this sense, the entry flows of foreign direct investment in the Mexican economy do not differ substantially from those in other economies, which is a sign of confidence in Mexico and in the management of this issue.

Finally, as refers to the growth capacity of the Mexican economy, its increase to around 4% requires the continuity of a decisive and broad process of reforms within the sphere of the rule of law, competition and the public sector. In this issue of Mexico Economic Outlook, we consider two scenarios of potential growth toward the middle of the decade in terms of the provision of capítal, labor and improvement of efficiency. A continued and decisive period of implementation in the three aspects mentioned will lead to an increase in efficiency of the productive factors, comparable to that obtained throughout the decade of the nineteen nineties. Moreover, the activity and employment rates would improve, given a labor market that demands more jobs due to the effect of the reform of its institutions, and with this, would increase the contribution of the labor factor to the growth capacity. Finally, a greater expected capítal profitability in a more favorable institutional environment for businesses would also raise the contribution of capital to growth. With all this, adding the three factors, it is reasonable to reach potential GDP growth rates close to 4% (4.1%) toward the middle of the decade. Of course, this implies facing appropriately and decisively the challenges pending.

Graph 3

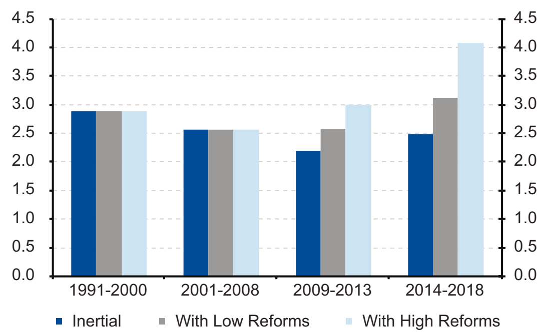
Mexico, GDP. Estimated impact on growth of lower investment due to insecurity pp



Source: BBVA Research

Graph 4

Mexico, potential growth, y/y %



Source: BBVA Research

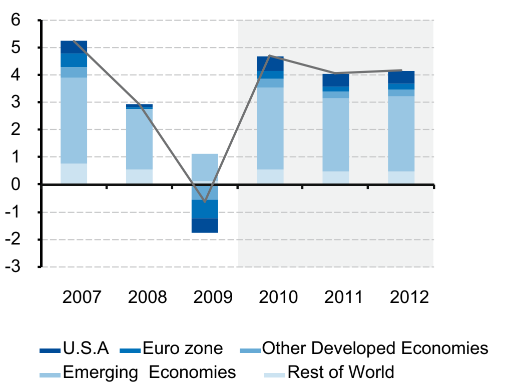
2. Global environment: the North slow, the South fast

The global economy continues to grow with force, basically in the emerging countries, while cyclical and financial concerns are predominant among the advanced economies.

World growth continues to be strong and it is expected to reach 4.7% in 2010 and 4.1% in 2011 (Graph 5), remaining practically unchanged with our outlook of three months ago. This good performance is fundamentally due to the solidity of the emerging economies which have been less affected by the financial crisis and have, therefore, recovered more quickly. In contrast, renewed concerns about the cycle in the U.S. have come together with the financial concerns that continue to predominate in Europe, where macroeconomic and financial adjustments are still pending. In this sense, the outlook for the next two years continues to reveal important gaps between growth in the advanced economies and that of the emerging ones (Graph 6), even though the latter are starting a controlled slowdown that will diminish the risk of overheating their economies.

Graph 5

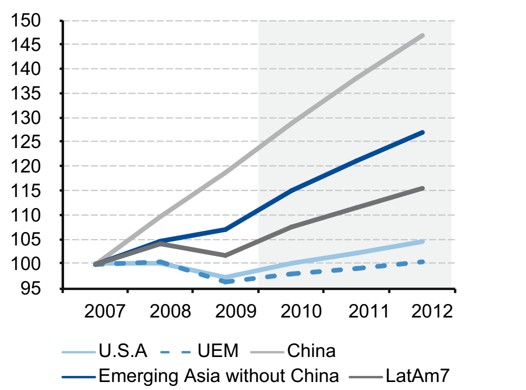
Global GDP growth and contributions



Source: BBVA Research

Graph 6

GDP level: 2007=100



Source: BBVA Research and Datastream

Also, there are important differences as to policies in each of these groups. In the United States, it is expected that the monetary expansion will intensify in relative terms compared to Europe (and to most of the other countries), which has already generated a depreciaiton of the dollar versus the euro and complicated the recovery in Europe a little more. In the emerging economies, there continues to be a strong asymmetry among the foreign currency policies between Asia and Latin America, which is forcing the Latin American countries to support (along with the euro) a disproportionate part of the appreciation of the exchange rate, derived from the renewed easing of monetary policy in the United States.

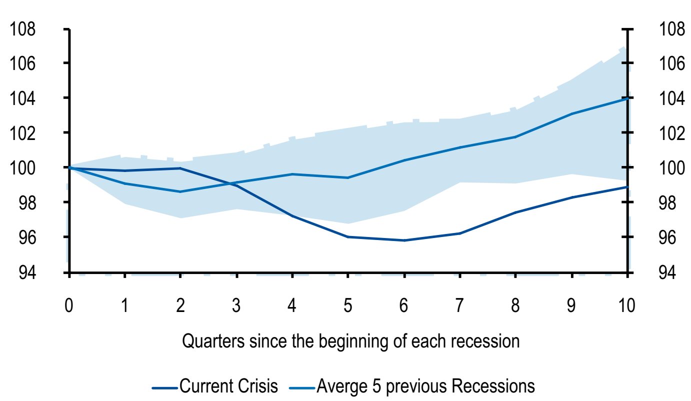
Growth in the United States will maintain its weakness due to the continued unleveraging process of households, even though it is quite improbable that a relapse in the recession will be produced. In the last quarter, the existence of relatively weak indicators of economic activity in the United States has set forth the possibility of a relapse into a new recession phase. The weakness observed in some key sectors, which had directly benefited from the fiscal support provided through incentives for spending (household and durable goods) is an important sign that private demand in the United States cannot recover at a rapid pace. And this is only the result of the unleveraging process that households are currently undergoing, as well as of the weakness of the labor market. This will continue to favor the existence of higher savings levels than those observed since the second half of the decade of the 80's. Even though this trend is the correct direction to counterbalance the United States growth model, it also increases cyclical concerns, given that consumption (one of the pillars of recovery in prior recessions and the main GDP component from the demand side) will remain at relatively low levels, only partially offset by increased investment in equipment by companies.

The recent concerns regarding the situation of the U.S. housing sector are excessive, and the possibility that there will be a relapse in real estate prices is quite remote. It is evident that there still exist elements of concern such as a rise in the available housing supply, which could additionally increase due to new home foreclosures (whether they are a consequence of the rise in delayed payments or because owners failed to make the payments due to a higher mortgage value vs. the actual home value--negative equity--). But there are also favorable support elements such as the great improvement of the accessibility indicators since the crisis began, and, with a medium-term outlook, some demographic trends that should contribute to boost demand. Therefore, the most probable scenario is that we will face a relatively stable period of housing prices, while the prior excesses are being absorbed. In any case, the banking system should be able to assume a moderate drop in these.

Definitely, the existing burdens on consumption and the low probability that new fiscal stimuli will be produced --taking into account the current dimensions of the deficit, and especially if there is a change in the balance of power, following the November elections for Congress-- imply a much slower exit of the crisis for the United States than that experienced in previous cycles (Graph 7), in line with our previous projections. The possibility that a relapse will be

Graph 7

GDP in the U.S.: current cycle vs. prior recessions*.
Start of each recession=100.



* Shaded area: GDP range during the last 5 recessions. Source: BBVA Research and NBER

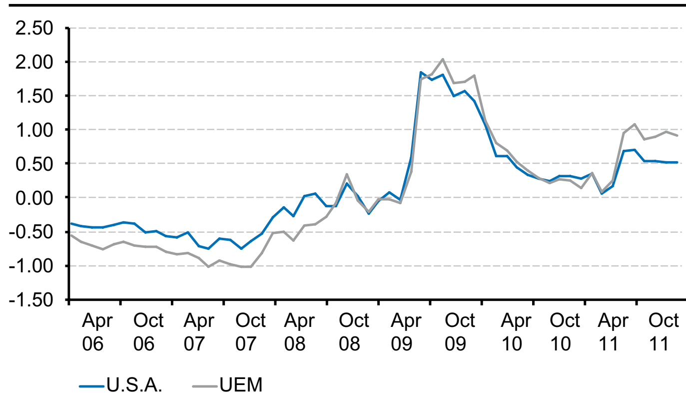
produced in a new recession phase in the United States is very low. In any case, the lack of solidity in internal demand will lead the United States to exert increasingly greater pressure on the rest of the world (especially on countries with a surplus in their current account) to increase its demand and contribute to the necessary global re-equilibrium. The renewed monetary expansion of the United States can be interpreted within this context as a formula to transfer part of this adjustment to the rest of the world.

Financial tensions in Europe continue to be the main source of concern, although systemic risk is lower than before the summer. Fiscal consolidation continues to be a key element for sustained trust and will not have a significant impact on growth beyond the short term.

Following the decisive progress experienced with regard to fiscal consolidation, the steps taken to support governments having greater difficulties and, particularly, after testing the resistance of the financial sector, there has been a qualitative change in the dynamics experienced by the crisis in Europe. On one hand, even despite the fact that the spreads of sovereign debt have remained relatively stable, the markets have begun to differentiate between the various sovereign assets, thereby reducing the risk that a systemic event might be produced. . Also, the financial markets have begun to open in a selective manner, and new debt issues are an evident sign of the easing of tensions.

Despite all this, the tension of the financial markets in Europe continues to be the main source of risk for the region (Graph 8), especially due to the existing relationship between concerns regarding sovereign debt and the risks of the financial sector. Also, the recent strengthening of the euro is an added cyclical challenge, given that the economies that have experienced a better performance are those that have been backed by external demand. This implies that it is even more important to decisively approach, in the short term, the sources of the regional macroeconomic vulnerability: fiscal sustainability and external imbalances, in addition to avoiding greater delays in the restructuring of the weaker parts of the banking systems. The key is to continue to take steps that will contribute to re-establishing trust and thereby reduce tensions in the markets, contributing to restore the solidity and autonomy of demand of the private sector. Moreover, so as to be able to sustain long-term growth, it will be fundamental to realize structural and institutional reforms, and, among the latter, those especially focused on avoiding and resolving potential fiscal imbalances in the countries.

Graph 8
Financial tensions index



Source: BBVA Research

The monetary policy of the advanced economies will be lax for a long time, adding pressure on the exchange rates throughout the whole world

The very low outlook for growth and of weak inflationary pressure on the advanced economies will translate into low interest rates for a prolonged period of time in the three main advanced economies (the United States, Europe and Japan). However, within a context marked by renewed cyclical concerns and by the scant space for additional fiscal stimuli, the attention of the markets is centered on the new round of unconventional steps of monetary expansion (usually known for its denomination as “Quantitative Easing” 2, or QE2). The expectations of this new increase in liquidity have reduced the dollar exchange rate in a generalized manner, even in relation to the euro. Going forward, given that the greater part of the steps taken toward monetary expansion have already been discounted by the markets, exchange rates should begin to move in a greater measure in accordance with the long-term fundamentals, which means a strengthening of the dollar compared to the euro, due to its better outlook for growth and a greater entry of investment flows. At the same time, rallying pressure will continue to be maintained on the exchange rates of the emerging economies, due to the increase in global liquidity, the greater solidity of its economic fundamentals and the positive profitability spreads that favor new entries of capital flows.

The emerging markets are facing increasingly greater dilemmas with regard to the policies derived from the solid growth experienced, from abundant global liquidity and from the competitive interventions in the exchange rates.

The emerging economies continue to grow strongly, and Asia remains at the head of world recovery. Both in Asia and in Latin America, private internal demand is substituting stimuli induced by the policies adopted as a main source of the recovery. Going forward, growth will slow down in Asia to the extent that countries try to control internal credit growth, thereby reducing the risk of reheating the economy. But the region will continue to be the main contributor to world growth.

Both Asia and Latin America are facing increasingly greater dilemmas with regard to monetary and exchange policies, as they debate between cooling strong internal demand, thereby avoiding strong capital entries and maintaining their competitiveness regarding foreign markets. Some countries have begun to introduce administrative measures to discourage a strong entry of capital flows, while other countries have delayed the path foreseen by hardening their monetary policy.

Taking into account the flexibility of the exchange rates in Asia (and China in particular), Latin America is facing having to assume a disproportionate part of the adjustment, to the point that future appreciations in the exchange rates could begin to constitute a problem for growth. Therefore, many countries of the region are considering new interventions in the currency exchange markets, although experience has shown that its effectiveness is limited, fundamentally contributing to slow down the appreciation of the currencies, although not avoiding it. Still, there is the risk that the rise of intervention in the currency markets will end by provoking commercial reprisals. This shows the importance of applying greater flexibility regarding the exchange rates in Asia, with the aim of providing a greater margin for acting in terms of policies for the rest of the world.

3. Mexico, resistance in a less favorable environment

Moderation in activity in the third quarter has been less intense than expected. Based on the data known of the third quarter, it may be concluded that, although moderation in economic activity continues, it has not been of the magnitude expected at the beginning of the quarter. Thus, the indicator for the Status of the Mexican economy of BBVA Research, a synthesis of 23 indicators of activity, spending and expectations, reflects a better situation (marginally) of what the data indicated three months previously.

The less favorable external environment is not yet clearly reflected in the performance of the Mexican economy. The close economic relation between Mexico and the United States determines the cyclical evolution of our country, strongly downward in 2008 and the early part of 2009, and upward after that. In this sense, the main sources of foreign revenue: exports, tourism and revenue from remittances have been showing better dynamics in the third quarter than in the first half of the year or not as slow as initially foreseen. This has contributed to positive surprises in the indicators of national activity.

Exports, with soft moderation at mid year. The main determining factor in exports of goods and in particular, manufactured goods, is the performance of the external market, more so than that of the real exchange rate, and in particular of the buyer of almost 80% of Mexican manufactures, the U.S.. In quarterly terms, after the strong drop in 4Q08, and the period of quarterly improvement during 2009, in 2010 export growth went from 0.9% q/q in 1Q10 to 0.4% in 2Q10 and it is expected that for the third quarter, it will have maintained a similar evolution (the forecast for U.S. GDP for 3Q10 is 0.4%). With this, exports have shown a slight moderation in growth. In turn, an important indicator for Mexican exports is the U.S. market quota of Mexican manufactured goods: this quota has remained constant at arount 10.5%, with Mexico as the third seller of manufactured goods to the U.S., after China with 17.3% and Canada with 15.4% (all figures at 2Q10).

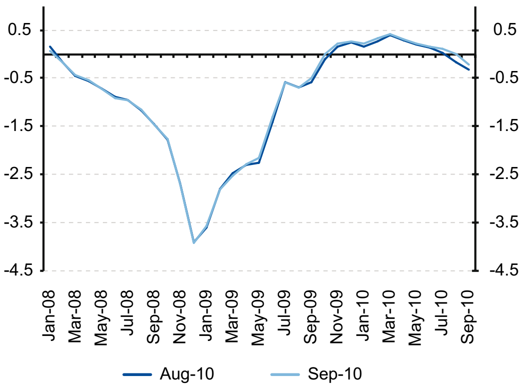
Thus, the main manufactured exports from Mexico--electrical machines, auto vehicles and mechanical apparatuses, have increased their share of GDP and already are above their level as a % of GDP prior to the recession. In this sense, it should be highlighted that Mexican manufactured exports have grown in equipment related to medium and high technology, in great measure linked to the productive component of U.S. GDP: as a proportion of U.S. imports of high technology goods. Mexico's market share is close to 13% in high technology goods and 11% in total manufactures, proportions that remained practically unchanged during the recession. This specialization in the production of exports, linked in part with U.S. capital formation, is important given the expected evolution of the components of U.S. GDP, where the main source of growth will be investment, due to which Mexico will be one of the economies that will most benefit.

In turn, the stabilization in the number of barrels of oil exported by Mexico, at around 1,370 (thousands of barrels daily), has implied an increase of almost 12% compared to the volume sold in 2009, and together with an average price of around US$69 dollars per barrel, although below that of previous quarters, but 19% better than the average for 2009, explain the stabilization in revenues derived from Mexico's oil exports in the year. The export of the three types of manufactures mentioned, together with oil exports, account for around 70% of Mexican exports and close to 25% of the country's GDP, a share that has grown consistently throughout the course of the year, from 22.2% to 24.2% and almost 25% in the three quarters of 2010, respectively[1].

[1] Estimated for the 3Q10.

Graph 9

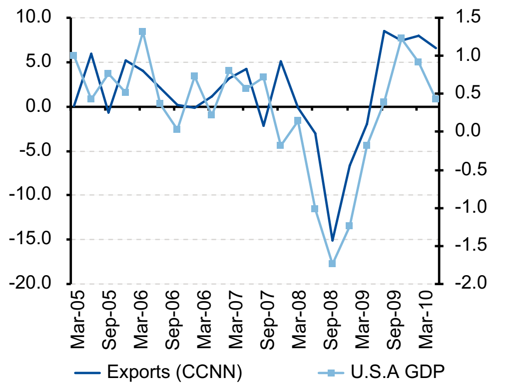
Indicator of the Status of the Mexican Economy (Standarized)



Source: BBVA Research

Graph 10

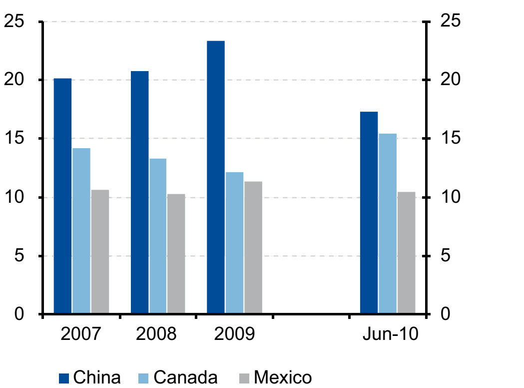
Mexican Exports and U.S. GDP (q/q % change)



Source: BBVA Research, with INEGI and Bloomberg data.

Graph 11

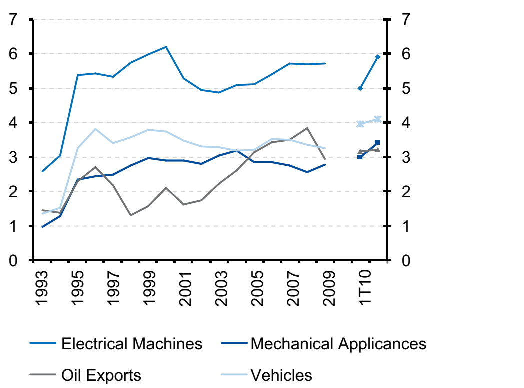
Mexico: quota of manufactured exports in the U.S. market (as % of total imports)



Source: BBVA Research, US Department of Commerce data

Graph12

Main Mexican Exports (as % of GDP)

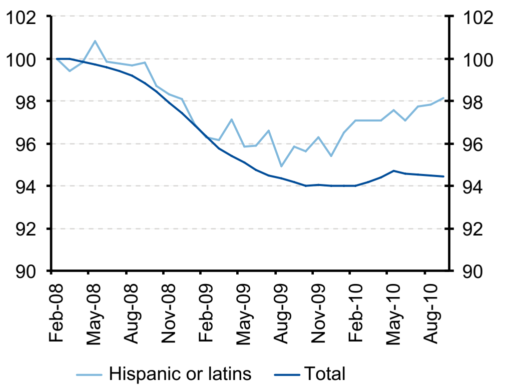


Source: BBVA Research, with INEGI data

An external boost that improves its impact on Mexican GDP is that of remittances from Mexican immigrants in the U.S. Because of its share in GDP, the second source of foreign revenue to Mexico is remittances (transfers from abroad). As a percentage of GDP, remittances represented 2.7% of GDP in 2006, to later begin a process of moderation. However, in 2010, the share of this source of revenue has been growing, given the improvement in employment of persons of Latin origin (of which around 65% are Mexicans) in the United States. As has been mentioned in previous publications (See Migration Outlook Mexico), Hispanics tend to benefit to a greater extent than the rest of the population in the expansive phase of the cycle, as a result of the labor flexibility of Mexicans in the U.S., which has also been the case in this cycle.

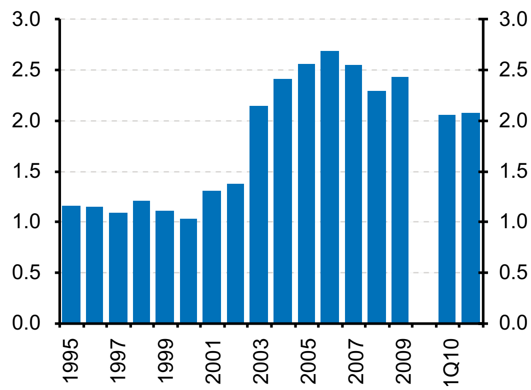
Due to the relative recovery of employment of persons of Mexican origin in the U.S., the decline in remittances halted and, in terms of GDP, have even grown slightly. Given the sources of employment of Mexican workers in the U.S., the dynamics of the construction, retail and manufacturing sectors will be crucial. In this sense, a relevant variable is housing starts, where the recovery trend that this variable had been showing since the end of 2009 seems to have stopped, so the outlook for remittances, considering the delayed effect of this variable, is of a slight adjustment. With this, despite the recovery that began, it is expected that the maximum levels prior to the crisis (in 2007) will not be reached until 2012 or 2013.

Graph 13
Employment Dynamic: U.S. (100 = initial month of the recession)



Source: BBVA Research, with US Bureau of Labor Statistics data

Graph 14
Revenue from Remittances (as % of GDP)



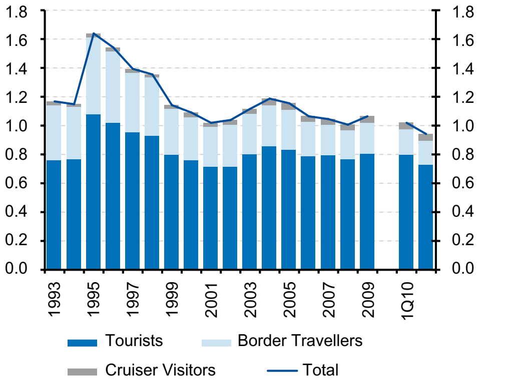
Source: BBVA Research, with INEGI data

Entry of tourists and foreign tourism spending in Mexico, on the road to stabilization during 3Q10. Due to its share of GDP, the third source of foreign resources in Mexico is the inflow of resources due to travelers from abroad. Foreign tourism, predominantly from the U.S. (61% of the total), responds strongly to disposable income in real terms, which in the U.S. has stabilized at around 3% in annual growth (July-August bimester), which supposes a slight increase compared to the previous annual quarterly change of 2.2%.

The demand for tourism services has stabilized in turn at around 1% of GDP, although the trend toward moderation persists since 2004. In this sense, a possible factor behind the moderation trend should be noted: the perception of insecurity in the country. Although there is no historic series of such a perception among tourists, the response of the survey taken by Banxico (the central bank) among analysts of the private sector on the perception of the problems of insecurity as the main factor that could limit the recovery of economic activity could be considered a representative variable. It is seen that the rebound of this variable as of 2005 coincides with the lower revenue from tourism. This coincidence does not necessarily indicate cause, but of course it would seem reasonable to consider that an environment that is perceived as unsafe could discourage tourism. In Chapter 5 of this issue of Mexico Economic Outlook, we discuss the subject as related to growth and in particular to private investment.

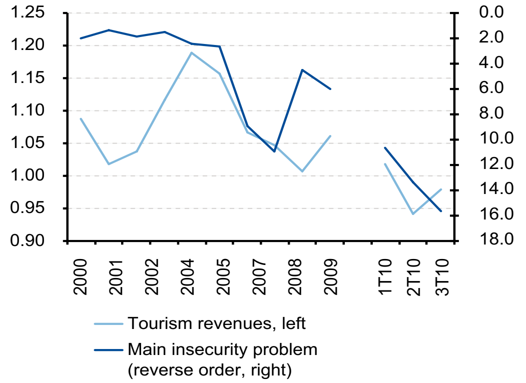
From a standpoint less exogenous to the Mexican economy, not entirely due to the global environment, factors such as the cost of the use of capital and labor has been favorable for growth and should continue to be so in the horizon of prevision.

Graph 15
Revenue from to Travelers from Abroad (as % of GDP)



Source: BBVA Research, with INEGI data

Graph16
Revenue from tourism and perception of insecurity (% of GDP and % of responses*)

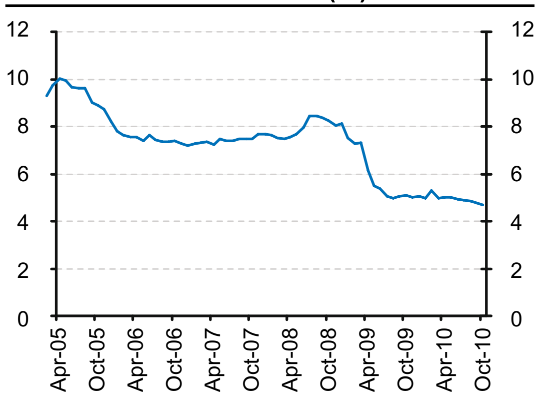


Source: BBVA Research, with INEGI and Banxico * (central bank) data. Survey among specialists in economy taken by Banxico

The real cost of the use of capital supports the dynamism of activity. The price that the public sector will have to pay for the debt it issues is increasingly lower, as a consequence of the combination of a global preference in an environment of the search for profitability and a domestic policy committed to fiscal consolidation. As a result of all this, the rate that the Mexican government will pay for its debt has dropped from an average 8.5% at the beginning of the financial crisis in 2008, to 4.7% on average at the present time, which assumes a "floor" on the cost of financing faced by households and Mexican companies[2]. In this sense, in addition, **the spreads in corporate financing have maintained their downward trend** until approaching close to the historic lows prior to the crisis of 3Q08, making investment projects more profitable.

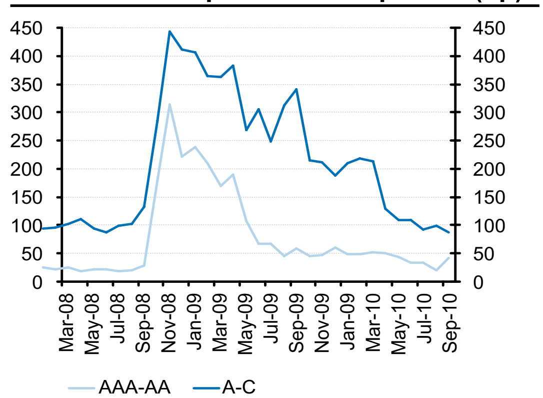
On the other hand, another cost that is creating additional tension for companies is that of labor. Since the end of 2008, variations in average nominal wages of workers employed in the formal sector of the economy have been lower than inflation increases, due to which the real cost of labor has dropped. This relieves companies' income statements, but is also the reflection of an evolution in productivity, with the main source of growth in the medium term, certainly not very positive.

Graph 17
Weighted Average Rate in Primary Government Debt Issues (%)



Source: BBVA Research, with Banxico (central bank) data

Graph 18
Short-Term Corporate Debt Spreads (bp)



Source: BBVA Research, with Bloomberg and Banxico (central bank) data

[2] A weighted interest rate is calculated based on instruments and terms of government primary debt issues. It should be mentioned that this measurement is sensitive to agents' demand for these instruments.

Inset 1: External financial requirements and risk premium

The second round of quantitative expansive monetary policy measures adopted by the U.S. Federal Reserve Board will inject liquidity into the country's government bond market, reducing its profitability and pushing investors to seek higher yields in riskier assets, both in the United States as well as in the emerging economies. Mexico meets the necessary characteristics for receiving such flows, with a policy of managing its public debt, which at a certain point led it to obtain investment grade and lengthen its debt's maturity and increase the weight of its internal as opposed to its external debt. The result of all this is that peso-denominated government debt is included in the Citigroup WGBI (World Government Bond Index) benchmark index. The Mexican corporate sector has followed a parallel road to that of the government, with its financial situation placed on a healthy footing in general terms.

Various key factors influence the emerging economies' capacity to obtain external resources, ranging from a country's growth to institutional variables to which investors assign different weights. It should be explained that even though these capital flows to the emerging economies are, in principle, favorable for expanding the supply of resources and lowering the cost at which they are financed, they can pose difficulties at certain times. Thus, when these flows are too large and sudden they can abruptly appreciate the receiving countries' currencies, affecting the price competitiveness of their exports. In addition, they can complicate the appropriate implementation of monetary policy since the massive entry of external resources must be sterilized[1] by the central banks to avoid unplanned increases in the money supply, which could generate inflation.

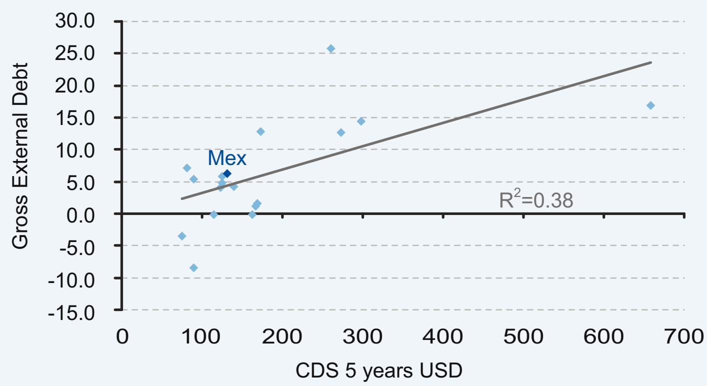
One of the important factors for investors when directing flows of resources, are the economy's external financial requirements —which we will define here as the sum of the balance of the current account plus debt service for a given year— since they determine the payment capacity of the economy in question, which influences the demand for profitability of those holding assets. In turn, they also affect the level of default insurance or Credit Default Swaps (CDS), which are priced as a spread in relation to the notional value of the principal of the corresponding bond. But, can the existence of a relationship between the financial requirements of an economy or its debt levels and risk measures such as the CDS be shown?

To determine the existence of such a relationship we identified the short-term financial requirements for a group of emerging economies[2]—including Mexico— with IIF data. The variables considered are gross foreign debt (public and private), amortizations and interest paid on the debt in the period in question and the current account balance (trend change), all denominated as a percentage of GDP[3].

The first relationship that is shown involves external requirements and the cost of CDS in basis points. This

Graph 19

Relationship between external financial requirements in USD and five-year CDS (% of GDP and bp)



Source: IIF and BBVA Research

[1] Sterilization is defined as a series of measures that the central banks undertake to compensate for liquidity deficits or surpluses, which affect the banks' current accounts with the central bank. It is generally carried out with market trading, although there are other instruments as well.
[2] The countries analyzed are Brazil, Chile, China, Colombia, Malaysia, Poland. Rumania, Russia, Peru, Bulgaria, Czech Republic, Hungary, Turkey, Ukraine, Indonesia, Philippines, and Thailand.
[3] The data correspond to IIF projections for 2010, since we feel that even before the second round of quantitative easing measures, monetary policy throughout the developed world has been so expansive that there is now considerable liquidity in the markets, and that, contrary to 2009—except for relatively brief periods—risk aversion has diminished.

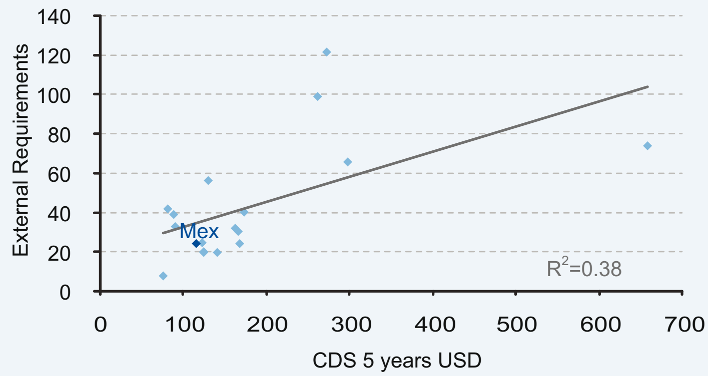
tells us that indeed there appears to be a relationship in the group of countries being analyzed between the default premium and the year's external financing needs. Mexico is below the average in both variables. As shown by the graph, the Latin American countries appear to be in the same category, and to a large extent are the nearest to the average, while the Asian nations clearly seem to enjoy better conditions, and the Europeans are the most vulnerable. In this regard, if Ukraine is excluded from the group of countries due to its relative situation clearly being at variance with the rest, the explanatory capacity of the ratio would increase from 38% to 52%

If the analysis is made on the level of countries' gross foreign debt, the results are similar to those obtained with the requirements, although with a considerably lower explanatory capacity, which can be attributed to the differences in debt management and the nations' respective reputations. For this ratio, the gap is smaller, and both the Latin American as well as Asian countries appear to face similar conditions while the European nations seem to be more punished. In the same way as in the previous case, if Ukraine is eliminated, the explanatory capacity increases from 0.34% to 0.58%.

In conclusion, and with regard to Mexico, it appears that although the country's financial requirements and foreign debt do not pose a problem, investors seem to consider it in a category very close to other Latin American nations. It would not appear that Mexico's relatively good external position is helping to positively differentiate itself in this period in terms of the CDS.

Graph 20

Relationship between gross foreign debt in USD and five-year CDS (% of GDP and bp)



Source: IIF and BBVA Research

4. Outlook: maturing of the cycle

I. If 2010 is the year of cyclical recovery, our outlook is that 2011 will be the year of its maturing

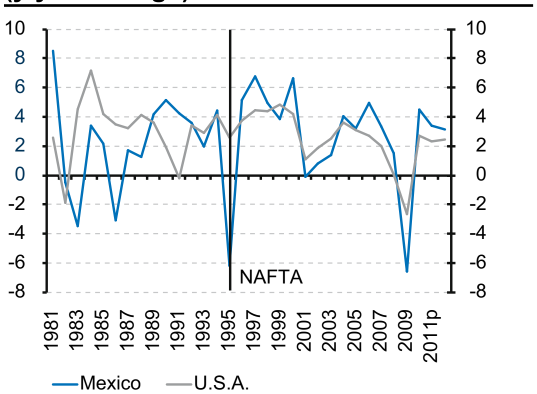
As described in the first chapter of this issue, the global economy is undergoing a new period of uncertainty with continuing doubts with regard to the strength of the recovery. Up to now, the known indicators and expected evolution of the variables on income and spending in the U.S. economy point toward the fact that the recovery observed this year, although lower than expected at the end of last year, will be more moderate in 2011. For the current year, we expect growth in the U.S. along the order of 2.8%, while for 2011 we believe it will drop five tenths lower, to 2.3%.

The economic integration between Mexico and the United States implies that the recovery in 2010 due to which we believe that growth in our country will be around 4.5% year/year (although we don't rule out that it could be higher) will nevertheless be more moderate next year, at around 3.4%.

From foreign demand to domestic demand. During 2010, the recovery of demand has been based on the increase in sales of goods and services abroad, which also implies an increase in imports. The recovery of sales abroad not only denotes a greater product exporting process, but also greater domestic demand in consumption and investment. If nearly 70% of imports are related to intermediate goods, which has contributed strongly to the growth of imports (an average of 5.5% on a quarterly basis in the first six months of the year), the other part of imports however, is related to internal demand, which is taking longer in returning to the levels prior to the recession. With these ratios, we believe that net exports contribute close to 0.6 points of estimated growth for the current year. In turn, domestic demand will recover part of the dynamic lost in 2009, although the levels prior to the crisis will not have recovered yet.

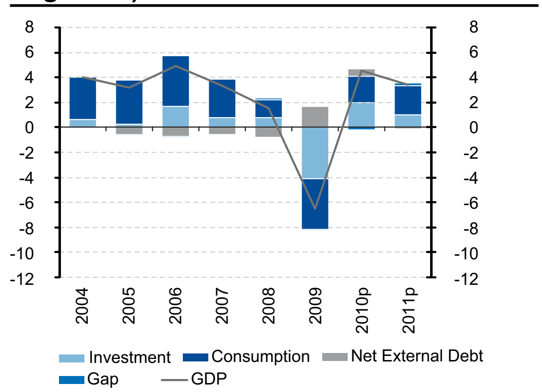
For 2011, signs of maturing of the cycle, with the expansion of consumption. In addition to the fact that overall activity will slow down in 2011 resulting from the above-mentioned moderation in external demand, the changes in the sources of growth will also have an impact, due to a greater role being played by employment and wage income. First, there is a margin

Graph 21
GDP: Mexico and the U.S. (y/y % change)



Source: BBVA Research

Graph 22
GDP: demand components (y/y % change and contribution to growth)



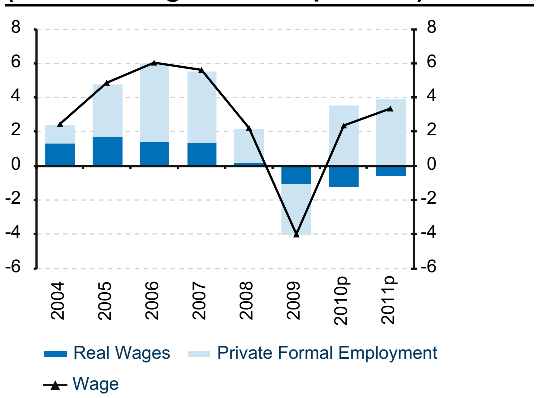
Source: BBVA Research

for an increase in household consumption. Secondly, there is an improvement in private investment, although this positive effect could be partly offset by the lower impulse of the adjustment in inventories, as opposed to the past. And finally, there is the reduction in the positive contribution of net exports, due to lower external demand and greater imports of goods and services in response to more dynamic domestic demand.

Private consumption in 2011: favored by low inflation and a stable and sustained increase in employment. As will be discussed in greater detail further on, we estimate that inflation will drop from an average of 4.2% this year to around 3.8% the following year. This slight reduction in estimated inflation, together with expectations of stable nominal wages, will cause the wage component for work income (or total wages) to affect growth of this variable to a lesser degree in 2011. On the other hand, we believe that employment growth will tend to stabilize at around 500,000 additional formal jobs, a figure greater than that expected for this year. With this, in terms of disposable income, we believe that this will increase, although not to the levels prior to the crisis.

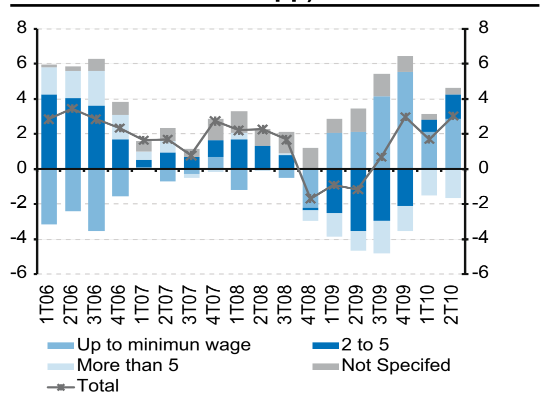
Overall, it should be remembered that the recovery of employment in the universe of the labor market has suffered, not just in the formal sector, at least until now, from a more than proportional accumulation in lower wage levels, which assumes a brake on labor income. Thus, the greater contribution of jobs created since the beginning of the recovery is located within a salary range from zero to two minimum wages.

Graph 23
Total Wages (Y/Y % change and components)



Source: BBVA Research

Graph 24
Employment by income level (Annual % change, and contributions in pp)

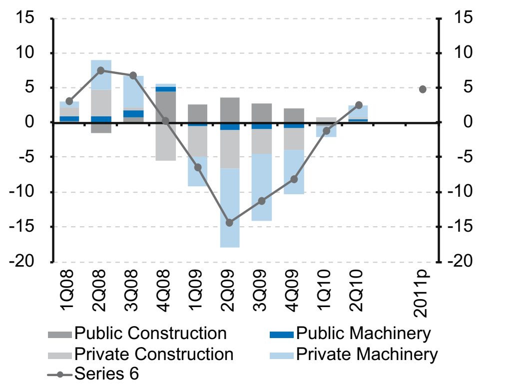


Source: BBVA Research

Private investment improves with expectations of activity and the containment of financial costs, the brake due to external demand and lower inventory turnover. Up to now, the dynamics of investment is slower than expected at the beginning of the year. In the second quarter, this component grew in annual terms for the first time after six quarters of no growth. Foreign demand, which had stopped, and a moderate increase in domestic demand are important factors in this situation. In this sense, we believe that the component of capital formation will contribute close to one growth point in 2011, which will be linked to the private component of this capital formation, mainly in machinery and equipment. For its part, the construction industry, although with a broad potential for growth from a medium-term perspective, due to factors such as population growth and the unsatisfied demand for housing, has not yet shown signs of having the necessary support to generate sustained growth. In turn, public investment will continue to be limited due to the postponement of infrastructure projects in light of the need to meet deficit objectives in an environment of the slow recovery of public revenue. Thus, we estimate that public investment will continue to provide less support to growth and could eventually reduce growth next year. It should be recalled that public investment has lost share since the second half of 2009, both in the construction industry as well as in investment in machinery.

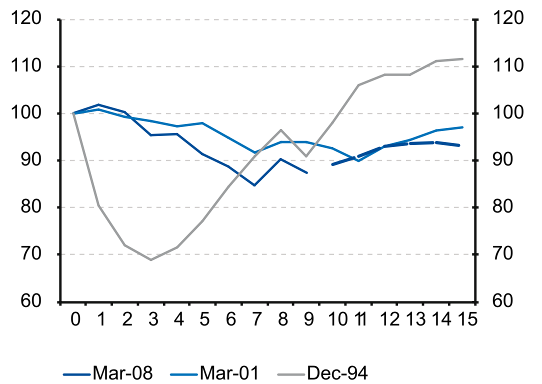
However, we should analyze the expected dynamic of investment in the context of previous recessive periods. Although, in terms of annual change, the setback in investment was almost 10% in 2009, contrary to past recessions, as a share of GDP, this component was considerably less affected than in the past, which implies growth support in the medium and long term.

Graph 25
Investment: Public, Private and type (y/y % change and contributions)



Fuente: BBVA Research

Graph 26
Private investment as % of GDP : Cyclical comparison (quarters since recession)



Fuente: BBVA Research

Finally, lower expected foreign demand, together with the projected exchange rate stability, suggests that the value of exports will stabilize at lower growth than that observed in 2010. In turn, the growth described previously in the internal components of demand will imply a greater demand for goods and services produced internationally, both linked to exports as those for internal consumption, with which both effects will tend to offset each other, leading the share of net exports to diminish from the 0.6 points estimated for this year, to a slight drop of 0.2 points in 2011.

The rather inertial growth in the components of internal demand, as well as the dependence on demand of foreign origin on external demand, continues to raise the need for attending a second round of structural reforms that will increase the country's capacity for long-term economic growth.

Inset 2: Potential GDP improves with reforms

Despite the relatively rapid recovery currently underway in the Mexican economy, the intensity of the impact of the global crisis makes it necessary to raise questions regarding its effect on the country's long-term growth capacity, on its potential GDP. This non-observable variable reflects an economy's level of production obtained with the full use of available resources. This definition can be approached through a production function in which capital and employment come together in some amounts of full employment and with an average efficiency with regard to its estimate by combining the productive factors to obtain GDP actually registered[1]. Thus, the impact of the crisis will have to affect the availability of capital and employment in the long term and/or the efficiency with which they combine The level of the ratio of investment to GDP in the Mexican economy is not lower than that of other economies and its evolution in the latest crisis shows a pattern that can be attributed to cyclical factors. At the same time, thus far it cannot be concluded that this behavior will lead to a more permanent brake on activity, although latent downside risks could also emerge due to the reduction in the potential growth of the U.S. economy. Another impact could come from global factors, in which a less abundant and/or more expensive availability of liquidity for investment as a result of the weakened functioning of the financial system, which channels funds from the agents with excess savings to those that lack such resources, could also pose the danger of downside risks.

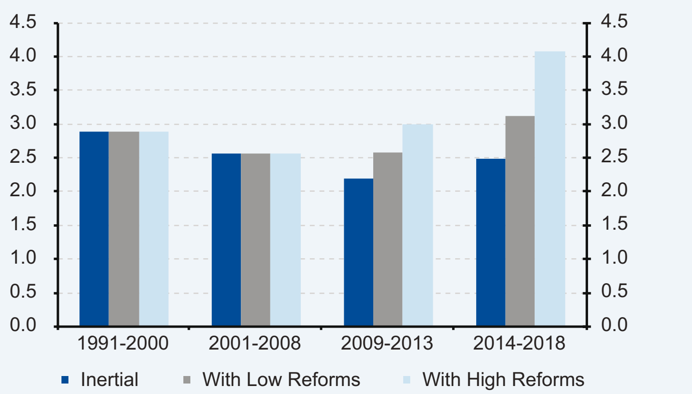
In terms of the contribution of employment, Mexico's demographic trends, with an increasingly less intensive growth in the working age population --of about 1.7% in the current decade, 1.5 pp less than in the 1980 and 1.1 pp less than in the 1990s --presupposes a structural brake on the potential contribution of employment to growth capacity, unless it is also possible to boost the employment rate via an improvement in the pace of economic activity, for example through a greater increase in the incorporation of women in the labor market, both of which are comparatively lower than in other economies, such as that of the United States, for example.

In any event, the safest bet is to increase the country's growth capacity in the long term by improving the efficiency with which the productive factors come together. This requires the intensification of the structural reform process in Mexico, which would improve the efficiency of the combination of capital and labor and place the Mexican economy in a better position to face risk factors[2].

With well-established macroeconomic stabilization, which has provided such good results in the midst of this international crisis, a wave of second generation structural reforms is still pending on the agenda. We can classify pending reforms in three categories. In the first are the reforms that make the rule of law effective; reforms that would strengthen the institutions and promote the effective protection of property rights. A second category of reforms involves those related to the reduction of vulnerabilities in the public sector, both on the level of revenue as well as spending, increasing the former with sources not tied to oil and with a broader fiscal base and improving accountability in the latter, which would allow for increasing the supply of public capital in the economy and efficiency in spending. In third and last place, but not precisely due to its lesser impact, is a third category of reforms related to a better functioning of the labor market and increased competition and the greater power of scrutiny of the market in all the spheres of the economy: in the production, distribution, and spending on goods and services. On all these levels, advances are occurring, certainly slower than would be desired, but in any event, positive.

Graph 27

Mexico. Potential GDP, y/y %



Source: BBVA Research

[1] There are many factors to keep in mind in calculating potential GDP. A synthesis of the available approximations for the Mexican economy can be found in the BBVA Research working paper ""Determinantes y características de los ciclos económicos en México y estimación del PIB potencial" (Determining factors and characteristics of the economic cycles in Mexico and an estimate of potential GDP).

[2] For a detailed account of the relationship between efficiency and reforms see the 2Q10 edition of Mexico Economic Outlook issued by BBVA Research.

A brief overview of the reforms approved or presented in Congress include the proposal for new labor legislation; the Law on Competition, with which the Federal Commission on Competition is bestowed with greater attributions to monitor monopolies, impose higher sanctions, simplify procedures, and ensure transparency in its activities, among other characteristics. Meanwhile, in the reforms related to the rule of law, of particular importance are regulations to limit cash deposits in dollars in the banking system, more stringent measures against money laundering, the approval of the Federal Forfeiture Law, an Anti-Kidnapping Law, as well as legislation involving the establishment of a single command for police forces on a national level and the steps taken in the law on the Single Registry of Real Estate Guarantees. Finally, in relation to fiscal reforms, key items include the stipulations approved in the 2010 Budget, which while insufficient do point in the right direction in terms of increasing fiscal revenue via indirect taxes applied to a broad tax base, although improving the way in which spending is administered is still pending.

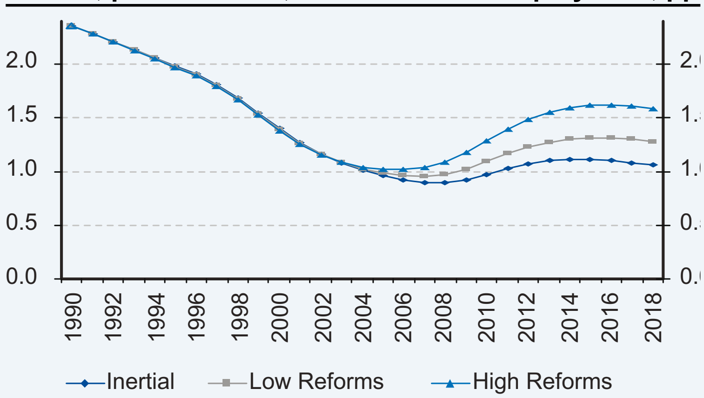
What is very uncertain is making the leap of quantifying what would be assumed to be something as qualitative as the "reform process" in terms of contributing to the growth of Total Factor Productivity and in general to labor and capital accumulation. But two scenarios can be set forth in this regard, using this variable in previous reform processes as a reference point, in addition to improvements in capital and employment contributions. If a period of intense reforms with regard to the three previously described categories were to take shape, the country's potential growth by the middle of the decade could reech a level of around 4% (4.1%), with a low range at above 3% (3.2%), while inertia without reforms would lead to growth rates in the neighborhood of 2.5%[3].

Within the reform scenarios, which pose one or another possibility of potential growth, success will depend on the degree of intensity and the scope of the respective processes. A continuous and decisive implementation of the reforms in the three previously mentioned categories could lead to an improvement in the efficiency of the productive factors, comparable to what occurred throughout the 1990s, as illustrated in the corresponding graph. That is, what is contemplated is a "yield" of the reforms in terms of efficiency similar to the measures adopted in the previous period. In addition, such measures would improve economic activity and employment rates, given a labor market that demands more jobs due to the effect of institutional reforms, and along with it, they would increase the contribution of the labor factor to growth capacity. In addition, it should be mentioned that the outlook for a lower population increase than in previous decades is a factor that hinders potential growth in the medium term, given that the population will grow at rates of close to 0.5%-0.6%, a third of the level of the 1990s. Investment in physical and human capital and efficiency must replace this stumbling block to growth.

Finally, projected higher profitability in a more favorable institutional environment for business would also boost the contribution of capital to growth. All in all, adding together the three factors, it is feasible to reach potential GDP growth rates of close to 4% (4.1%) by the middle of the decade. That is, provided of course, that things are done correctly.

Graph 28

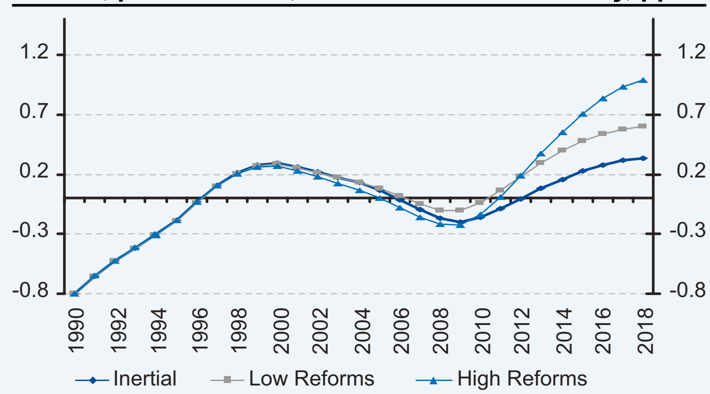
Mexico, potential GDP, contribution of employment, pp



Source: BBVA Research

Graph 29

Mexico, potential GDP, Contribution of efficiency, pp



Source: BBVA Research

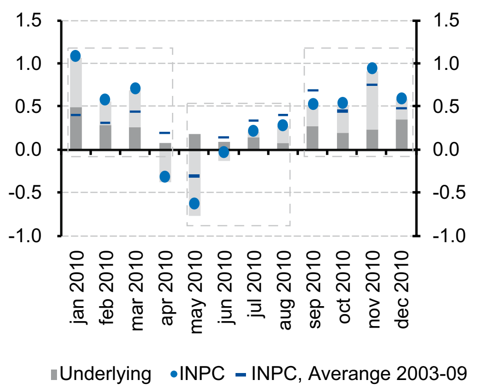
[3] In this inertial scenario without reforms, it is assumed that growth is mainly related to external boosters, so that the unemployment rate and the rhythm of capital formation respond to growth trend in the context of the global cycle, with comparable recovery rates.

II. The outlook for inflation is lower for 2011. The disinflationary process in force since March 2010 will continue, although less intensely

The year 2010 began with rises in inflation through March, and as of April started an intensive disinflationary process both in the core component and in the non-core, in such a way that price growth in the second and third quarters of the year was lower than the range estimated by the central bank last January. Both due to seasonal effects and as a basis of comparison, we discount that headline inflation will rally in the fourth quarter up to an average in the period of close to 4.3% y/y. However, given the environment of lack of demand pressure and with an exchange rate precisely with no depreciation pressure, it seems that beyond the situational rallies, historically low inflation rates will continue throughout the coming quarters.

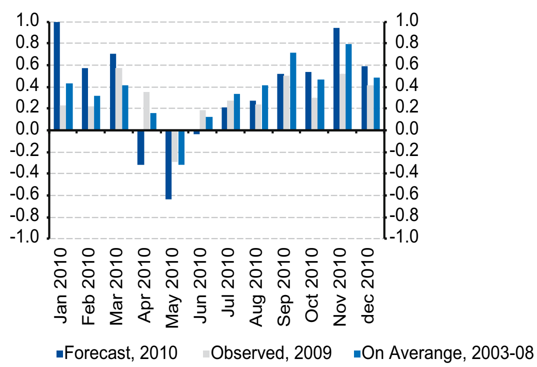
At the end of 2009, minimum inflation due to the exceptional evolution of the non-core component. In 2009, inflation closed at 3.6% (4.0% average 4Q09), a historically low figure achieved by two factors of a non-core nature. The first was the policy of freezing some public prices and tariffs decreed by the Federal Government to support the economy during the recession, and, the second, the drop in the prices of raw materials caused by the global crisis. Thus, inflation of the non-core index closed 2009 at its lowest annual rate in history, 1.2%.

Graph 30
Inflation and components
(% Change m/m



Source: Banxico and BBVA Research

Graph 31
Headline Inflation
(% Change m/m)



Source: Banxico and BBVA Research

As to core inflation, the year closed at a relatively high level, 4.5% (4.7% average 4Q09), consistent with the abrupt depreciation of the peso that started as of September 2008 and reached maximum levels in March 2009. Although, as of then, the peso has been appreciating, this process has not been exempt from volatility. During the budgetary process for the year 2010, some taxes rose, the VAT, income tax and some rates of the IEPS, and the freezing of public prices came to an end, particularly with the start of the gradual increase in gasoline prices. A result of all of this was that 2010 started with monthly consumption price growths well over their trend, causing 1Q10 inflation to stand at exactly the maximum range estimated by Banco de Mexico.

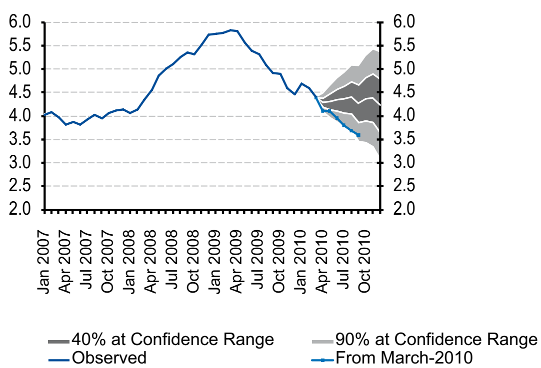
From the beginning of 2Q10, inflation has been decreasing considerably, as we had mentioned previously, the temporary situation of non-core prices has contributed to this drop, in particular the contraction of agricultural and livestock prices throughout the second and third quarters of the year. This, together with the entry into force of the summer electric power rates in April and May, compensated the increases in other line items of non-core inflation, which declined on average from 5.3% y/y to 3.7% in the second quarter and even to 3.6% in the third quarter.

Rise in non-core inflation in 2011. Non-core inflation will resume a relatively moderate rallying course in line with other periods of acceleration of this type of prices, although this does not eliminate the risks, such as those derived from the possible impact of the marked increases observed in the international grain markets. For the year 2011, non-core price increases in the NCPI are expected to be relatively high, although lower than those of 2010, consistent with an average evolution. This scenario is consistent with the lack of rallying impulses from new taxes at the beginning of the year--by which a good part of the tariffs of the public sector throughout 2011 will benefit from a base effect--and with the gradual increase in the prices of energy products. As for agricultural and livestock prices, a scenario is assumed in which, even though the end of the year will be better than that of 2010, these prices will maintain a rallying path.

Intense disinflationary process in the core component, once the impact is absorbed —quite moderate— of the tax increases at the start of 2010. Core inflation has maintained a marked downward trend since March. From the intensity of the drop, there is an idea of the fact that the registries observed since April through October are now found in the lowest and most improbable band, the forecast range obtained as of the simple historic evolution of the core inflation series.

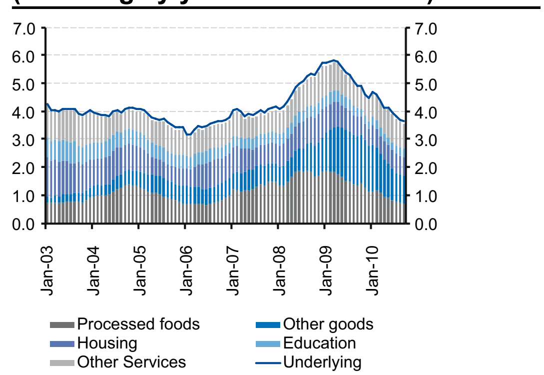
The 2010 tax increase had minimum impact and lower than what was considered a priori in price performance. The change in the tax policy, which affected the core component, mainly the rise in the VAT rate, from 15% to 16%, generated in the first instance an expectation of higher Inflation in the market throughout all of 2010, which would facilitate the total transfer of the higher tax costs to the consumer. However, the performance of the core component since March 2010 has shown that the rises in taxes only contributed transitorily to inflation, since at the end, the very weak recovery in internal demand has impeded the total transfer of the rise in taxes[1]. In addition, a higher than expected appreciation of the peso has also been contributing to the slowdown of prices.

Graph 32
Core Inflation forecast since March and actual inflation (% Change y/y)



Source: Banxico and BBVA Research

Graph 33
Core Inflation (% Change y/y and contributions)



Source: Banxico and BBVA Research

A second effect that has contributed to the reduction of core inflation, as was stated by Banco de Mexico[2] in its Quarterly Report on Inflation for 2Q10, is the greater intensity observed in the sales and promotions of various commercial establishments, particularly on non-food

[1] For further detail, see “An Estimate of the Impact of the 2010 Fiscal Package on Inflation”, in Mexico Economic Outlook BBVA Research of third quarter 2010.
[2] See chart “Recent Dynamics of Price Offers in Mexico: Evidence of the Microdata Base of the NCPI ” in Report on Inflation April-June 2010, Banco de Mexico.

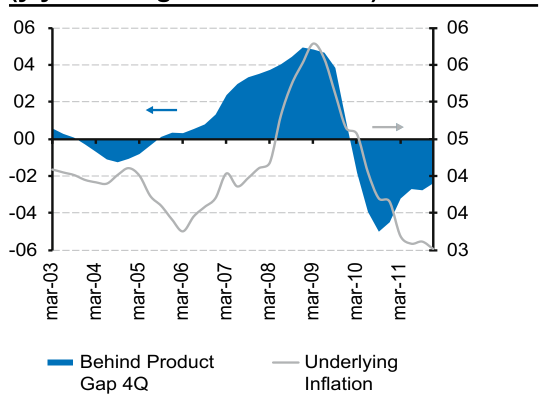
merchandise, and in the prices of other services such as air transportation. This increase in promotions, according to the central bank, could be due both to the fact that companies that have market power seek to seize share in view of the end of the crisis or simply to the direct impact of the crisis on business. Whatever the origin of the discounts, these have, up to now, promoted greater competition and benefits for consumers, although their permanence is quire uncertain once demand improves.

The slow recovery in domestic demand, key for the drop in core inflation. The third relevant factor contributing to reducing core inflation is the asymmetry between the speed of the recovery of external demand versus internal demand. The reconstruction process of inventories experienced in the U.S. this year has been very important, and since that country is our main trading partner, this has boosted the reactivation of the exporting sectors, in particular that of manufactures, exports of which have grown 33.4% in 2010. This recovery of the external sector has contributed a very important share of GDP growth. However, it should be noted that it is still far from the levels observed prior to the crisis, which is why idle capacity in industry continues to be high. Despite the fact that formal employment has recovered, the unemployment rate has dropped relatively little. Also, real wages have contracted since 2009, preventing internal demand from pressuring prices. In terms of the Output Gap, it has closed greatly, although it continues to be negative. Also, the performance of the output gap per se does not tell the whole story regarding the asymmetries between the recovery of external and internal demand, although it is undoubtedly an important reference for identifying the pressure of aggregate demand on inflation.

Finally, the exchange rate has also contributed to reducing upward pressure in merchandise prices, since the core inflation component is the most exposed to pass through of the exchange rate, as was seen in 2009 with the sharp depreciation of the peso. In 2010, in contrast, the peso has been appreciating on average 6.3% annually, a revaluation that contributes to reducing the price of imports. Also, when exchange rate volatility also drops, companies implement plans for purchasing imported goods with greater certainty and even longer terms.

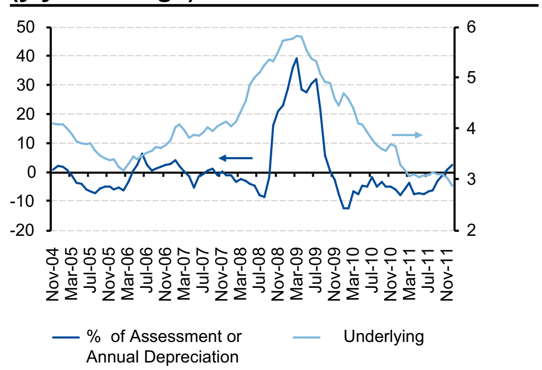
Definitely, the drop in core inflation has been the result of an environment where disposable income –with annual variations that are simply less negative– alimit the improvement in demand, where there is greater competition among suppliers, in addition to the appreciation and lower volatility of the peso versus the dollar.

Graph 34
Core Inflation and the Output Gap (y/y % change and % of GDP)



Source: Banxico and BBVA Research

Graph 35
Core Inflation and percentage of appreciation — depreciation* (y/y % change)



* Positive Means Depreciation and Negative Assessment

Source: Banxico and BBVA Research

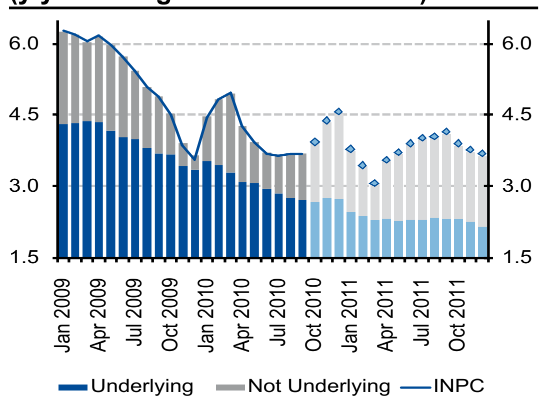
For 2011, we will review the inflationary forecast downward to 3.6% on an annual average, three tenths below what was estimated three months ago, in the previous issue of this publication. We believe that there are sufficient arguments for expecting the non-core component of inflation to remain delimited, and, as to the core price basket of the NCPI, the main conditions are there for this to continue at historically low rates, even more in 2011.

In the first place, we estimate that the output gap will continue in 2011, with which, throughout the year, the lack of relevant demand pressure will be the major player in a context where real wages will continue to drop, although at a lower speed. In second place, we believe that the second round of monetary expansion measures by the Federal Reserve will continue to favor that investors seek higher yields, so that the entry of these external flows will make the peso appreciation continue, experiencing a very contained inflationary situation, which is why marked external inflationary pressure is not expected.

Due to the afore-mentioned conditions, we have reduced our inflation forecast for 2011 from an annual average of 4.1% to 3.8%. Even if this new estimate does not imply full convergence with the central range of the central bank target at the end of 2011, it is within the tolerance range of the inflation target of the central institute (+/- 1%). Thus, we believe that the conditions for maintaining the monetary pause at least during all of 2011 will remain.

Graph 36

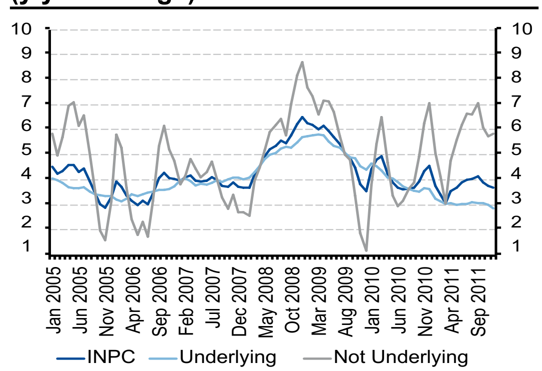
Inflation and components (y/y % change and contributions)



Source: Banxico and BBVA Research

Graph 37

Inflation and components (y/y % change)



Source: Banxico and BBVA Research

III. Monetary Policy, rates and exchange rate: an even more prolonged, pending and reduced pause and exchange rate at the pace of global flows

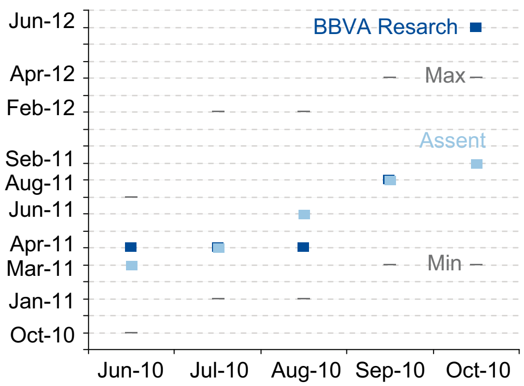
In recent months, the outlook on economic growth, foreign and domestic, local inflation and the increase in global liquidity indicate a scenario that is consistent with a more prolonged monetary pause in Mexico, this of course throughout all of 2011. In recent weeks, information on the course of the world economy has shown to be, to say the least, lacking in optimism. Even though the data of the situation were already announcing a trend toward a slowdown in the world economy, as the expansive effects of monetary and fiscal policies were decreasing in the developing countries, it was the minutes of the meeting held on September 21st of the FOMC of the FED which outlined a panorama of the deterioration of growth expectations. In view of the belief that growth is not yet self-sustaining and that part of the problem of the lack of demand in the United States is cyclical, the Fed has opened wide the door to a second round of quantitative monetary expansion and has led those most optimistic to think of slower growth going forward. The expectation of a second round of asset purchases by the FED, the Quantitative Easing II (QEII) has also generated a depreciation of the dollar. On the other end of the global panorama, central banks of the emerging markets, Asian and Latin-American, have taken steps to ease the appreciating pressures of their currencies, in view of the rise in the demand for assets generated by the environment of a search for profitability unleashed by the expectation of a rise in global liquidity.

Within this context, the Mexican economy continues with growth that is slowing down more moderately than expected and with no demand tensions on prices, which allows expecting that the monetary pause will remain at least throughout 2011. The first factor on which this assertion is based is the fact that, with lower growth expectations in the U.S:, consumption spending and investment with limited increases, together with a negative gap in demand, no demand pressure is expected that could lead the central bank to consider changing its position on monetary policy toward a restrictive terrain. In fact, as per our estimates, the output and inflation gap levels currently observed, together with the performance of the peso, indicate that the monetary policy implies conditions that are clearly adaptable for the Mexican economy. Within a context of greater global liquidity and search for profitability, it is to be expected that the demand for financial assets in Mexico will undergo an increase that will pressure the exchange rate downward. It should be pointed out at this stage that pressure toward an appreciation should be relatively more delimited in Mexico, given the much closer economic relationship with the U.S. and the explicit commitment that Mexico's central bank maintains with a free floating currency exchange.

This "delimited" appreciation turns out to be relevant for the monetary policy position because, just as was mentioned by Banxico in its last communication, the appreciation has contributed to lowering core inflation on merchandise and consequently, grants greater maneuvering margin to the issuing institute for prolonging the pause. In brief, inflation that has remained below the central bank's forecast interval throughout a good part of 2010, with an absence of demand pressure and appreciation expectations, leads us to think that the monetary pause will remain throughout most of 2012

Graph 38

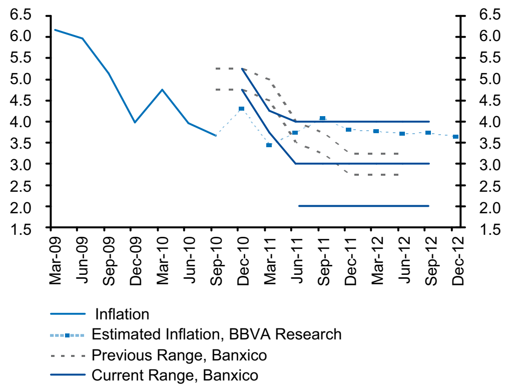
Expectations of analysts regarding the first Banxico (central bank) movement monthly survey



Source: Banxico and BBVA Research

Graph 39

Inflation and Banxico range (annual %)

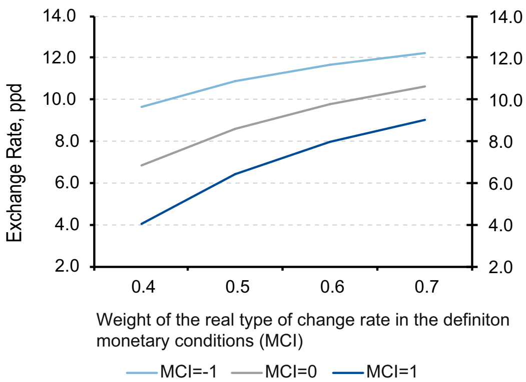


Source: Banxico and BBVA Research

The context is consistent with a more prolonged pause, although there is a certain probability of a drop in funding. In case that in this central moderate growth scenario there were, in addition, lower inflation rates and a more appreciated exchange rate than was first foreseen, it is reasonable to believe that the central bank would opt for a funding reduction throughout 2011. The Banxico rule of decision at the time of fixing its rate policy is not automatic, in terms of certain numeric thresholds in these variables, based on which the probability of a movement in rates could be important. These thresholds can be obtained based on the rules of decision of the Taylor Rule or of the Monetary Conditions Indexes. In addition to the uncertainty regarding the concrete specification of the decision rules, there are the central bank's provisions for 2011 and at what levels of these it can react. In this case, we consider it reasonable to take as a reference the average level that real short-term interest rates have registered in the monetary pause period that began in the summer of 2009, and an output gap consistent with our growth provisions, which is not very different from that indicated by the central bank. With this output gap scenario and even considering a certain degree of uncertainty in its estimate, a downward movement in the funding rate would be consistent with inflation that would remain at levels below 3.1%. These rates will be reached punctually in March 2011 according to our scenario, but the fact that they are the result of the comparison effect with 2010 and the certainty of the anchoring of the medium-term outlook on prices higher than the Banxico target, leads us to think that the probability of a drop is limited. Alternatively, the consideration of the tensioning of monetary conditions due to performance, plus the consideration of the tensioning of monetary conditions due to a greater appreciation of the peso, leads us to believe that levels below 11.3 ppd would be susceptible for consideration by the central bank in implementing a funding drop. These levels are very dependent on the weight that the central bank will grant the exchange rate in its decisions, of uncertain quantification and a certain variation over time and always in a scenario of positive growth.

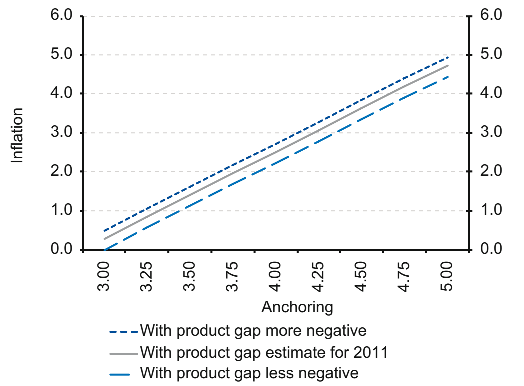
At the same time, in the money market the demand for financial assets, mainly long-term, has generated a flattening of the government yield curve and an appreciation of the peso. The aforementioned environment of a search for yield, generated as a result of the expectations of a new round of monetary stimuli by the FED, has increased investors' appetite for Mexican assets. Even though this increased demand was present since the beginning of the year, the possible inclusion of bonds from Mexico was announced at the World Government Bond Index (WGBI) of Citibank, during the month of September, the largest entry of capital of the year was observed when it reached levels higher than US$8 billion. It should be pointed out that the formal entry of Mexican bonds into the WGBI formally occurred in that month. In comparative terms, the entry of flows into Mexico, a step relative to the capitalization of the

Graph 40
Exchange rate threshold for different levels of monetary restriction



Source: BBVA Research

Graph 41
Consistence between funding and inflation



Source: BBVA Research

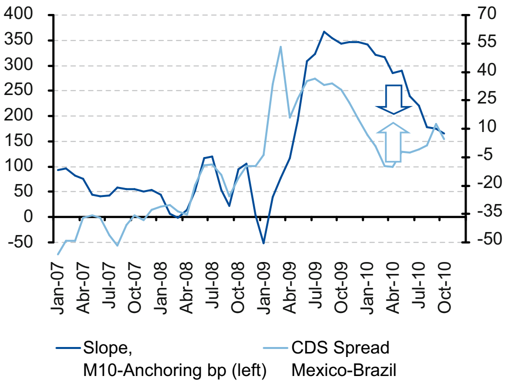
market, has been slightly higher than that recorded in Brazil and in the emerging countries as a whole. Nevertheless, as regards the matter of currency exchange, the peso appreciation in recent weeks has been lower than that of the Brazilian currency and in the emerging countries as a whole, which can be explained, in part, by the absence of measures by the central bank to depreciate the currency, in contrast to its counterparts in the region.

The demand for government bonds has been concentrated on long-term issues, where both foreign investors and the Afores have led to a reduction in the rates of over 65 bp since last June. In the short term, it is mainly foreign investors who have led to a reduction of the rates, which registered drops slightly higher than 40 bp since last June. In fact, the flow of foreign investment to bonds in September was close to 50% of the total. It should be noted that once the minutes of the FOMC meeting were made known, the U.S. market has discounted a rise in inflation which has been reflected in an increase in the yield rates of long-term bonds. In Mexico, a rise has also been posted in the long-term rates in recent weeks, given the uncertainty regarding the implementation of the measures for monetary expansion to be approved early in November.

As regards the outlook for 2011 and considering the degree of uncertainly as to the current situation, we believe that the rate on the 10-year government bond will register an increase from 5.9% in January to average levels of 6.6% in December. In accordance, the exchange rate could show a depreciation from average levels slightly higher than 12 ppd (pesos per dollar) in December to levels close to 12.30 ppd toward the end of 2011. These levels are consistent with the idea of a rise in U.S. long-term interest rates. in view of expectations of higher inflation as a result of actions by the FED.

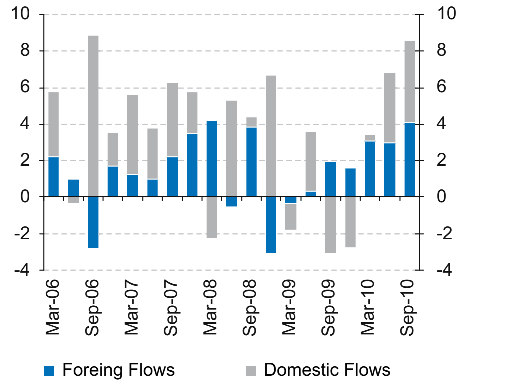
Lastly, in its report on inflation for 3Q10, the central bank announced an improvement in its communication plan consisting in three measures: first, the publication, as of 2011, of the minutes of the meetings of the Board of Governors relative to decisions on monetary policy; second, the reduction in the number of dates on which to make announcements on monetary policy; third; as of the 4Q10 report, it will publish its forecasts for the main macroeconomic variables using Fan Charts that quantify uncertainty and its variability in time. Through these measures, the central bank seeks to increase transparency and transmit more information to the public, which represents an advance in the more mature management of monetary policy, by which economic agents form their expectations by incorporating all available information regarding decisions on monetary policy. As to the global environment, the central bank comments that the risks

Graph 42
Yield & CDS Spread curve slope



Source: Banxico and BBVA Research

Graph 43
Flows to the bond market Billons of dollars



Source: Banxico and BBVA Research

downward on growth have risen, while global inflation has remained low due to conditions of economic weakness and anchored expectations and even deflationary risks.

The report does not show significant changes regarding growth forecasts in Mexico, since it maintains 5% for 2010 and an interval from 3.2% to 4.2% in 2011. In the risk balance for growth, it is significant that, as a result of the outlook of more moderate growth in the U.S. and of the adverse effects on world demand as a result of fiscal consolidation among other aspects, "the downward risks for the Mexican economy have risen". At the same time, the central bank reiterates that, as a result of the negative output gap, the real negative variations in total wages and high unemployment levels, the balance of inflationary risks has improved. In fact, based on these conditions, the central bank reviews its inflation forecasts downward for the next two quarters, by 0.5 and 0.75, respectively, Thus, it is expected that annual inflation will stand at between 4.25% and 4.75% in 4Q10 and between 3.75% and 4.25% in 1Q11. For the second quarter of 2011, the issuing institute forecasts that inflation will be between 3% and 4% and that, as of the third quarter this will converge to levels consistent with the inflation target of 3 +/- 1%. As regards risks, it continues to mention the performance of government managed and regulated prices and grain prices, although it adds, among others, the risk of abrupt movements in the exchange rate if the entry of capital flows is reverted.

In brief, the central bank clearly states that "the current challenge of the Mexican economy is to maintain a growth rate that will lead to a higher level of development" and that the current conditions are consistent with a prolonging of the monetary pause.

Inset 3. Monetary policy: exchange rate, inflation and decline in funding rate

In an environment consistent with a prolonged monetary pause, characterized by a very flat economic recovery, without important inflationary tensions and foreign capital inflows; underlying uncertainty prevails concerning a possible decline in the funding rate during 2011, as well over the influence of exchange appreciation pressures on the central bank's approach to monetary policy.

With the aim of analyzing Banco de México (Banxico) monetary policy given the current scenario, variable thresholds were calculated for inflation, the exchange rate, and economic growth, based on which monetary rules, such as the Taylor Rule (TR) or the Monetary Conditions Index (MCI), would indicate a change in the central bank's approach. Although Banxico's decisions are not based exclusively on rules, given their preventive focus and with a medium term outlook, the results obtained will allow for reference points to be considered in order to limit the possibility of a change in monetary policy.

To begin with, based on the estimate of a Monetary Conditions Index with monthly data for the 2000-2010 period and considering the average level of short-term real rates in the monetary pause period (0.35%) as reference, exchange rate levels are calculated that are consistent with a restrictive monetary policy approach, that is, an MCI=0.

$$MCI_t=[(1-\omega_{tc})(r_t-\bar{r})]-[\omega_{tc}(\varepsilon_t-\bar{\varepsilon})]$$

In which MCI_t denotes the scale of the Monetary Conditions Index; r_t is the real short-term interest rate; $\bar{r}$ is the long-term equilibrium level of the real interest rate; q_t is the real exchange rate; $\bar{q}$ is the level of the real long-term equilibrium exchange rate; and ω_{tc} is the weighting factor of the real exchange rate in the MCI.

According to chart 1, there is a positive correlation between the weighting factor of the real exchange rate in the MCI and the nominal exchange rate level that indicates a restrictive policy. In general, it can be stated that with a weighting factor between 0.7 and 0.8 for the real exchange rate, consistent with a very open economy such as is the case of Mexico, exchange rate levels below 11.3 pesos to the dollar would send a signal of a possible increase in the monetary restriction. Furthermore, with all the other variables constant, for higher real short- term rate levels, an exchange rate that would point to the possibility of an eventual restrictive approach would increase.

Meanwhile, with the aim of determining inflation thresholds consistent with a possible drop in the central bank's funding rate, a Taylor Rule is estimated with quarterly data and considering a neutral funding rate of 6 percent.

$$i_t=[1-\omega_{it-1}]*[\bar{i}+(1.5*(\pi_t-\bar{\pi}))+0.5*(y_t-\bar{y}))]+[\omega_{it-1}*(i_{t-1})]$$

In which it is the central bank's funding rate in the current period, $(\pi_t-\bar{\pi})$ is the inflation gap, $(y_t-\bar{y})$ is the output gap, $\bar{i}$ is an estimate of the neutral funding rate, and ω_{it-1} is the weighting factor that indicates the model's degree of inertia.

According to chart 2, for the same output gap level, a lower funding rate level is consistent if a reduction in inflation is posted. Specifically, if the quarterly average output gap estimated by BBVA Research for 2011 (-1.87) is used as a reference, it can be affirmed that a reduction in the funding rate from 4.5% to 4.25% is only consistent if inflation remains under 3.1%. In addition, for a given funding level, a less negative output gap is only consistent if a decline in inflation is observed.

In conclusion, we can affirm, first, that exchange rate levels below 11.3 pesos per dollar are consistent with a possible cut in the monetary rate, given the current conditions of real rates. Secondly, the cutting of the funding rate would also be consistent, according to the BBVA Research economic scenario, with inflation rates below 3.1%.

Chart 1

Exchange rate threshold indicative of restrictive monetary policy pressures

	Weighting factor of the real exchange rate						
Real short-term rate	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.00	6.28	8.24	9.55	10.48	11.18	11.73	12.16
0.20	6.61	8.46	9.70	10.58	11.24	11.75	12.16
0.25	6.70	8.52	9.73	10.60	11.25	11.76	12.16
0.35	**6.87**	**8.63**	**9.81**	**10.65**	**11.28**	**11.77**	**12.16**
0.50	7.12	8.80	9.92	10.72	11.32	11.79	12.16
0.75	7.54	9.08	10.11	10.84	11.39	11.82	12.16
1.00	7.96	9.36	10.29	10.96	11.46	11.85	12.16
1.50	8.80	9.92	10.67	11.20	11.60	11.91	12.16
2.00	9.64	10.48	11.04	11.44	11.74	11.98	12.16
2.25	10.06	10.76	11.23	11.56	11.81	12.01	12.16
2.50	10.48	11.04	11.42	11.68	11.88	12.04	12.16

Source: BBVA Research

Chart 2

Inflation threshold for different levels of the output gap and consistent with changes in the funding rate

	Funding rate (%)							
Output gap	3.00	3.50	4.00	4.25	4.50	5.00	5.50	6.00
-5.00	1.33	2.44	3.56	4.11	4.67	5.78	6.89	8.00
-4.50	1.17	2.28	3.39	3.94	4.50	5.61	6.72	7.83
-4.00	1.00	2.11	3.22	3.78	4.33	5.44	6.56	7.67
-3.62	0.87	1.98	3.10	3.65	4.21	5.32	6.43	7.54
-3.00	0.67	1.78	2.89	3.44	4.00	5.11	6.22	7.33
-2.50	0.50	1.61	2.72	3.28	3.83	4.94	6.06	7.17
-1.87	**0.29**	**1.40**	**2.51**	**3.07**	**3.62**	**4.73**	**5.85**	**6.96**
-1.50	0.17	1.28	2.39	2.94	3.50	4.61	5.72	6.83
-1.00	0.00	1.11	2.22	2.78	3.33	4.44	5.56	6.67

Source: BBVA Research

5. Violence and growth: there is indeed a relationship

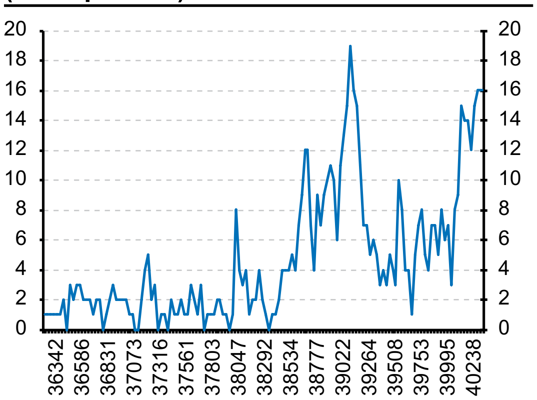
There is a growing perception that violence could be involved in putting a brake on the current economic performance of the Mexican economy. We are witnessing a growing flow of news that reflects the increase in the level of violence in Mexico, especially in some states along the country's northern border. The estimates of the death toll in organized-crime-related incidents fluctuate between 23,000 and 32,000 since 2006, according to official figures. Thus, problems related to public insecurity are now perceived as the main factor putting a brake on the rhythm of growth in the Mexican economy according to 16% of those polled in the Banxico (central bank) monthly survey[1]. The impact of this situation in terms of the narrowly conceived economic environment in which we are focusing our attention for purposes of this article cannot be minimized[2]. Nevertheless, it is also necessary to point out that the extent of the cost of the violence that we are presenting in this study is partial in that it is very possible that the current price tag could be very much below the present value of the long-term economic cost of violence in the future if the power of the drug trafficking networks grows.

The violence has interrelated effects on the economy, increasing production and transaction costs and reducing physical and human capital accumulation. A climate of violence[3] increases production costs due to the necessary increase in security measures and transaction costs as a result of the weakening of the institutional environment. As with everything else, the equilibrium price level will be higher and activity levels will be lower than in a situation not marked by violence. From the standpoint of the accumulation of productive factors, of physical and human capital, violence also has a negative impact, and therefore reduces the economy's growth capacity in the medium term.

The quantification of the impact of violence is very dependent on a priori assumptions. To approximate such a quantification it is necessary to define the variable to be considered as representative of the phenomenon in question. In this analysis the response "problems of public insecurity" was chosen in answer to the question as to which factors can limit growth in the survey undertaken by Banxico[4].

Graph 44

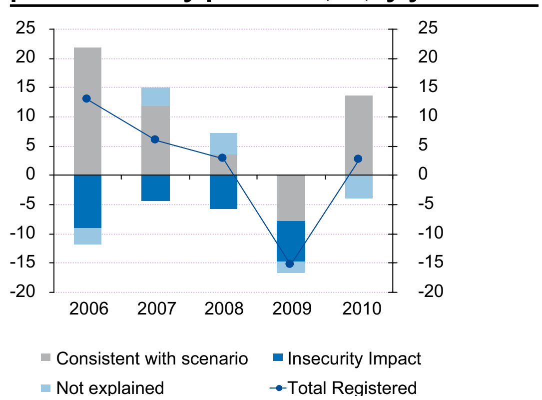
Mexico, public insecurity as a factor that limits the pace of economic activity (% responses)



Source: BBVA Research

Graph 45

Mexico, Private investment, impact of public security problems, %, y/y



Source: BBVA Research

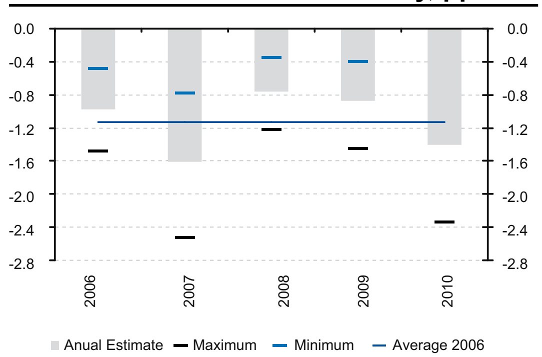
[1] The Banco de México (central bank) survey is based on the opinion of 32 analysis and economic consultancy groups of the national and international private sector.
[2] For a broader perspective on violence, see the "World Report on Violence and Health", by the World Health Organization.
[3] According to the definition of the World Health Organization (WHO), violence is the intentional use of force, explicit or implicit, against people, groups, or communities and that results in death or physical or psychological harm.
[4] These are a series of high frequency data, with a temporal sample spanning more than 10 years and with timely circulation.

From the standpoint of a temporal series analysis, it appears that there is indeed an impact on growth resulting from public security problems, although its quantification is uncertain. It seems reasonable to believe that private investment is the variable most directly affected by an environment perceived to be insecure and for which, in addition, a statistically acceptable behavioral model is available, based on its dependence on companies' benefit expectations –and therefore on the production costs that they face– which depends on the expectations for both internal as well as external demand. In addition, the financial cost that must be paid to carry out investment projects is also a variable that is taken into consideration in the specification. If in addition, the Banxico (central bank) survey results are included as a conveniently transformed explanatory variable[5], the distance, the error between estimated and actual private investment decreases (see graph below). Furthermore, based on a certain threshold, the impact is similar. All in all, it is feasible to conclude that private investment in Mexico has been slowed down by violence. (see graph below). If this impact on private investment is mechanically applied to GDP, its effect could lead to a downtrend in growth in the 2006-2010 period of 1.1 points in annual average terms. This figure would be subject to the uncertainty characteristic of the estimate, so it is appropriate to speak of a range from 0.5 -1.8 pp with a 70% probability.

This is not the only methodology that can be employed to quantify the impact of violence on the economy. Alternatively, a parallel study of different economies over time can be considered, through an analysis of panel data. In the box inset accompanying this article, a study of this nature is provided for a sample of 10 Latin American countries, although with data from 1980 to 2005. The results suggest that significant reductions in the homicide rate –the proxy available in this case for the "violence" variable– would be consistent with greater increases in per capita income both due to its direct impact on growth as well as through capital accumulation. Specifically, the estimates indicate that a 10 percentage point reduction in the homicide rate is consistent with an increase of up to 0.5 percentage points in per capita GDP growth, an estimate centered within a range between 0.3 and 0.7 percentage points. Finally, it is important to point out that the results of these analyses do not seek to estimate a specific effect but rather they represent an attempt to try to infer the existence of a negative sign at least in the elasticity of violence to growth, which is something that does appear reasonable to emphasize, and that seems to be compatible with the data.

Graph 46

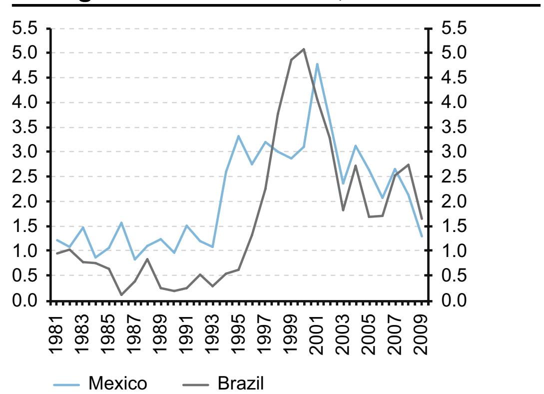
Mexico, GDP. Impact on GDP growth from less investment due to insecurity, pp



Source: BBVA Research

Graph 47

Foreign direct investment, % of GDP



Source: BBVA Research

[5] It is feasible to believe that violence affects economic performance as of a certain threshold, and that once this threshold has been exceeded, the impact remains constant. With this in mind, we have transformed the variable in another, dichotomous variable, with a value of 0 when it is below the historical average and 1 when it is above it.

Inset 4: Violence and growth in Latin America, an approximation based on panel data

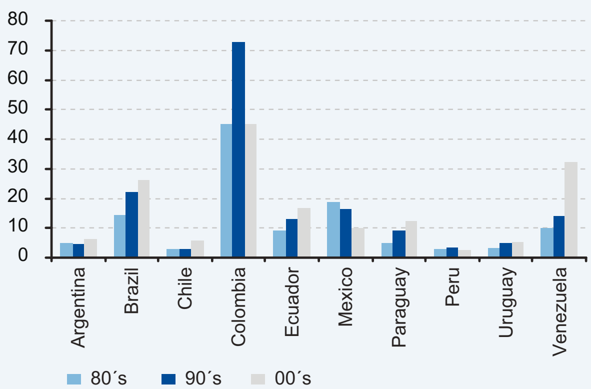
In the past three decades, Latin America has grown by 2.9% in annual average terms, below the 3.3% growth rate posted on a world level and half the 6% growth enjoyed by the so-called Asian Tigers and less than the 5.3% average annual growth registered by the group of countries with a more recent outstanding performance, known as the BRIC (Brazil, Russia, India, and China). This has occurred despite the region's advantages in terms of natural resources, the macroeconomic reforms that have been undertaken, and a population that is young and marked by relatively high growth rates. To identify the causes of this lackluster performance is undoubtedly a complex and difficult task. Throughout the literature on the subject innumerable studies can found that attempt to explain this phenomenon based on different approaches. The lack of adequate amounts of physical as well as human capital available or the role of the institutional environment in countries' economic growth are the most relevant factors considered in these studies. More recently some studies have emerged that attempt to estimate the impact of violence on growth and these are useful in trying to respond to questions in this regard[5].

In the recent past, Latin America has experienced episodes of sharp violence, such as with the coup d'états of the 1970s, especially in South America; the civil wars and guerrilla warfare in Central America, especially in the 1980s and the beginning of the 1990s; as well as social movements characterized by violence that range from the La Mara gang in El Salvador to organized crime linked to drug trafficking in Colombia and Mexico.

The available data makes the homicide rate (per 100,000 inhabitants) the comparable variable as a proxy for "violence". Thus, the average level of violence in Latin America in the first half of the current decade measured as the homicide rate per 100,000 inhabitants is 20.9, almost double the world average of 11.06[6]. Such high levels could be having an adverse and significant effect on the economy of the countries of the region, by inhibiting productive investment and the human capital and talent of their economies, discouraging the accumulation of wealth, and affecting both the physical and emotional health of their inhabitants. Of the ten countries in the panel[7], Colombia, Venezuela and Brazil have the highest average homicide rates (per 100,000 inhabitants) in the region (with data between 1980 and 2005). As illustrated in the graph, in comparison with the 1980s, in the first half of the last decade, violence in almost all the countries of the region has increased, with a few exceptions, such as the case of Mexico (although this situation has taken the opposite direction in the past few years).

Graph 47

Average homicide rate per 100,000 inhabitants



Source: WHO, UN, and BBVA Research

To analyze the effects of violence on the economic growth of the countries of the region is a challenge on several levels, beginning with the fact that statistics are few and far between and incomplete and many times on a national level they are not comparable with data from other nations. The WHO (World Health Organization) provides mortality figures classified by cause of death, among them homicide, for almost all the countries involved, but unfortunately, the most recent data only extends to 2004 or 2005 in the best of cases[8].

In this box we analyze the effect of violence on the per capita growth rate in Latin America and on capital accumulation (investment as a percentage of GDP). For the first variable, a standard specification of a growth model is used in which

[5] Giménez, G. (2007). Violence and Growth in Latin America. Economical Analysis Working Papers.
[6] BBVA Research based on World Health Organization data and the UN Office against Drugs and Crime (UNODC).
[7] Argentina, Brazil, Chile, Colombia, Ecuador, Mexico, Paraguay, Peru, Uruguay and Venezuela. Countries selected for availability of data.
[8] Available on Internet: http://www.who.int/healthinfo/morttables/en/index.html

the dependent variable is the per capita growth rate of GDP and also included as explanatory control variables representative of "violence", in addition to those that tend to be considered relevant in the empirical and theoretical studies on the matter, measured as the homicide rate per 100,000 inhabitants.

Specifically, in the growth model, equation (1), the following factors are included as control variables: investment, measured as a percentage of GDP (%); a human capital variable, measured as the enrollment rate in secondary school education (% of gross enrollment); and the degree of the economy's trade opening, measured as the sum of imports and exports as a percentage of GDP (%). The model is estimated taking differences into account, since, in terms of levels the results were not acceptable. Specifically, in the first model, the dependent variable is included as the change in per capita growth while the violence variable is introduced as the absolute variation of its percentage growth rate. In addition, with the aim of analyzing whether the previous level of growth of violence and not just its absolute variation also has an impact, this variable is subsequently incorporated.

For the capital accumulation model, equation (2), a similar specification is also used in terms of differences. The only two variants are the introduction of the per capita growth variable and the substitution of the variable representative of human capital[9] as regressors, for a real loan interest rate as representative of the real cost of the use of capital that the economy experiences[10].

$$\Delta CPC_{it}=ß_i+ß_1 CPC_{it-1}+ß_2\Delta INV_{it}+ß_3\Delta CAH_{it}+ß_4\Delta APE_{it}+ß_5\Delta VLA_{it}+ß_6\Delta VLA_{it-1}+\mu_{it} \quad (1)$$

$$\Delta INV_{it}=ß_i+ß_1 INVi_{t-1}+ß_2\Delta CPC_{it}+ß_3\Delta TAS_{it}+ß_4\Delta APE_{it}+ß_5\Delta VLA_{it}+ß_6 VLA_{it-1}+\mu_{it} \quad (2)$$

In which *Δ* denotes the first difference (absolute variation), *i* denotes the country, t the year, *CPC* represents per capita *GDP*, *INV* denotes the investment ratio, *CAH* the human capital variable, *APE* represents the trade opening ratio, *TAS* the real cost of the use of capital, *VLA* is the violence variable, and *μ* is the error term.

For the estimate, the fixed effects panel methodology was used, which allows for a control mechanism in the model for those factors omitted and specific to each country and that are fixed in time, often unobservable and for the same reason difficult to quantify or measure with a concrete variable. However, this approach has the disadvantage that it is not controlled due to the endogeneity potential among the variables, that is, the possible correlation of the explanatory variables with the error term, which can be attributable to the presence of causality from the dependent variable to the variables that are independent of the model. Specifically, the variable that is used in the model to represent the degree of violence, could present bidirectional causality with per capita income. That is, it would it seem reasonable to think that the lower the per capita income is—in other words, less favorable economic well being per inhabitant—the greater will be the tendency for deaths due to homicide to increase as a reflection of the struggle for relatively and increasingly scarce resources.

Chart No. 3 presents the results obtained for both models in the two specifications described above. The growth model shows a process of convergence in the variation of the growth rate in per capita GDP and that capital formation contributes 0.6 percentage points to per capita growth for each percentage point that it increases[11]. Furthermore, the results suggest that violence has a direct 0.03 percentage point impact on the GDP growth rate for each one percent point that it increases, with a range between 0.01 and 0.06 (95% confidence interval). In other words, considering the data provided by the World Bank in 2008 of 0.75% per capita GDP growth in Mexico, if the growth in the homicide rate decreases 10%, this would be consistent with a close to 1.1% increase in per capita GDP[12].

When jointly considering the results obtained in both models, it can be concluded that there is evidence that the levels of violence in Latin America have, on the one

9 Due to the reduced availability of data for the human capital variable in relation to the rest of the explanatory variables in the countries panel, when introducing this variable in the growth model, the observations decrease considerably. For this reason, we also estimate a model that excludes this variable, achieving a three-fold increase in the number of available observations. An analogous exercise is conducted in the investment model and the real loan interest rate.
10 In addition, a delayed reaction is introduced in the level of the dependent variable for control purposes due to convergence.
11 In this regard, there is a debate in the literature on the question concerning the effects of a greater trade opening on per capita GDP. Some authors emphasize that the correlation is empirical, that it depends on each specific case, with reasons existing for both a positive as well as negative sign for the elasticity of the trade opening to growth. Thus, depending on the period under consideration in the sample or the characteristics of the economy in question, a country that is more open to international trade could well experience adjustments derived from its vulnerability to external shocks or a greater degree of external opening could presuppose a shock absorber. Factors such as productive and geographical specialization will be decisive in defining whether the impact is positive or negative (Frankel, 2005).
12 It should be pointed out that this fluctuation in the homicide rate per 100,000 is quite feasible since its percentage variation has a volatility factor of close to seven percentage points.

hand, an adverse direct effect on per capita economic growth, and, on the other hand, an indirect negative effect via capital accumulation. Thus, the figures obtained in the investment model suggest that a 10% reduction in levels of violence would allow for a 0.4 percentage point increase in the investment ratio (% of GDP). In the case of Mexico, in 2005, with a homicide rate of 9.5 per 100,000 inhabitants, if this rate decreased by 10% to 8.6, the 0.4 point increase that would be posted in investment would be reflected in a 0.2 percentage point (0.4*0.6) rise in per capita GDP. Thus, in considering this indirect impact via capital accumulation, plus the direct 0.3 percentage point impact on per capita GDP, a combined 0.5 percentage point effect is obtained on the per capita GDP growth rate. For example, in the case of the Mexican economy, the 0.75% figure for 2008 could have been as much as 1.3% if violence had fallen by this amount.

All in all, it is important to keep in mind that the results of this analysis do not seek to estimate a precise effect of the phenomenon of growing violence on the economies of Latin America, but rather they represent an attempt to estimate insofar as is possible given the available information, the adverse effect that violence exercises on per capita growth in the region.

Chart 3.

Panel Estimates, LATAM (1980-2005)

	Dependent variables:			
Methodology: Fixed effects	**Δ Per capita growth (pp)**	**Δ Per capita growth (pp)**	**Δ Capital accumulation (pp)**	**Δ Capital accumulation (pp)**
Independent variables:				
Per capita GDP (t-1), CPC_{it-1}	-0.935***	-0.897***		
Investment ratio (t-1)INV_{it-1}			-0.369**	-0.330**
Δ Per capita GDP, ΔCPC_{it}			0.091	0.115
Δ Investment ratio, ΔINV_{it}	0. 887**	0.595***		
Δ Human capital, ΔCAH_{it}	0.010			
Δ Real loan interest rate, ΔTAS_{it}			0.0001	
Δ Trade opening ratio, APE_{it}	-0.112	-0.164*	0.007	0.041
Δ Violence, ΔVLA_{it}	-0.053	-0.027*	-0.039***	-0.034***
Violence (t-1), VLA_{it}	-0.099	-0.028	-0.061	-0.069***
Observations	60	197	147	197
ρ	0.260	0.162	0.109	0.100

note: * * *, * * & * denotes 1%, 5% & 10% statistical significance, respectively.

6. Indicators and Forecasts

Chart 4

United States Indicators and Forecasts

	2008	2009	2010	2011	1Q10	2Q10	3Q10	4Q10	1Q11	2Q11	3Q11	4Q11
Macroeconomic Indicators												
GDP (real % change)	0.0	-2.6	**2.7**	**2.3**	2.4	3.0	**3.0**	**2.3**	**1.9**	**2.1**	**2.4**	**2.5**
Personal consumption (real % change)	-0.3	-1.2	**1.5**	**1.8**	0.8	1.7	**1.7**	**1.9**	**1.8**	**1.7**	**1.8**	**1.7**
Government consumption (real % change)	2.8	1.6	**1.0**	**1.9**	1.1	0.6	**0.7**	**1.5**	**2.3**	**1.8**	**1.8**	**1.8**
Gross fixed investment (real % change)	-6.4	-18.3	**5.3**	**6.3**	-2.0	5.1	**8.0**	**10.3**	**10.4**	**6.7**	**4.6**	**3.7**
Construction[1]	-24.0	-22.9	**0.9**	**3.8**	-6.2	4.9	**2.2**	**3.3**	**7.5**	**2.2**	**2.9**	**2.8**
Industrial production (real annual % change)	-3.3	-9.2	**5.7**	**4.6**	2.7	7.2	**6.5**	**6.2**	**5.5**	**4.7**	**4.3**	**3.8**
Current account balance (% of GDP)	-4.6	-2.7	**-3.8**	**-4.4**	-3.1	-3.4	**-4.0**	**-4.8**	**-5.0**	**-4.1**	**-3.9**	**-4.5**
Final annual inflation	0.1	2.7	**0.9**	**1.1**	2.3	1.1	**1.1**	**0.9**	**1.0**	**1.6**	**1.2**	**1.1**
Average annual inflation	3.8	-0.4	**1.6**	**1.2**	2.4	1.8	**1.2**	**1.0**	**1.0**	**1.4**	**1.3**	**1.2**
Primary fiscal balance[2] (% of GDP)	-3.2	-10.0	**-10.8**	**-8.9**	-	-	**-**	**-10.8**				**-8.9**

Char 5

Mexico Indicators and Forecasts

	2008	2009	2010	2011	1Q09	2Q09	3Q09	4Q09	1Q10	2Q10	3Q10	4Q10
Economic Activity												
GDP (seasonally-adjusted series)												
Real annual % change	1.5	-6.6	**4.5**	**3.4**	-9.1	-8.6	-6.2	-2.3	**4.3**	**7.7**	**4.2**	**1.9**
Per inhabitant (US dollars)	10,308	8,097	**9,533**	**10,388**	7,421	8,034	8,356	8,576	**8,949**	**9,468**	**9,810**	**9,904**
US$ billions	1,098	876	**1,018**	**1,139**	806	858	893	949	**1,000**	**1,031**	**1,002**	**1,038**
Inflation (average, %)												
Headline	5.1	5.3	**4.2**	**3.8**	6.2	6.0	5.1	4.0	**4.8**	**4.0**	**3.7**	**4.3**
Core	4.9	5.3	**4.0**	**3.1**	5.8	5.6	5.1	4.6	**4.6**	**4.1**	**3.7**	**3.7**
Financial Markets (eop, %)												
Interest rates												
Bank funding	7.9	5.4	**4.5**	**4.5**	6.8	4.8	4.5	4.5	**4.5**	**4.5**	**4.5**	**4.5**
28-day Cetes	7.9	5.4	**4.5**	**4.0**	7.0	5.0	4.5	4.5	**4.5**	**4.6**	**4.4**	**4.0**
28-day TIIE	8.3	5.9	**4.9**	**4.9**	7.7	5.3	4.9	4.9	**4.9**	**4.9**	**4.9**	**4.9**
10-year Bond (%, average)	8.9	8.0	**6.8**	**6.3**	8.0	7.9	8.1	8.0	**7.8**	**7.2**	**6.3**	**5.8**
Exchange rate (average)												
Pesos per dollar	11.1	13.5	**12.5**	**12.0**	14.4	13.3	13.3	13.1	**12.8**	**12.4**	**12.6**	**12.2**
Public Finances*												
FRPS (% of GDP)	-1.6	-2.7	**-3.2**	**-2.7**	--	--	--	-2.7	**--**	**--**	**--**	**-3.2**
External Sector												
Trade balance (US$ billions)	-17.3	-4.6	**-13.7**	**-15.9**	-2.3	0.4	-2.8	0.0	**0.4**	**-0.1**	**-7.3**	**-6.8**
Current account (US$ billions)	-15.9	-5.2	**-12.7**	**-14.0**	-1.2	0.4	-3.7	-0.7	**-0.5**	**-0.6**	**-6.4**	**-5.2**
Current account (% of GDP)	-1.5	-0.6	**-1.2**	**-1.3**	-0.6	0.2	-1.7	-0.3	**-0.2**	**-0.2**	**-2.4**	**-1.9**
Oil (Mexican mix, dpb, eop)	84.4	57.6	**70.7**	**75.7**	39.4	56.2	64.3	70.3	**71.5**	**69.9**	**70.2**	**71.4**
Employment												
Formal Private (annual % change)	2.0	-3.1	**3.1**	**3.4**	-2.3	-3.8	-3.9	-2.3	**1.1**	**3.8**	**4.0**	**3.6**
Open Unemployment Rate (% active pop.)	4.0	5.5	**5.2**	**4.5**	4.9	5.6	5.8	5.5	**5.3**	**5.5**	**5.2**	**5.0**

Chart 5

Mexico Indicators and Forecasts

	2008	2009	2010	2011	1Q09	2Q09	3Q09	4Q09	1Q10	2Q10	3Q10	4Q10
Aggregate Demand3 (ann. % chge., seasonally-adjusted)												
Total	1.9	-9.6	**8.4**	**5.1**	-13.1	-13.6	-9.4	-1.8	**7.8**	**12.8**	**8.0**	**5.4**
Domestic demand	2.2	-6.1	**2.3**	**3.3**	-6.8	-7.6	-5.7	-4.4	**2.0**	**4.4**	**2.2**	**0.6**
Consumption	1.7	-5.1	**2.6**	**2.9**	-6.6	-6.6	-4.0	-3.0	**3.0**	**4.9**	**2.5**	**0.2**
Private	1.9	-6.2	**2.7**	**3.2**	-8.2	-7.7	-4.9	-3.7	**3.4**	**4.7**	**2.5**	**0.4**
Public	0.9	2.3	**1.9**	**1.3**	4.2	1.3	2.2	1.4	**0.5**	**5.7**	**2.4**	**-1.0**
Investment	3.9	-9.9	**1.2**	**4.8**	-7.3	-11.3	-11.5	-9.3	**-1.2**	**2.7**	**1.1**	**2.2**
Private	2.9	-15.3	**3.8**	**8.0**	-13.0	-18.0	-17.0	-13.2	**-1.5**	**2.9**	**4.8**	**9.3**
Public	7.9	10.8	**-6.4**	**-5.5**	15.6	15.9	9.1	3.8	**-0.5**	**2.1**	**-9.6**	**-17.2**
External demand	0.7	-15.1	**25.6**	**10.0**	-23.2	-24.6	-15.7	6.8	**23.5**	**34.3**	**26.2**	**19.5**
Imports	3.1	-18.5	**21.7**	**10.0**	-24.9	-27.7	-18.6	0.0	**20.0**	**31.3**	**20.2**	**16.6**
GDP by sectors (ann. % chge., seasonally-adjusted)												
Primary	1.2	1.8	**2.1**	**2.1**	1.8	2.3	1.6	1.7	**-0.7**	**4.0**	**2.6**	**2.4**
Secondary	-0.6	-7.2	**5.3**	**2.9**	-11.5	-9.0	-6.4	-2.1	**6.1**	**7.3**	**4.7**	**3.1**
Mining	-1.4	1.0	**3.7**	**3.4**	-1.1	1.2	2.4	1.4	**4.1**	**4.2**	**3.6**	**3.1**
Electricity	-2.1	1.2	**2.6**	**3.0**	-2.3	-0.3	3.9	3.2	**1.6**	**2.9**	**2.3**	**3.8**
Construction	0.6	-7.5	**-0.4**	**4.9**	-9.6	-6.2	-7.2	-6.9	**-3.3**	**-2.0**	**-0.4**	**3.9**
Manufacturing	-0.6	-10.1	**8.4**	**2.1**	-15.2	-14.1	-9.4	-1.8	**10.8**	**12.7**	**7.2**	**2.8**
Tertiary	3.1	-6.6	**4.5**	**3.3**	-7.9	-9.5	-6.3	-2.9	**4.4**	**6.9**	**4.6**	**2.1**
Retail	2.3	-14.4	**11.5**	**5.6**	-19.2	-18.8	-16.1	-3.7	**14.9**	**17.3**	**10.0**	**3.6**
Transportation, mail and warehouse	0.2	-8.1	**7.2**	**4.3**	-11.6	-11.9	-7.5	-1.3	**6.7**	**10.1**	**7.2**	**4.9**
Massive media information	8.1	1.6	**6.3**	**4.6**	-0.7	1.7	1.9	3.4	**6.0**	**4.2**	**7.6**	**7.3**
Financial and insurance	19.1	-3.7	**2.2**	**1.9**	-0.6	-5.7	-2.2	-6.5	**0.7**	**5.8**	**0.6**	**1.5**
Real-estate and rent	3.2	-5.3	**1.6**	**3.4**	-8.2	-6.2	-3.7	-3.1	**2.9**	**0.9**	**2.7**	**-0.3**
Prof., scientific and technical servs.	3.1	-5.3	**-0.4**	**2.0**	-2.7	-3.6	-5.8	-9.1	**-3.7**	**-3.7**	**3.2**	**2.6**
Company and corporate management	-2.8	-3.5	**-1.2**	**0.0**	-0.5	-0.8	-4.2	-8.5	**-2.1**	**-2.7**	**0.8**	**-0.8**
Business support services	1.8	-5.3	**2.0**	**1.5**	-3.3	-5.4	-5.9	-6.4	**-0.9**	**1.6**	**4.6**	**2.6**
Education	1.6	-4.5	**4.4**	**2.0**	-0.1	-16.3	-0.7	-0.9	**0.0**	**13.6**	**2.5**	**1.4**
Health and social security	-1.2	-0.1	**-3.5**	**1.3**	-2.7	4.2	-0.9	-1.2	**0.6**	**-10.5**	**-1.9**	**-2.4**
Cultural and sport	1.3	-2.3	**1.6**	**1.9**	-2.8	-3.4	-2.6	-0.6	**-0.9**	**1.9**	**2.9**	**2.4**
Temporary stay	0.8	-9.6	**3.6**	**1.6**	-8.0	-17.0	-8.4	-5.0	**-2.0**	**11.6**	**2.8**	**1.8**
Other services exc. government	0.6	-2.6	**-1.0**	**2.2**	-2.1	-4.5	-1.7	-2.2	**-1.5**	**-1.1**	**-0.3**	**-1.1**
Government activities	1.2	3.7	**2.4**	**-0.2**	5.9	5.6	2.1	1.1	**0.6**	**8.5**	**1.0**	**-0.5**

1: Residential investment
2: Fiscal balance (% GDP)
3: Base 1993=100; GDP by sectors base 2003=100. The observed data of the primary, secondary and tertiary sectors are seasonally-adjusted by INEGI, the rest are own seasonally-adjusted
eop: end of period
dpb: dollars per barrel
*: As of 2009 the Fiscal Balance definition changes, therefore data is not comparable
FRPS: Financial Requirements of the Public Sector
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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