BBVA

Latinwatch

Economic Research Department

Third quarter 2006

More synchronized growth in Latam
Exchange-rate disequilibria in the region
Latin American emigration: stability or decapitalization
Oil: geopolitics holds sway
Is the Phillips Curve valid in the oil-producing countries?
The Asian crisis of 1997: lessons for China

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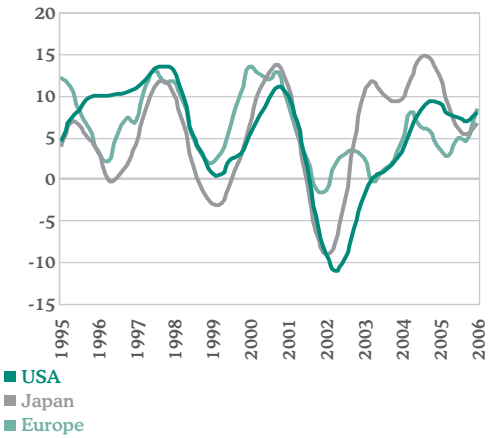
Real exports: USA, EMU and Japan

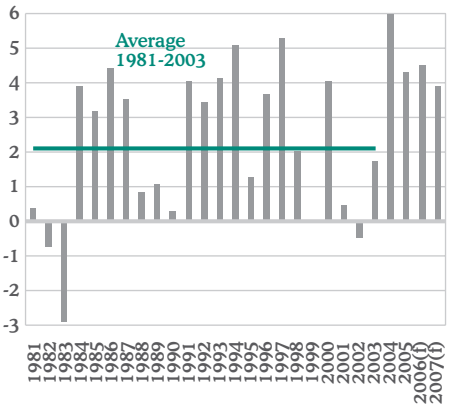
% oya



Sources: Datastream and national statistics offices

Real GDP growth in Latin America*

(in %)



Sources: BBVA; (e) estimate, (f) forecast; *Argentina, Brazil, Chile, Colombia, Mexico, Peru and Venezuela

1. The economic and financial environment for Latin America

The world economy continues to grow but risks remain

The first half of 2006 ended with global economic growth outpacing even the most optimistic forecasts. As regards the industrialised countries, the United States has recorded an average annual rate of GDP growth of 3.5% over the past year, while both the euro area and Japan have shown signs of stronger growth momentum. For their part, the major emerging-market economies are still sustaining buoyant rates of growth, with China again likely to grow this year at around 10%, the fastest rate of GDP growth in South-East Asia.

Latin America will benefit from this scenario, and GDP growth in the region is expected to rise one tenth of a point to 4.5% in 2006. Here, it is worth highlighting the key contributions from both Mexico and Brazil, which after a year of relatively sluggish growth, once again assume the role of regional economic giants with projected growth rates of 3.6% and 4% respectively. This should cancel out the deceleration in growth expected in Argentina and Venezuela, the countries with the strongest economic performance in 2005. Both will continue to grow at a brisk pace but face capacity constraints in a number of sectors. Finally, the other Andean countries, Chile, Colombia and Peru, deserve a positive mention, with very little loss of momentum this year keeping GDP growth at around 5%.

With regard to price developments, the international context is still marked by moderate rates of inflation. This despite the strength of the economic expansion and sharply rising commodity prices (we expect the BBVA-MAP index to rise by over 20% again in 2006). However, concern is growing over the possibility that the inflationary pressures building up in input costs may finally be transmitted to the rest of the economy. This has led to greater uncertainty about monetary policy, especially in the United States. If we compare the interest rates being discounted in May with current rates, we find there has been an increase. Consequently, a lower level of global liquidity is a scenario with a higher probability than was the case some months ago. This has lifted volatility off its recent lows and brought about a fall in investor risk appetite.

It is in the emerging markets that the impact of this reduction in liquidity seems to be greatest. Financial investment has shown greater risk aversion since May of this year, which has resulted in a significant fall in the stock markets of the major emerging economies. The most vulnerable markets as far as fundamentals are concerned (e.g. Hungary, South Africa, Turkey) or those which clocked up the biggest gains over previous quarters have seen the sharpest adjustments in the form of currency depreciation and increasing risk premia.

Latin America showed a relatively solid performance during this episode. The region as a whole saw a significant increase in sovereign spreads in the second half of May, but spreads later stabilised and although they did not fall back to their levels prior to the rally, they stand barely 20 basis points off their all-time lows. More orthodox monetary and fiscal policies, with historically low levels of inflation (our end-year inflation forecast is 5.3%) and public deficit (below 1% of GDP), as well as increasing openness to trade and stable external positions (the current account is expected to run a surplus of 1.5% in 2006) have strengthened Latin America's financial structure and made the region less sensitive to changes in international financial conditions.

Despite the turbulence in May, forecasts suggest that relatively generalised growth is set to continue. There is also greater concern

over the imbalances that have characterized this expansion cycle. In fact, although the world economy may be able to withstand in the short term the imbalances of a swollen US current account deficit and high oil prices, there is growing consensus with regard to the need for an adjustment in the medium term. It is worth stressing the IMF's calls for adjustments in exchange rates as a tool for balancing capital flows in the world economy. Despite all of this, and given the adjustment in a number of financial variables, optimism persists and the geographical distribution of world growth means that growth momentum is now less vulnerable than in the past.

More global growth players

In previous quarters we have examined a number of different risk factors for global growth. However, the world economy has continued to expand at a healthy pace, with growth extending to a variety of geographical regions in what is the strongest expansion since the end of the 1960s.

Despite the fact that a number of indicators in the United States have recently been signalling slower activity, observed growth rates and forecasts are positive. The industrial sector and its levels of investment are still benefiting from rising corporate profits, although interest rate tightening may moderate this trend. Consumption, meanwhile, has been on a fairly stable path. Despite the behaviour of energy prices and property assets, consumer confidence indicators have been boosted by the financial wealth accumulated in stock markets and low levels of unemployment. These factors should help to offset the deceleration in the real estate sector, so that only a slight weakening in private consumption is forecast for the second half of 2006. Our central scenario envisages a growth rate of 3.3% for the United States in 2006 and 3.2% in 2007.

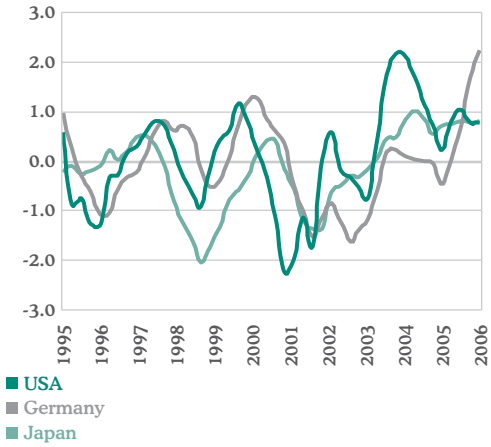
In the EMU, household consumption has finally shown signs of recovery. In Germany, one of the economies that has lagged behind in the current expansion, economic indicators continue to be positive and optimism is now more broad-based. The strong growth observed in the first quarter of 2006 is expected to have continued in the second quarter. However, a number of the latest indicators of industrial confidence have slipped back. This would appear to reflect the different expectations of analysts (more pessimistic) and the business community (more optimistic). Finally, Japan is still heading towards an average rate of GDP growth of 3%. At the end of the first quarter, the Japanese economy had a positive output gap for the first time in over eight years. And the outlook remains positive for a sustained expansion throughout the rest of 2006 and 2007.

This new global situation, with a strengthening of domestic demand in Europe and Japan, means that the world economy is now less reliant on growth in the United States and China. This should help bring about a gradual adjustment of the imbalances. At the same time, the positive international context will continue to drive world trade and industrial export sectors. Both factors that are extremely positive for growth in Latin America. After a slight acceleration in growth in the region in 2006, we expect rates of GDP growth to stay around 4% in real terms in 2007, which is still considerably stronger than average growth over the past two decades (just over 2%).

Monetary policy in the spotlight

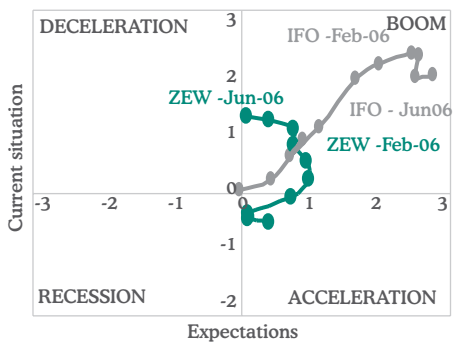
During the first quarter of 2006, the tightening cycle in US interest rates initiated in June 2004 continued and the question was whether this cycle was already over. Clearly, the answer seemed to be that the cycle was drawing to a close. However, when the Federal Reserve failed to confirm a halt in the rate hikes at its May 10 meeting, and after the hawkish speeches by FED officials in May and June, the

Industrial confidence
(standardized indices)



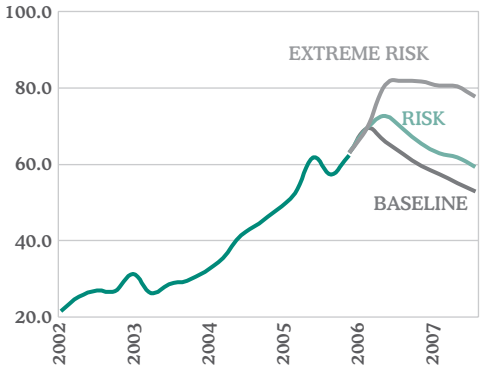
Source: BBVA using ISM, IFO and Tankan data

Phases of activity according to indicators



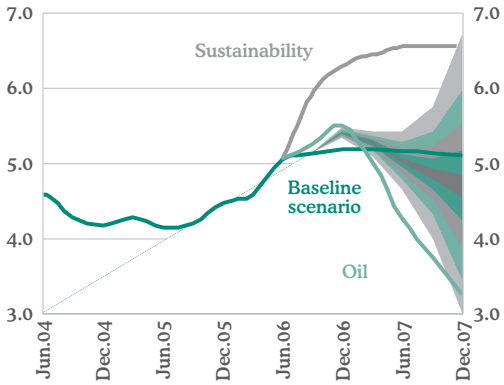
Sources: IFO and ZEW

BBVA: Oil scenarios



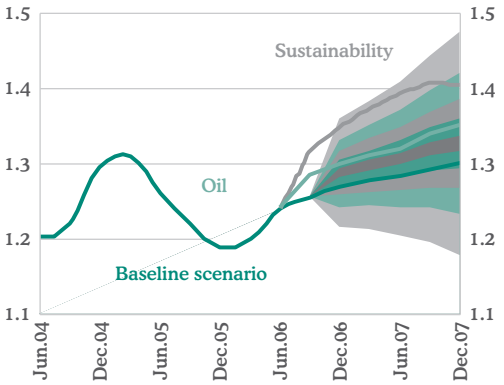
Source: BBVA

USA: 10-year interest rates



Source: BBVA

Euro-dollar exchange rate



Source: BBVA

markets began to factor in further interest rate tightening, to around 5.50%. The latest FED comments on July 19 suggest nonetheless that a pause is closer. The cooling-off in the property market and the incipient slowdown in economic growth are two factors that may effectively check domestic consumption in the United States. And, as a consequence, offset the inflationary tensions still being generated by high commodity prices. If this trend is confirmed, the FED would find itself in a more propitious framework for halting its interest rate hikes and bringing the tightening cycle in monetary policy to an end.

In any case, if the tightening cycle in the United States continues, and bearing in mind that the EMU is expected to follow a similar course throughout 2006, interest rates will move within a range in which rates are neutral in contrast to the loose monetary conditions in previous years. Even Japan, where interest rates had been frozen at 0%, began to hike rates in July, although this process will clearly be very gradual.

In the United States there are signs of a pick-up in underlying inflation during the second half of the year (although still within the FED's targeted range). This potential increase in inflation expectations in the short term represents significant risks for the monetary authorities. This, together with a moderation in the rate of growth of activity, means that closer attention will have to be paid to the current economic situation in order to determine the course of monetary policy.

Our central forecast is that with growth stable and inflation relatively subdued, official interest rates in the United States will stay at 5.25% in 2006 and 2007. Benchmark rates in the EMU, meanwhile, are expected to end this year at 3.50% and next year at 4.0%, given the improvement in growth expectations and the existence of inflationary pressures. With this baseline scenario, assuming that the tightening cycle in the United States has stopped, 10-year rates are expected to stay within a range of 5.1% to 5.2%. Upward risks to this forecast would be posed by short-term surprises in either growth or inflation. The baseline scenario forecast for the euro area envisages interest rates between 4.2% and 4.3%. These interest rate developments will no longer be so favourable to the dollar as was the case some quarters ago. This, along with the growing consensus concerning the need for a greater depreciation of the US currency, leads us to revise our exchange rate forecast to a range between 1.25 and 1.30 dollars to the euro.

With this monetary policy scenario in the major world economic regions, and against the backdrop of relatively subdued inflation, the outlook for interest rates in Latin America is in general one of moderate increases. It is true that there have been some slight revisions to the outlook since the last quarter, but these have been isolated and modest in size. Only in a situation in which expectations of rate hikes by the Federal Reserve rise considerably from where they are today (see risk scenarios below) might the Latin American monetary authorities face a growth-currency stability dilemma. Even in such a scenario the limits would nonetheless be relatively well marked out by the structural improvements that have been made in the region over the past few years and the absence of any significant political turbulence in what has been a particularly busy electoral year. Only isolated episodes of above-normal political noise have been registered, and with elections in Brazil still to come, democratic procedures have prevailed.

Risks entail tightening bias in international interest rates in the short term

Within this economic environment, what are the main risks? The first area of uncertainty relates to monetary policy, and in particular the

policy of the US Federal Reserve. In this respect, as the latest testimony from the US monetary authority notes, this risk scenario now seems slightly less likely to materialise.

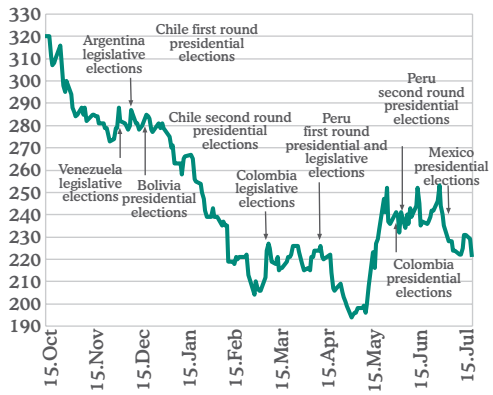
A second risk scenario could be triggered if the perception that the US deficit is unsustainable becomes a generalized one. Such a financial shock would be accompanied by considerable rate tightening in the United States, dollar depreciation, falling equity valuations and a subsequent drop in GDP. In Europe, the appreciation of the euro would limit any increases in interest rates.

The final risk concentrates on the real economy rather than financial factors, and specifically on the high levels of world oil prices. The Israeli military operation in Lebanon and North Korean missile launches in the Sea of Japan have increased the political risk premium in oil prices. As a result, the price of oil hit an all-time high of $78 a barrel in July. In addition to pushing up prices, increased geo-political risk can make oil prices stickier, as crude price rises deriving from worsening political conflicts generally take longer to correct. Our baseline scenario for oil envisages an average price for Brent crude oil of $65.2 a barrel in 2006 and $56.2 a barrel in 2007. In an alternative scenario with greater risk, the price of oil reaches $81.1 a barrel in the second half of 2006 and $80.0 a barrel in 2007. This scenario also assumes a considerable fall in stock market indices, of 10% in 2006 and 20% the following year. Interest rates would then rise by slightly more than in our baseline scenario in 2006, before falling back considerably in 2007.

The inflationary tensions and stable world growth nonetheless point to a slight upward bias for interest rates during 2006. In 2007 this bias will shift towards interest rate easing in both the United States and the euro area. The outlook for the dollar is clearly weighted towards depreciation, given the burgeoning US current account deficit and the narrowing of the US-euro area interest rate differential.

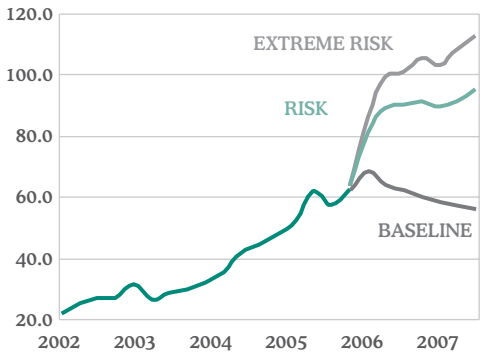
EMBI+ and elections in Latin America

(basis points)



Source: BBVA and JP Morgan

BBVA: Oil scenarios



Source: BBVA

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II. Macroeconomic environment

Equilibrium exchange rate

Purchasing Power Parity and exchange-rate fundamentals

The Law of One Price (LOP) states that in perfectly competitive markets in the absence of transaction costs (transport costs, trade barriers among others) and with total price flexibility, two identical products will sell at the same price in different countries.

The extension of the LOP to all goods in an economy is known as the theory of Purchasing Power Parity (PPP): the price of two identical baskets of goods in different countries should be the same when expressed in the same currency.

$$P = S \times P^* \Rightarrow p = s + p^*$$

where S is the nominal exchange rate defined as the number of units of the local currency required to acquire one unit of the foreign currency; P* is the purchase price for the basket of goods in the foreign country, and P is the purchase price of the same basket of goods in the local currency. The lower-case letters are the variables in logarithms.

Stated otherwise,

$$E_t[\Delta s] = E_t \pi_{t+1} - E_t \pi^*_{t+1}$$

The implication of the PPP is that the nominal exchange rate adjusts exactly to reflect the differences deriving from the fluctuation in prices in the two countries so as to maintain a constant real exchange rate.

A large part of the debate in the literature on the subject deals with the extent to which this law holds in reality. In the short term, it appears difficult to argue that PPP applies. The existence of market imperfections, transport costs and trade barriers are some of the reasons why the theory does not hold in practice. But even more importantly, the tendency for price rigidity to exist in the short term, prevents the adjustments necessary for the PPP theory to hold. The basis for the argument that the PPP does hold in the longer term is that there is greater price flexibility in the longer term.

It is accepted that transitory shocks can affect the relative prices of the same baskets of goods. The real exchange-rate can continue to be constant or in equilibrium in the long term, with fluctuations around this value due to different shocks, which on a temporary basis cause divergences from the real value.

However, such deviations from this hypothetical equilibrium can take place for several years at a time, with clear upward or downward movements away from the theoretical constant value. This has led other authors to argue that the PPP as expressed above also does not hold in the long term.

Two of the most common approaches in the literature for determining the exchange rate on the basis of the evolution of fundamentals, and which do not require the PPP to hold, are the balance of payments and differences in sector productivity. The first of these establishes the sustainability of the external financial position of an economy as the main determinant of the exchange rate. In the balance of payments approach, the accumulation of a current account deficit is reflected in the financial account of the balance of payments in the form of growing financial debts. In order to meet the payment of this accumulated debt in the future, exchange-rate depreciation is required to help generate current surpluses in the future. Thus, the deterioration in the external financial position of a country leads to a depreciation of the real exchange rate in the long term in order to make the external position sustainable.

The other main approach dealt with in the literature was developed by Balassa and Samuelson in 1964. An economy can be divided into a sector in which goods can be traded and one in which they cannot. The productivity rate differential between these two sectors, compared with those in the rest of the world, is the main determinant of the exchange rate. The sector of tradeable goods subject to international competition tends to show higher productivity growth rates, increasing the relative price of the non-tradeable sector to the tradeable. Under this approach, PPP only tends to hold in the long term in the tradeable sectors of the economy.

Purchasing Power in Latin America

With the data available it is not easy to argue that the PPP theory holds in Latin America. It could be argued that the available time series for the data is insufficient to carry out a "long-term" study. However, there are a number of other reasons that point to the PPP not holding, at least in the past few years. Historically, the countries in the region have not fulfilled the conditions necessary for PPP to show itself at work. Firstly, almost all of the countries in the region have experimented with different exchange-rate regimes in the past few decades. It has only been recently that the trend has been for exchange-rate flexibility. Also, the Latin America economies have been characterized by low levels of openness to trade, and even at some moments of time of financial openness.

There have been significant sustained divergences over time from the hypothetical level for the long-term exchange rate as defined by PPP. Many of these have traditionally been the cause of recurrent exchange-rate crises in the region. Rather than relying on deviations from a PPP that does not seem to hold, having a measure for the equilibrium exchange rate based on the evolution of fundamentals in such a way that the degree of deviation of the exchange rate from its equilibrium level can be rigorously identified would constitute an important tool.

In this sense, it could be interesting to carry out studies which incorporate the two approaches mentioned above to explain the evolution of exchange rates on the basis of fundamentals: the sustainability of the balance of payments and sector productivity differentials.[1]

Fundamental determinants of the exchange rate

Suppose we have a world made up of two countries which produce two goods, one tradeable (T), the other non-tradeable (N). The home country is identified as P, while the variables for the foreign country are identified by P with an asterisk (*).

The exchange rate is defined as the relative price of one currency with respect to the other. In real terms, it can be defined as the cost of acquiring a good or basket of goods in one country relative to the cost of acquiring an identical good or basket of goods in a different country.

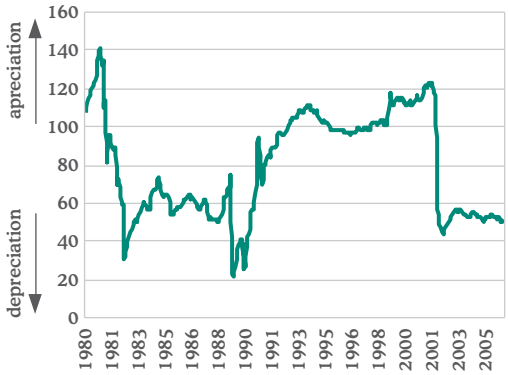
$$Q = S\frac{P^*}{P} \qquad \frac{\text{Local basket}}{\text{Foreign basket}} = \frac{\text{Local currency}}{\text{Foreign currency}} \times \frac{\dfrac{\text{Foreign currency}}{\text{Foreign basket}}}{\dfrac{\text{Local currency}}{\text{Local basket}}}$$

Q stands for the relative price of the local goods with respect to the foreign goods. An increase in Q indicates a real depreciation of the local goods: more local baskets are needed to obtain one foreign basket. The real depreciation could be brought about by a nominal depreciation, or a deterioration in relative prices: that is to say an increase in the prices of foreign goods with respect to those for local goods. This deterioration could be due to an increase in the price of foreign goods or a fall in the price of local goods.

[1] See, among others, Broner et al. (1997) and Alberola et al. (1999).

Argentina: real effective exchange rate (REER)

(Dec-97 = 100)

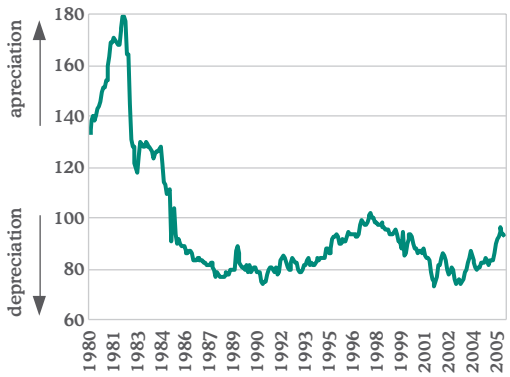


Source: BBVA

Brazil: REER

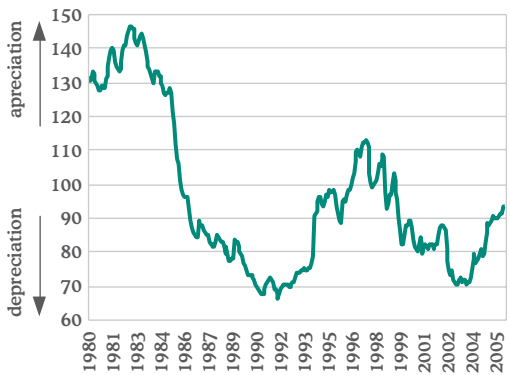
Source: BBVA

Chile: REER



Source: BBVA

Colombia: REER



Source: BBVA

In logarithmic form: $q = s + p^* - p$

The price indexes can be stated as a weighted average of the prices of tradeable goods, non-tradeables and imported goods expressed in the currency of each country:

$$p = (1-\alpha_N-\alpha_{T^*})p_T + \alpha_N p_N + \alpha_{T^*}(p^*_{T^*}+s) \quad (2)$$

$$p^* = (1-\alpha^*_{N^*}-\alpha^*_T)p^*_{T^*} + \alpha^*_{N^*}p^*_{N^*} + \alpha^*_T(p_T - s) \quad (3)$$

With the subscripts $\alpha^A_{BC} \equiv$ sector B of country C's share in country A, in such a way that $\alpha_{T^*} \equiv$ the tradeable sector of the foreign country's share in the local country, that is to say imports from the foreign country made by the local country.

If we assume the weighting of the non-tradeable sector is the same in both countries, and substituting (2) and (3) in (1) we have:

$$q = (1-\alpha_{T^*}-\alpha^*_T)(s + p^*_{T^*} - p_T) + \alpha_N[(p^*_{N^*} - p^*_{T^*}) - (p_N - p_T)]$$
$$q = (1-\alpha_{T^*}-\alpha^*_T)q_X + \alpha_N q_I \quad (4)$$

The term $q_X = (s + p^*_{T^*} - p_T)$ is the relative price of local tradeable goods with respect to foreign goods. It can de defined as the component which denotes the degree of competitiveness of the economy, which is key in the evolution of its external financial position. An increase in q_x implies a depreciation of domestic goods with respect to foreign goods, with an increase in the competitiveness of the local economy.

The term $q_I = [(p^*_{N^*} - p^*_{T^*}) - (p_N - p_T)]$ is the relative price of non-tradeable goods with respect to tradeable goods between countries. This could stand as an indicator of relative sector productivity. Relative prices act to adjust excess demand in any of the sectors of both countries. An increase in the relative productivity of the foreign tradeable sector brings about a depreciation of the real exchange rate (local goods against foreign goods) through an increase in relative foreign non-tradeable-tradeable prices $\uparrow(p^*_{N^*} - p^*_{T^*})$.

Thus, the relative prices q_X and q_I price the foreign (tradeable goods) and domestic (non-tradeable goods) markets respectively. The combination of both gives us the real exchange rate.

Definition of foreign equilibrium

Tradeable goods are traded in the external market. The current account balance (ca) is the sum of the trade balance (which depends on domestic growth, foreign growth and the relative price of tradeable goods) and the interest payments or receipts resulting from the external financial situation (negative or positive).

$$ca = \beta y^* - \delta y + \gamma q_X + r^* f = -ca^* \quad (5)$$

The balance (assets - liabilities) of the financial account in the balance of payments, that is to say, the change in the external financial position, depends on the desired level of foreign assets (F) and the difference between foreign and domestic interest rates $(r^* - r)$.

$$\dot{f} = \eta(F - f) + \mu(r^* - r) \quad (6)$$

The determinants of the desired external position are varied, and depend on structural factors in the economy such as demographic trends, the performance of savings and the capacity of the economy to capitalize on investments.

A sustainable balance of payments position is one in which the current account balance is financed by an accumulation of sustainable capital flows. That is: $ca = \dot{f}$

Assuming rational expectations and that the uncovered interest rate parity holds, the expression which shows the maintenance of a sustainable current account balance is as follows:

$$\beta y^* - \delta y + \gamma q_X + r^* f = \eta(F - f) - \mu \dot{q} \quad (7)$$

At this point, we should stop to comment on something. Note that the model has been identified in such a way that all of the coefficients have positive signs. However, in the equation for current account sustainability there is a parameter whose sign is not known a priori: q_X The reason for this is the fact the current account balance in a situation of a depreciation of the real exchange rate is unknown. On the one hand, an increase in q_X improves the trade balance, and therefore the current account. But at the same time, in the case of countries with foreign-currency debt, a depreciation in the real exchange rate worsens the external financial situation by increasing interest-rate payments. The net effect of the depreciation on the current account depends on which of these two impacts is greater. Important factors in this sense are the degree of openness to trade (t) and the proportion of debt denominated in foreign currency to total debt (h).

$$\frac{\partial f}{\partial q_X} = f'(\underset{+}{t}, \underset{-}{h}) \quad <0 \text{ ???;} \quad > 0 \text{ ???;} \quad = 0 \text{ ???}$$

It is important to highlight this factor given that in the case of the majority of Latin American countries, external debt is mainly denominated in foreign currencies, while their economies have traditionally been closed to trade. As a result, historically, currency depreciation has had negative effects in the short term on the current account balance and the foreign financial position.

Definition of domestic equilibrium

The domestic market (for non-tradeable goods) is in equilibrium when there is no excess demand in non-tradeable sectors: $d_N = d_N^* = 0$.

Excess demand for non-tradeables in the local economy could emerge as a result of:

1) Domestic spending exceeding production (*-xn*). Of total excess spending, $-\alpha_N xn$ represents the level of excess demand for non-tradeables.

2) A shock *k* in the relative productivity of the tradeable sector with respect to the non-tradeable, $A_T - A_N$.

$$k > 0 \Rightarrow \Delta(A_T - A_N) > 0$$

3) An independent shock, z, in the relative demand for non-tradeable goods with respect to tradeable goods, $D_N - D_T$ eg a shock in public spending or the introduction of trade barriers.

$$z > 0 \Rightarrow \Delta(D_N - D_T) > 0$$

The functions for excess demand in both countries are as follows:

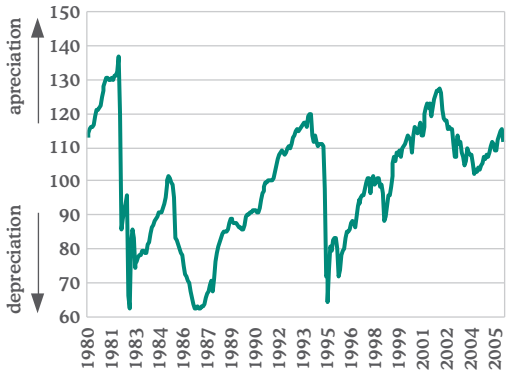
$$\begin{aligned} d_N &= -\alpha_N xn - \theta[(p_N - p_T) - k - z] \\ d_N^* &= \alpha_N xn - \theta[(p_N^* - p_T^*) - k^* - z^*] \end{aligned} \qquad (9)$$

The term within brackets complies with the productivity hypothesis of Balassa-Samuelson. An increase in the relative productivity of the tradeable sector with respect to the non-tradeable (k>0), within a context in which there is perfect mobility of the labour factor, results in a fall in the output of non-tradeable goods, thereby producing excess demand in the non-tradeable sector. Given that the market for non-tradeable goods will adjust to eliminate this disequilibrium, an adjustment in the relative prices of the sector has to occur.

$$k > 0 \Rightarrow d_N > 0 \Rightarrow p_N > p_T$$

Assuming that short term prices are sticky but flexible in the long term, a positive shock in the relative productivity of the tradeable sector produces an excess in demand for non-tradeables which lasts until the relative price of non-tradeables adjusts at a rate of ρ.

Mexico: REER

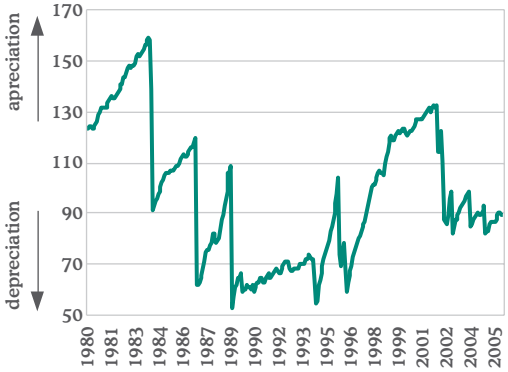


Source: BBVA

Peru: REER

Source: BBVA

ITCER Venezuela



Source: BBVA

$$\dot{p}_N - \dot{p}_T = \rho d_N$$
$$\dot{p}_N^* - \dot{p}_T^* = \rho d_N^* \quad \Rightarrow \quad (\dot{p}_N^* - \dot{p}_T^*) - (\dot{p}_N - \dot{p}_T) = \dot{q}_I = \rho(d_N^* - d_N) \qquad (12)$$

With the foreign and domestic sectors thus defined, the model is reduced to a simple system of three dynamic equations with three endogenous variables: q_X, q_I, f, the foreign financial position variable being predetermined and the relative domestic and foreign prices variables not predetermined[2]. The exogenous variables are: y, y^*, F, k, k^*, z, z^*.

$$\dot{q}_X = \frac{-(1+2\mu\alpha_N^2\rho)[\gamma q_X + \beta y^* - \delta y] - (r^* + \eta) f + \eta F + \mu\alpha_N \rho\theta[q_I - (k^* - k) - (z^* - z)]}{\mu(1 - \alpha_{T^*} - \alpha_T^*)}$$
$$\dot{q}_I = \rho[2\alpha_N(\gamma q_X + \beta y^* - \delta y) - \theta q_I + \theta(k^* - k) + \theta(z^* - z)]$$
$$\dot{f} = \beta y^* - \delta y + \gamma q_X + r^* f$$

Assuming that in the long run the levels of the exogenous variables remain constant the stationary state of the model will be given by the condition $q_X = q_I = f = 0$.

In the model both domestic and foreign growth are treated as exogenous variables. It is true that economic growth at any moment in time is a variable directly related to relative prices and therefore should be endogenous. However, in a stationary state it can be assumed that countries grow at a potential rate of growth ($\bar{y}$ e $\bar{y}^*$), depending only upon the levels of the factors of production, capital and labour, and that it can be taken to be exogenous.

In the stationary state the exogenous variables have the following values:

$$\bar{q}_X = -\frac{1}{\gamma}[r^* F + \beta\bar{y}^* - \delta\bar{y}]$$

$$\bar{q}_I = -\frac{1}{\theta}\alpha_N r^* F + \frac{(k^* - k) + (z^* - z)}{2}$$

$$\bar{f} = F$$

Logically, given the way in which the model has been defined, the foreign financial position in long-term equilibrium remains constant and equal to the desired level of foreign assets. The relative price of tradeable goods is a function of foreign assets in the long term and the potential growth rates of both countries. The relative price of non-tradeable goods depends upon not only the desired level of foreign assets, but also upon relative productivity shocks by sector and relative demand for non-tradeables.

$$\bar{q} = -\frac{1}{\gamma}(1 - \alpha_{T^*} - \alpha_T^*)[r^* F + \beta\bar{y}^* - \delta\bar{y}] + \alpha_N\left[-\frac{1}{\theta}\alpha_N r^* F + \frac{(k^* - k) + (z^* - z)}{2}\right]$$

In this way the fit of the stationary state real exchange rate allows us to model equilibrium in the domestic and foreign markets. On the one hand, it ensures the sustainability of the foreign financial position in the tradeable goods market. On the other, it corrects possible imbalances in demand due to sector productivity differences between countries. It therefore reflects the two main approaches in the literature mentioned at the beginning of this study: the sustainability of the balance of payments and the productivity differential.

The study of this differential in the different Latin American countries could prove useful in measuring exchange-rate disequilibria.

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[2] For more information see Buiter, (1982).

The process of Latin American emigration

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Population movements have taken place since man first appeared more than 2 million years ago. The nomadic spirit of the first inhabitants of the planet led the human race to all corners of the globe. History is full of examples of large population movements such as the spread of the Roman Empire to all shores of the Mediterranean, the colonization of the American continent, the conquest of the Far West, and the famine suffered by Ireland in the middle of the 19th century. There are many and diverse motivations for migratory movements, including political and economic reasons as well as the desire to escape conflict. If we focus on recent history, the big differences in levels of development between countries and geographical regions constitute a fertile breeding ground for the appearance of mass flows of people from less well-off places to more prosperous population nuclei. Movements between countries are sparked by the same reasons that attracted people from rural areas to urban centres in search of a better life.

Trends in population and monetary flows

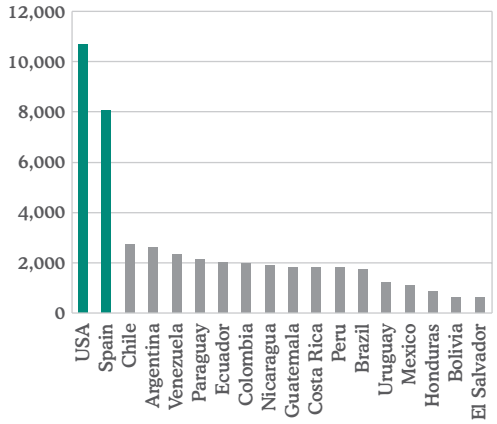
The Latin American economies as we have pointed out on a number of occasions in this publication are simultaneously enjoying a bonanza at the moment for the first time in decades. Despite this, the figures indicate continuing waves of emigration towards more developed countries such as the United States and Spain. The reasons behind this undoubtedly lie in the persistently large economic differences between one area and another, with very limited convergence during the current phase of expansion. As a result, significant population flows have taken place. According to the Permanent System for the Observation of Migration (SOPEMI), between 1990 and 2000, the number of people emigrating from Latin America to the United States totalled 2 million, a figure surpassed only by the movement in population from Eastern and Central Europe to the West. To this should be added over 100,000 Latin American emigrants to the most developed part of Europe (the explosion in emigration to Spain came later), more than 200,000 to Japan, and above all illegal immigration, which is not included in these figures, and which is far greater than legal immigration.

In short, a large number of people under different circumstances have uprooted themselves in search of better opportunities. As a result of, and as a counterpart to these population flows, the international financial system has seen a substantial increase in flows of remittances in the opposite direction. The IMF (2005) points out that the size of global remittances increased by five times in the period 1990-2003, and became the second biggest source of inflows of capital to emerging markets after Foreign Direct Investment (FDI). As regards the case of Latin America, the evolution of revenues from current transfers clearly mirrors payments in advanced countries such as the United States and Spain. The volume of remittances represents a very significant source of the foreign currency revenues of countries in Latin America, comparable in size to development aid from multilateral organizations.

United States and Spain as the main recipients of Latin American immigration

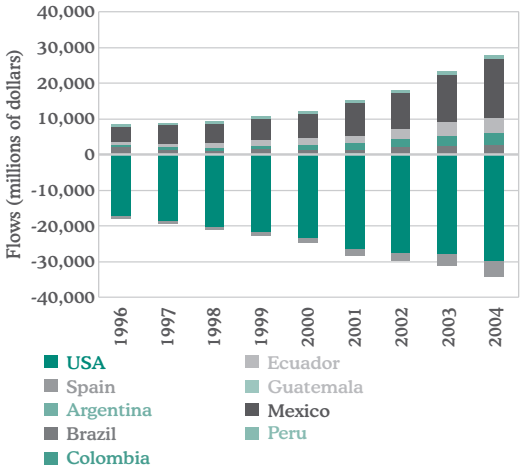
The United States and Spain are the main destinations of immigrants from Latin America. In the United States, the massive wave of immigrants who founded the Federation increased drastically after the Second World War due to the size of the US economy and growing prosperity. Since then, the United States has continued to attract immigrants from many developing countries, among these from its neighbours in the South. As a result, in only 20 years *Latinos* have become the largest immigrant community in the United States, displacing immigrant groups from Asia and more traditional European countries. As a counterpart to this, the impact on the countries of origin whose nationals made up this massive exodus towards the United States is also far from insignificant. Some countries have seen up to a fifth of their population settle in the United

Annual minimum wage in dollars
(2005)



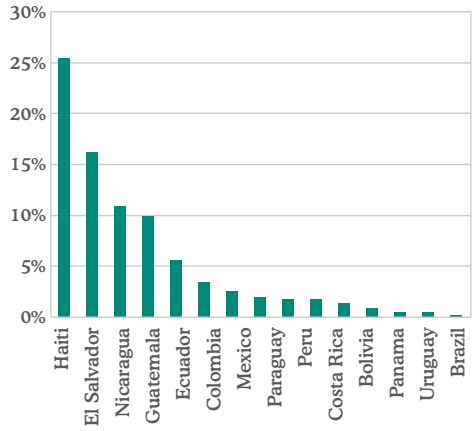
Source: US Department of State

Current transfers in selected economies



Source: IMF

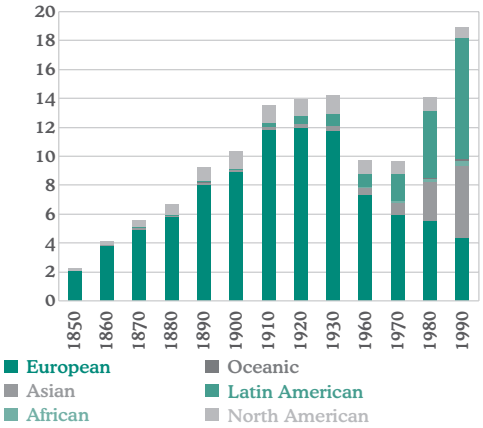
Current transfers
(% of GDP; 2005)



Source: IMF

Immigrants in the United States by origin

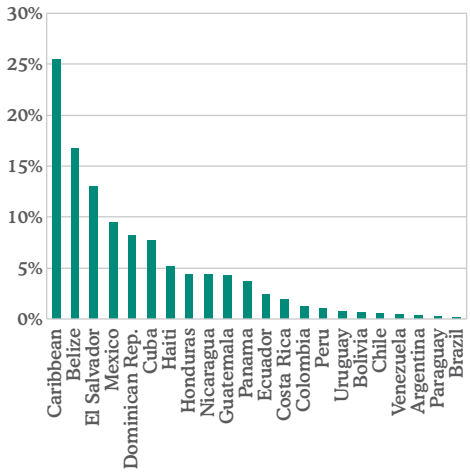
(stock - millions of people)



Source: US Census Bureau

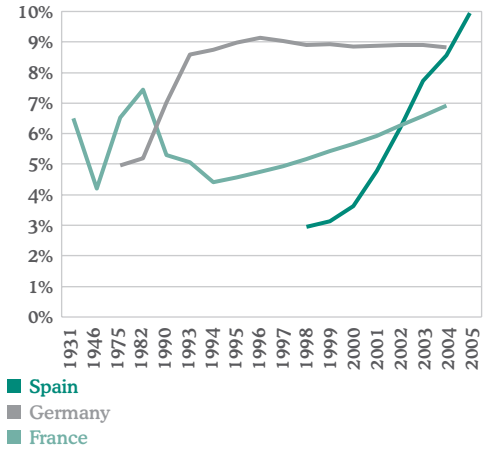
Immigrants in the United States

(% of population of the country of origin; 2000)



Source: BBVA using US Census Bureau data

Percentage of foreigners in total population Spain



Sources: INSEE, INED (France), INE (Spain), Destatis (Germany)

States. It is worthwhile mentioning the case of Mexico, with almost 10 million Mexicans resident either legally or illegally in the United States. The socio-economic implications of these population flows are not in doubt.

The evolution of emigration to Spain is even more surprising, given its strength and the fact it is a recent development. Unlike neighbouring countries, the phenomenon of immigration in Spain has been in place scarcely 10 years. Countries such as France with a long colonial past and Germany, where the increase in immigration went hand in hand with reconstruction after the war, have had immigration controls in place since the 1990s. Spain on the other hand has gone from a situation with a very low immigrant population to having one of the highest in Europe. There are a number of reasons behind this development such as Spain's high growth rate as part of the process of convergence with the rest of Europe and its status as the southern gateway to Europe for other continents. In the specific case of Latin America, one has also to take into account a shared colonial past with the linguistic and cultural ties accompanying this, as well as the importance of Spanish brands on the other side of the Atlantic. As a result of this, there are currently over 3.7 million registered foreign residents in Spain, 40% of whom are from Latin America, 20% from the EU, another 20% from Africa, with the remaining fifth comprised of immigrants from Asia (5%) and non-EU European countries (15%). By nationality, immigrants from Ecuador and Morocco form the biggest foreign communities, both with around 500,000 residents. Likewise, in the past five years the number of immigrants from a number of other Latin American countries such as Bolivia, Uruguay and Argentina has increased significantly.

Characteristics of the immigrant population and the recipients of remittances

In order to understand the dynamics of population flows and the implications of immigration, it is necessary to identify the reasons which drive people to emigrate, as well as the nature of the relations that are established with the country of origin through remittances, and the use of these funds by the recipients. One of the motivating forces behind emigration, apart from what was pointed out at the start of this article (the search for a better standard of living) is the limitations of the labour market in the country of origin, whether this be in the form of local salaries failing to meet expectations or whether workers are unable to find jobs which match their qualifications. With respect to the latter aspect, emigration by university graduates from countries of origin which are small is high. The brain-drain phenomenon generally is accompanied by the fact that immigrants earn less than citizens of the host country. For example, in the case of the United States, where the phenomenon has been most documented, the average income of Latin American households in 2000 was 25% below the national average (43,000 dollars). One should also point out the wide differences in the income levels of immigrant families, which is reflected in the heterogeneous nature of the Hispanic resident community in the United States. The legal status of the immigrant, his qualifications, the sector in which he works, the area in which he has settled and the number of years he has been in the United States are among the factors that contribute to such wide differentials in income levels.

Apart from the particular situation of the immigrant in the host country, there is a common denominator in all of the financial relationships established with the country of origin. Immigrants largely tend to send money back home at least on a quarterly basis, and the sums sent tend to be relatively small. The channels for sending funds are by nature formal or semi-formal. Money Transfer Operators are major players, with MoneyGram and Western Union having the biggest shares of the fund transfer market to Latin America as a whole, and Bancomer Transfer Services (BTS) to Mexico[1]. These means of transfer are more expensive than traditional banking channels, which, however, are inaccessible to immigrants who do not have their papers in order. This same obstacle

is faced by the recipients of remittances in different parts of Latin America, where there is limited access to the banking system. According to figures from the IADB for 2004, only 19% of Mexicans and 46% of Ecuadoreans have bank accounts. Finally, the main use to which recipients put the remittances they receive is to cover current spending needs, with wide differences between countries as regards the extent to which funds are set aside in the form of savings. For example, in Colombia a relatively high percentage of remittances is spent on education, while in Guatemala funds tend to be directed to areas related to businesses. This structure is not without its impact on the economy as a whole, and as such merits more detailed study.

Economic consequences of immigrant fund flows

Many different approaches could be taken to studying the impact of fund flows deriving from large-scale immigration. We can differentiate between effects of a macroeconomic and microeconomic nature, and those that have an impact on the country of origin and the host country.

From a macro point of view, emigration could pose a serious loss of manpower for the country of origin, which in some cases, as we have seen, can have a particularly strong impact on the most qualified sectors of the labour market. All other things being equal, this leads to a deterioration in the human capital factor, and in total factor productivity, reducing the growth potential of the economy. As a counterpart, Bugamelli and Paternò (2005) point out that remittances generate greater stability in the inflows of foreign currency, helping to cushion the country of origin from external instability, and limiting the occurrence of bouts of financial crises. The coefficient of variation of remittances for a sample of 60 emerging countries comes to 0.68, compared with 2.45 for FDI. Equally, remittances received boost household income, with the funds involved, as pointed out above, used to a large extent to cover current spending. As a result, aggregate domestic consumption increases, largely without any strengthening of the productive basis through savings, while at the same time heightening the risk of creating inflationary pressure.

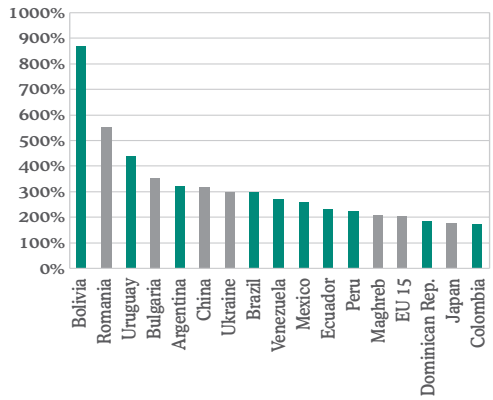
From the point of view of the host country, immigration leads to an increase in the active population, and if the growth that has produced the so-called pull effect persists, to a fall in the unemployment rate. A cap on growth in wage increases could occur in the sectors of the economy where immigrants predominate both as a result of an increase in the number of job-seekers, as well as a fall in the minimum wage workers are prepared to accept for offering their labor. A significant increase in the population at the same time could oblige the Government to provide increased coverage of public services (education, health, social integration) to meet increased demand, although this need not pose a funding problem if the immigration takes place through formal channels. One area in which immigration could have a clear positive impact is in the host country's pension system, given that developed countries, such as Spain, are facing a worrying situation of an increasingly ageing population over the next few decades.

The microeconomic approach perhaps lends itself to more interesting lines of study. Noteworthy studies along these lines include those published by the World Bank on the effects of emigration on infant health in Mexico carried out by Hildebrandt and McKenzie (2005), and on poverty in Guatemala by Adams (2004). The first study draws the conclusion that Mexican emigration has helped increase the awareness of health issues, thereby helping to reduce infant mortality and improving living conditions for children in the immigrant household. On the other hand, the study points out that the absence of one of the parents could lead to the abandonment of some preventive practices. The second of

1 BTS handled transfers in 2005 worth 6.659 billion dollars, and had a share in this segment of the market of around 40%. It also experienced strong growth last year in other countries in Latin America, while this year it has signed agreements with Bank of China, ICICI Bank in India and Bank of The Philippine Islands on the management of the remittances transfers by nationals of these countries resident in the United States.

Change in number of immigrants in Spain

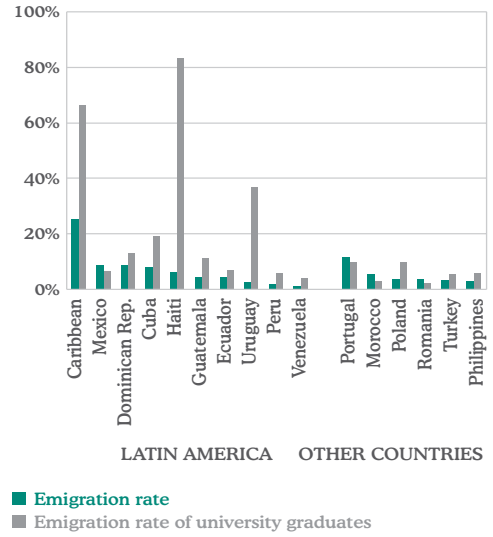
(2001-2005, in %)



Source: INE

Emigration rate

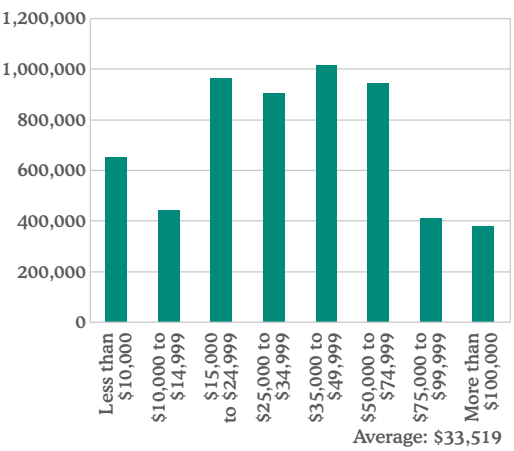
(2003)



Source: IADB

Income of Latin American households in the United States

(2000)



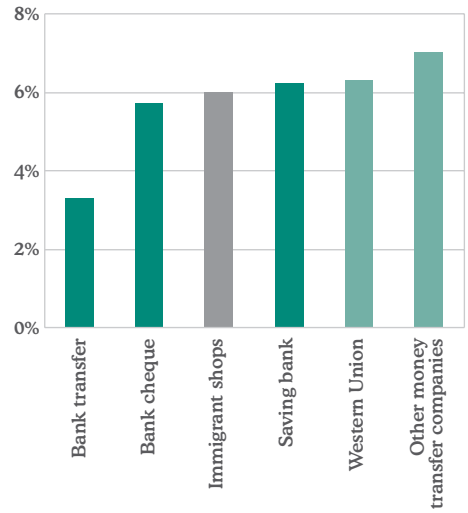
Source: US Census Bureau

Frequency of transfers from United States to Latin American countries (2004)				
Once...	Colombia	Ecuador	Guatemala	Mexico
...per month	34%	46%	36%	39%
...every 2-3 months	29%	27%	30%	29%
...every 4-6 months	16%	12%	12%	20%
...per year	21%	10%	15%	9%
Less than once per year	0%	4%	7%	3%

Use of remittances in recipient country (2004)				
	Colombia	Ecuador	Guatemala	Mexico
Businesses	7%	8%	10%	1%
Savings	4%	8%	11%	8%
Housing	3%	4%	1%	1%
Current spending	70%	60%	68%	80%
Education	12%	2%	6%	7%
Other	3%	18%	3%	3%

Source: BID

Average cost of $300 transfer from United States to Mexico
(2002)



Source: Manuel Orozco (2003)

the above articles shows that remittances have led to a significant decrease in the degree of poverty of households in Guatemala, particularly in the lowest income groups where external funds can make up about 50% of total income. For this reason, the study points out that neither the poverty line nor the uneven distribution of income are affected to any great extent by remittances, with both remaining at high levels. In addition to the articles mentioned above, there have been other lines of investigation covering areas such as education and regional development, key aspects in economic planning in the countries in the region. An accurate assessment of these factors could help improve the assignment of budgetary resources.

Conclusions

Continued high growth in Latin America is still being accompanied by emigration to more developed countries, a process which has had a particular impact on Spain in the past few years. The income differential with other regions remains high as does the persistence of pockets of poverty. As a result, given the spread of the democratic system throughout all of the region, the main driving force behind immigration is clearly economic. Prospects in the medium term have not improved for a part of the population. Therefore, it is foreseeable, in the absence of a hardening of the current restrictions in place in host countries, that the migratory impulse will persist in the next few years.

Within this context, it would be useful to carry out further research on the demographic, social and economic consequences of migrations on countries of origin and host countries. As we saw above, the ramifications of these effects are sufficiently wide to require the political and economic authorities to follow them closely. Remittances directed at Latin America may have lent greater stability to external funding flows to the region, but it is also true that a permanent depreciation of human capital in the economies of the region could end up being unsustainable. The establishment of a solid productive base capable of creating employment with minimally acceptable conditions and attractive to the better skilled would be better news for the development and improvement of the living conditions of the citizens in the region. In this sense, it is to be hoped that the current expansion phase in the Latin American economies persists, and helps boost the confidence levels of the population.

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Oil geopolitics prevails over fundamentals

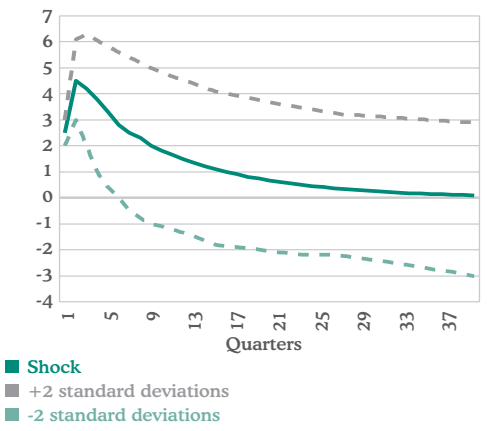
Risk factors

Recent developments in the oil market have been strongly affected by a series of events of a geo-political nature, which together with the ongoing tension and the slow progress of negotiations with Iran, has augmented the impact of these factors on oil prices. Two events stand out in particular: the situation in North Korea and the conflict between Israel and Lebanon.

The long-range nuclear ballistic missile test carried out by North Korea provoked a swift response from the international community. The United Nations Security Council imposed direct sanctions on the country banning all trade in materials that could be used in its nuclear programme, as well as the transfer of financial resources for the same ends. The North Korean missile tests affected oil prices, since although the country has no oil reserves of its own, they raise the stakes in any negotiation with Iran because of how they impact on the negotiating power of the countries in the UN Security Council.

The second, and even more sensitive, development is the recent conflict between Israel and Lebanon, specifically in the territories controlled by the Hezbollah militia. This war now seems likely to last longer and be more dangerous than expected originally. Although the conflict will have no effect on production, it increases the level of risk in the Middle East to a significant extent, both because of the uncertainty surrounding the reaction of the Arab League and because it complicates further the negotiation of a settlement with Iran, a country that Israel accuses of backing Hezbollah.

Real Brent oil price after geo-political shock with no impact on production



Source: BBVA

Geo-political risk factors of this sort that fuel fears of an eventual reduction in oil supply cause oil prices to react in a manner similar to how they react to geo-political shocks associated with real falls in production. In the absence of further shocks, the price of oil peaks one quarter later, after which it begins to ease back, with the complete adjustment taking at least 5 quarters. This shows that oil prices strongly resist downward shifts.

Fundamentals have less weight

Oil price developments are being driven more by risk factors than by fundamentals. In fact, for 2006 the International Energy Agency (IEA), which is normally optimistic about demand and pessimistic about production, forecasts that world demand for oil will grow by 1.4% (1.2 million barrels a day from 83.7 to 84.9 million barrels). This development is largely due to China and the Middle Eastern countries, which together account for two-thirds of the increase.

The IEA estimates that crude oil supply from non-OPEC countries will rise by 2.2% (1.1 million barrels a day), of which 82% will come from Africa and ex-Soviet Union countries (0.4 million barrels a day from the former and 0.5 million from the latter).

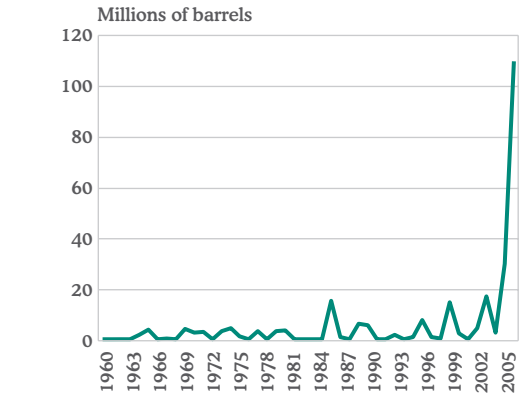
Growth in supply from the non-OPEC countries will therefore make it possible to absorb the increase in demand. In OPEC, meanwhile, Iraq has stepped up production by 0.5 million barrels a day, which compensates for lost production in Nigeria owing to internal problems. As a whole, OPEC could increase production by between 0.2 and 0.3 million barrels a day, associated with the building of trade inventories in response to the US decision not to increase the level of its strategic reserves. Generally speaking, in contrast to what is widely believed, the supply situation in the market is better than it was in the last two years.

The hurricane season

A further element has begun to impact on oil market expectations: the hurricane season that affects the Atlantic Ocean between June and November each year. During the 2005 season, the Gulf of Mexico oil region was hit particularly strongly, with lost production of almost 110 million barrels of oil and 683.3 million cubic feet of natural gas, mainly in the wake of Hurricanes Katrina and Rita.

2005 was an atypical year, however, with regard to the intensity and the impact of the hurricanes. Historically, lost crude production due to precautionary shut-downs or damage during the hurricane season ranged between 0 and 30 million barrels, the latter figure being reached in 2004. The production stoppages that occurred in 2005 were 166% higher than in 2004. On the basis of the forecasts of the National Oceanic and Atmospheric Administration in the United States on the atmospheric conditions expected for 2006, we can project a halt in activity this year between 28% and 52% below that of 2005.

Lost oil production from hurricanes



Source: NOAA

According to the historical series, the average interruption measured in barrels of oil, during the period 1960-2004, was 3.7 million barrels per year. This allows us to draw two conclusions. The first is that the average impact of atmospheric activity during the hurricane season is low in relation to annual oil production in the United States. The second is that an impact of the magnitude observed in the 2005 season is extremely atypical.

Projected lost production from hurricanes (2006)

ACE index* 2006 forecast	% change 2005/2006 en %	Change in lost production in millions of barrels	Forecast lost production in 2006 (millions of barrels)
118	-27.76	-42.52	67.4
179	-52.38	-80.22	29.7

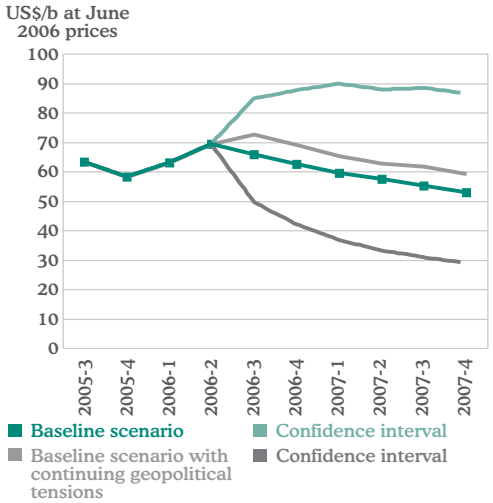
Source: BBVA using NOAA data
*Accumulated Cyclone Energy

If the variation in atmospheric intensity during the 2006 hurricane season decreases by 52% with respect to 2005, the impact on oil production in the Gulf of Mexico would be 29.7 million barrels of lost production over the year. And if the variation in intensity were to fall by 28%, the reduction in production in the region would amount to 67.4 million barrels, figures which represent 27% and 61%, respectively, of lost production in 2005 for this reason. This would mean less pressure on oil prices during the second half of 2006 than was observed as a result of this factor in 2005.

Revised price scenario

The revision of oil prices in the light of the above factors points to a baseline scenario of average Brent prices of $65.2 a barrel in 2006, and $56.2 in 2007. If we include a continuation of the new geo-political risk factors – assuming they do not affect production – the average oil price rises to $68.5 a barrel in 2006 and $62.3 a barrel in 2007. This scenario has a probability of 80%.

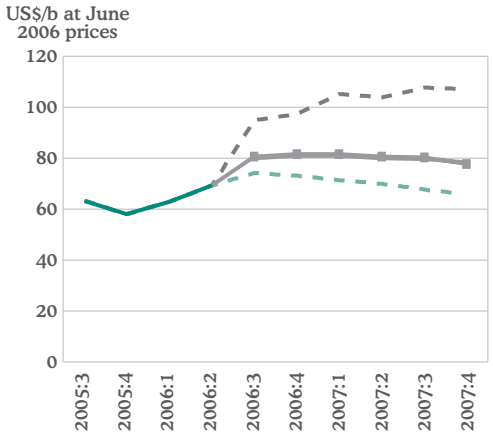
Brent oil price: central scenario



Source: BBVA

A risk scenario would imply an average oil price of $73.7 a barrel in 2006, with an average price of $81.1 for the second half of the year and $80 a barrel in 2007. In a scenario with conflicts that affect production, the price of oil could rise as high as $107 a barrel.

Brent oil price: risk scenario



Source: BBVA

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Is the *Phillips Curve* valid in the oil producing countries?

The Phillips Curve

One of the most-frequently analysed macroeconomic regularities, and one with the greatest practical consequences, is the Phillips Curve, which in its most popular version postulates that an increase in the output gap brings about a rise in the rate of inflation.

The term output gap normally refers here to the difference between Gross Domestic Product (GDP) and Potential GDP. The latter is the fastest rate of GDP growth that is sustainable in the long term given the availability of the factors of production in a particular country or region (machinery, labour, etc).

Oil-exporting economies

As a result of the prolonged run-up in oil prices that has taken place over recent years, this popular hypothesis runs into difficulties when it is used to attempt to explain the macroeconomic dynamics of the oil-exporting countries.

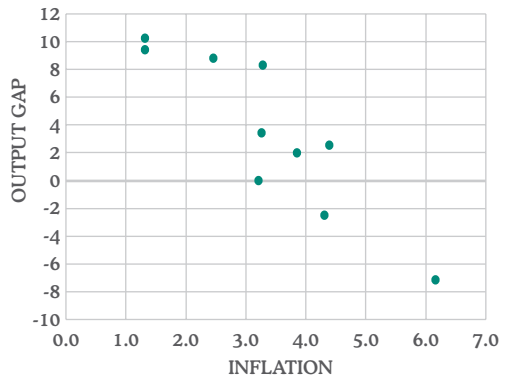
We take Venezuela as an example given that it is both a Latin American country and oil exporter. This country's GDP has risen at an extraordinary rate over the period considered thanks to the stimulus from a record increase in public spending made possible by the windfall in oil tax receipts. The strong economic growth was initially facilitated by the high level of factors of production available in the Venezuelan economy at the beginning of 2003 (high unemployment and high levels of idle productive capacity). However, GDP is currently running well above the potential rate of growth, which has remained practically steady for decades because of weak investment levels.

This expansion in the Venezuelan economy, driven by the rise in the average price of the country's oil exports basket, has led to a steady and prolonged widening of the output gap, from negative values at the beginning of 2003 to very positive values at the beginning of 2006. Yet, in clear contradiction with the Phillips Curve, since 2003 inflation has been on a markedly downward trend.

Econometric estimations using data covering the period 1975-Q1 to 2005-Q4 (see technical appendix for the methodological details) show that the absence of a Phillips Curve during the recent run-up in oil prices is by no means exceptional. Rather it has been a characteristic of the Venezuelan economy for at least the past 30 years. The following graphs summarise the main results of our estimations (showing the average response with a confidence interval of 2 standard errors). The first graph represents an average oil shock (an initial rise of 12% that persists over time) and the others show the response to this shock of the following variables:

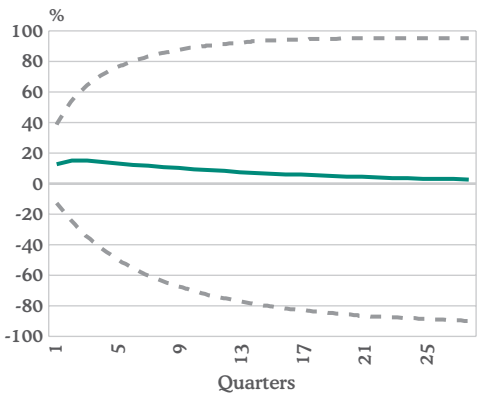
- The real exchange rate: an initial depreciation probably linked to an upturn in inflation in the United States is almost immediately reversed, giving way to persistent appreciation despite the nominal exchange rate anchor.
- Inflation: a steady fall takes place, associated with the exchange rate anchor and the expansion in imports, which satisfy surplus demand and act as the main mechanism of monetary sterilization.
- GDP: the initial reaction is insignificant, but in the quarter after the shock a prolonged rising trend begins that tends to be reversed in the long term.

Venezuela: inflation and output gap
(data cover the period 2003:4-2006:1)



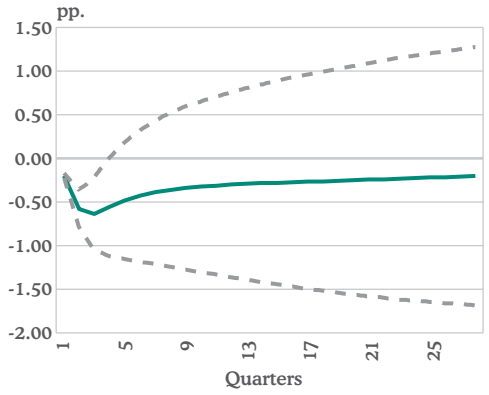
Source: BBVA and Central Bank of Venezuela

Typical oil shock



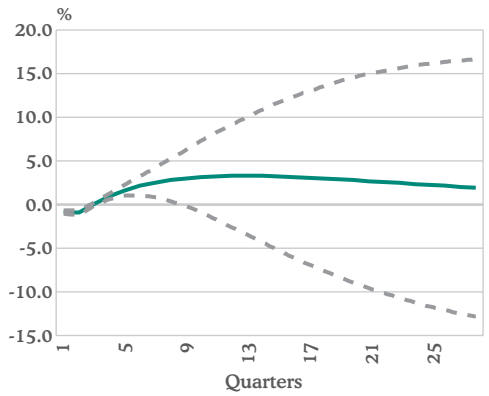
Source: BBVA

Response of inflation



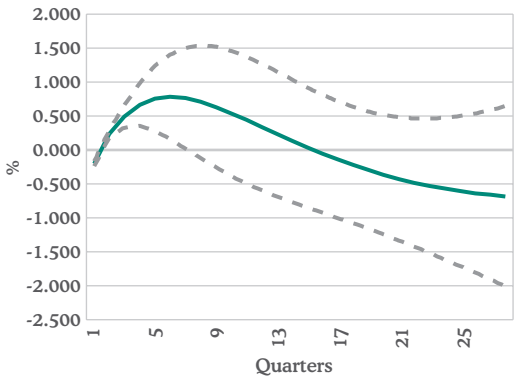
Source: BBVA

Response of real exchange rate



Source: BBVA

Response of GDP



Source: BBVA

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The key

The key to explain these developments seems to lie in the fact that at the same time as a persistent rise in oil prices prompts the government to raise public spending (the wealth effect), it also generally moves to anchor the nominal exchange rate (partly to avoid a nominal appreciation of the domestic currency) and relax restrictions on foreign currency purchases. This encourages an expansion in import volumes (these meet the excess demand and are the main mechanism of monetary sterilization) and finally brings about a reduction in the rate of inflation.

Appendix: econometric methodology

We estimated[1] a reduced-form vector autoregression (VAR) model with 4 variables: the price of a barrel of WTI oil (expressed in constant dollar prices); real gross domestic product (seasonally-adjusted); inflation (based on a seasonally-adjusted CPI) and the real exchange rate (expressed in such a way that an increase represents an appreciation of the domestic currency). That is[2],

$$\begin{pmatrix} LWTI_t \\ LY_t \\ DLP_t \\ LTCR_t \end{pmatrix} = \begin{pmatrix} b_{10} \\ b_{20} \\ b_{30} \\ b_{40} \end{pmatrix} + \begin{pmatrix} b_{111} & b_{121} & b_{131} & b_{141} \\ b_{211} & b_{221} & b_{231} & b_{241} \\ b_{311} & b_{321} & b_{331} & b_{341} \\ b_{411} & b_{421} & b_{431} & b_{441} \end{pmatrix} \times \begin{pmatrix} LWTI_{t-1} \\ LY_{t-1} \\ DLP_{t-1} \\ LTCR_{t-1} \end{pmatrix} + \begin{pmatrix} \varepsilon_{LTOT,t} \\ \varepsilon_{LY,t} \\ \varepsilon_{DLP,t} \\ \varepsilon_{TC,t} \end{pmatrix}$$

Where,

$$\begin{pmatrix} \varepsilon_{LWTI,t} \\ \varepsilon_{LY,t} \\ \varepsilon_{DLP,t} \\ \varepsilon_{TCR,t} \end{pmatrix} \sim N(0, \Sigma)$$

On the basis of the reduced form VAR estimated in this way, we identified a structural VAR model in order to be able to separate the forecasting errors (the vector $\__t$) into shocks or pure innovations (the vector $\__t$) associated with each of the model's variables as shown below:

$$\underbrace{\begin{pmatrix} \varepsilon_{LWTI,t} \\ \varepsilon_{LY,t} \\ \varepsilon_{DLP,t} \\ \varepsilon_{TCR,t} \end{pmatrix}}_{\varepsilon_t} = \underbrace{\begin{pmatrix} c_{11} & 0.0 & 0.0 & 0.0 \\ c_{21} & c_{22} & 0.0 & 0.0 \\ c_{31} & c_{32} & c_{33} & -0{,}4 \\ c_{41} & c_{42} & c_{43} & c_{44} \end{pmatrix}}_{C} \times \underbrace{\begin{pmatrix} \mu_{LWTI,t} \\ \mu_{LY,t} \\ \mu_{DLP,t} \\ \mu_{LTCR,t} \end{pmatrix}}_{\mu_t}$$

Where the coefficient -0.4 imposed on the impact of the real exchange rate on inflation is an approximate measure of the effect of an increase in the nominal exchange rate (nominal appreciation of the domestic currency) on the price level.

Finally, the c_{ij} were estimated by maximum likelihood, subject to the following restriction:

$$\Sigma = \begin{pmatrix} \sigma_{11}^2 & \sigma_{21}^2 & \sigma_{31}^2 & \sigma_{41}^2 \\ \sigma_{21}^2 & \sigma_{22}^2 & \sigma_{32}^2 & \sigma_{42}^2 \\ \sigma_{31}^2 & \sigma_{32}^2 & \sigma_{33}^2 & \sigma_{43}^2 \\ \sigma_{41}^2 & \sigma_{42}^2 & \sigma_{43}^2 & \sigma_{44}^2 \end{pmatrix} = \begin{pmatrix} c_{11} & 0.0 & 0.0 & 0.0 \\ c_{21} & c_{22} & 0.0 & 0.0 \\ c_{31} & c_{32} & c_{33} & -0{,}4 \\ c_{41} & c_{42} & c_{43} & c_{44} \end{pmatrix} \begin{pmatrix} c_{11} & c_{21} & c_{31} & c_{41} \\ 0.0 & c_{22} & c_{32} & c_{42} \\ 0.0 & 0.0 & c_{33} & c_{43} \\ 0.0 & 0.0 & -0.4 & c_{44} \end{pmatrix} = CC'$$

[1] We used a Bayesian estimation approach based on the Minnesota prior (with hyperparameters selected in order to minimise the average square error of off-sample forecasts), as implemented in the RATS software.

[2] The model estimated has effectively two lags (the optimal number according to the Akaike Criterium), but is represented graphically with only one lag for easier visualization.

Growth and crisis in Southeast Asia: What are the similarities and lessons for China?

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When it comes to examining the sustainability of the current global economic environment, one could hardly fail to include the key role of China. The Middle Kingdom has been in the past two years not only the major contributor to world growth (between 20 and 25%)[1], but has made this contribution using a development model which is at the same time original and similar to those used by other countries in the region. Specifically, it is hard not to make comparisons of the Chinese "miracle" with the strong growth enjoyed by countries such as Korea, Thailand and Malaysia between 1960 and 1995. The aim of this article centres precisely on the extent to which China can be compared to these countries and what lessons it can draw from them.

In this sense, the peak of Asian growth coincided with one of the big crises at the end of the 1990s, which caused the model that underpinned that growth to become bankrupt. It is, therefore, worth considering whether China risks the appearance of crises, and within this comparative framework to examine to what extent China could face economic havoc along the lines experienced in Southeast Asia.

The Southeast Asian growth model and its bankruptcy

The growth models of different countries in Southeast Asia such as Korea, the Philippines, Indonesia, and still in the case of Thailand, were based on four fundamental pillars.

One of the first common elements in the above economies was the maintenance of strict macroeconomic discipline. Specifically, healthy national accounts, with public deficits kept under control (including in some cases with surpluses) during the years of greatest growth (see Graph), which was accompanied by relatively low levels of public debt, contained and stable rates of inflation, all of this within a framework of exchange-rate controls (fixed or semi-fixed regimes) which prevented overvaluations of their respective currencies.

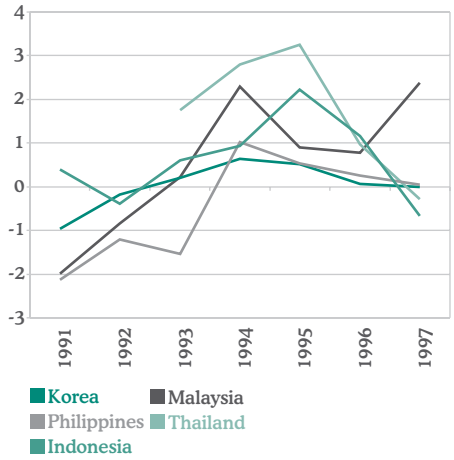
Secondly, all of the economies under consideration opted equally to focus on the foreign sector, with the flourishing export sector supported by the comparative advantages afforded by cheap labour. In this sense, a high level of government intervention played a key role by providing the export sector with preferential access to production inputs at international prices, as well as access to finance and foreign currency, while at the same time making productivity-based tax advantages and subsidies available, and improving the country's infrastructure. As a result, despite their relatively large size (particularly Malaysia, Thailand and Korea), these economies were highly open to trade, becoming in a short period of time some of the most open economies in the world (see Table).

Likewise, two factors of a more structural nature favoured high growth. On the one hand, high savings rates, particularly in the business sector, generated abundant resources to help finance economic development. On the other, a demographic explosion after 1950, with lower dependency ratios in the 1990s, created a large active population and abundant and cheap labour, while at the same time laying the foundations for strong domestic demand.

However, these favourable indicators, which sustained the confidence of international investors until shortly before the crisis, could not prevent the gradual bankruptcy of the model. Other fundamentals appeared to undermine those above, and which ended up changing the direction of the economy. Among these, one of the first factors which undermined the sustainability of the model was a lack of productivity. Compared with the periods of strong growth of countries which are now industrialized, the economies of Southeast Asia accumulated factors of production, with growth essentially based on capital (K) and labour (L),

[1] Using GDP corrected for purchasing power parity.

Public sector balance
(% of GDP)

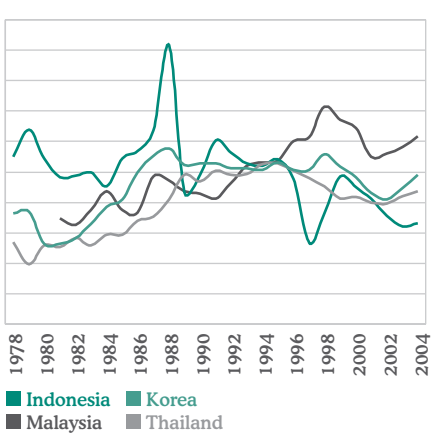


Source: BBVA using IMF data

Trade openness in 1996
GDP in percent

	Degree of openness	World Ranking
Malaysia	180%	1
Philippines	89%	6
Thailand	82%	7
Korea	61%	11
Indonesia	53%	15

Savings
(% of GDP)



Source: BBVA using IIF data

Sources of growth during catching-up period*				
	Y	A	K	L
France	5.1%	2.4%	2.2%	0.4%
Italy	5.6%	3.3%	2.2%	0.1%
Japan	9.0%	3.4%	4.4%	0.9%
Korea	8.0%	2.3%	4.3%	1.4%
Thailand	7.8%	2.8%	3.4%	1.6%
China	7.8%	3.5%	2.9%	1.2%
Malaysia	6.9%	1.5%	3.6%	1.8%
Indonesia	6.2%	1.2%	3.6%	1.4%
Philippines	4.0%	0.6%	1.6%	1.8%

* For France, Italy and Japan 1950-1973; East Asia 1960-1996; China 1980-2005
Source: BBVA using World Bank data

Private-sector foreign debt (flows as % of GDP)				
	1980-1989	1990-1994	1995	1996
Indonesia	1.71	2.62	5.71	5.54
Korea	1.68	2.83	5.73	7.33
Malaysia	2.92	2.88	6.08	9.72
Philippines	3.39	1.34	5.03	5.54
Thailand	1.89	7.00	13.75	8.63

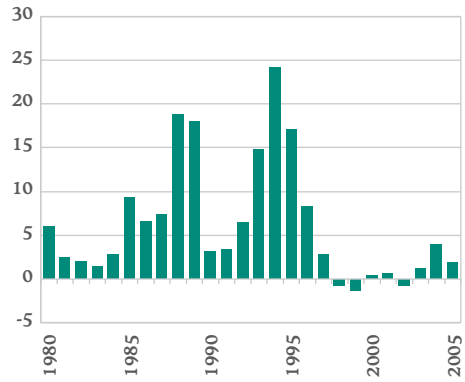
Source: BBVA using World Bank data

Exchange rate (average % change)			
	1992-1996	1997	1998
Indonesia	14.7%	28.6%	241.5%
Korea	2.6%	22.2%	39.1%
Malaysia	-1.0%	14.4%	35.8%
Philippines	4.5%	14.7%	35.3%
Thailand	-2.0%	25.8%	27.4%

Source: BBVA using World Bank data

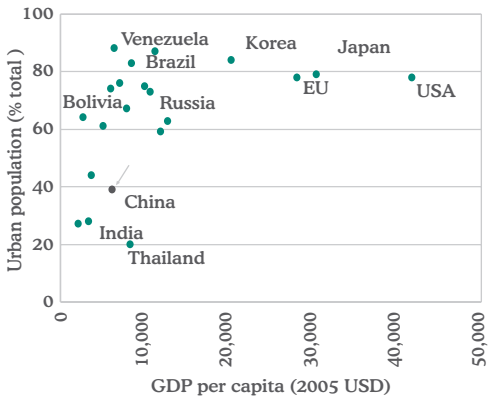
Inflation

(% annual change in CPI)



Source: IIF

GDP per capita and urban population



Source: BBVA using World Bank data

but with weak growth in productivity (A). Weaknesses of this type eventually gave rise to a severe recession in the export sector in 1998 in all of the countries considered.

A large part of the blame also lay with a number of financial and monetary factors, which led eventually to strong pressures on the fragile domestic banking sectors. Policies aimed at the liberalisation of capital accounts, for instance, pushed up the level of dollar-denominated debt, in particular that of banks, which were subject to little regulation by the monetary authorities. In the same way, the rigidities deriving from the control of exchange rate regimes led to an expansionary monetary policy and as a consequence to sharp increases in domestic bank lending. The final result was a significant overvaluation of the different Southeast Asian currencies, the factor that triggered the crisis.

The consequences of these tensions, as is well known, were both immediate and violent in nature. The first effects were a sharp deterioration in current account balances and much greater reliance on short-term capital flows to cover external financing needs. This caused a significant imbalance in the maturities and denomination of assets and liabilities. Exchange rates were unable to resist these pressures and a loss of confidence in the markets and a sharp adjustment in the form of devaluation brought about an abrupt contraction in real activity, in particular in gross fixed capital formation (GFCF), the main driver, as mentioned above, of economic growth. GFCF registered falls ranging between 20% in South Korea and the Philippines and 50% in the case of Malaysia and Indonesia (in real terms), during the first year of the crisis (1999).

Similarities and differences in China's growth model

This boom and bust growth model in the countries of Southeast Asia leads naturally to questions about growth in China today, where there are clear similarities with the model described above.

In effect, there is no doubt that China enjoys an enviable level of macroeconomic discipline. The public deficit is relatively low and firmly harnessed, at below 3% since the beginning of the 1980s. External debt is even lower than that of the Southeast Asian countries, at around 12% in the past 5 years. Inflation has been running below 5% for the past 10 years (see Graph), with volatility at low levels and no episodes of hyperinflation. On top of this is an exchange rate regime that is very firmly controlled, with little prospect of any liberalisation in the short term and the US dollar as the benchmark currency[2].

China's economy clearly has also become more export oriented. The last 25 years have seen a sixfold rise in the country's openness to trade, which now accounts for 63% of GDP. This is a high figure despite the large size of China's economy, which is bigger in terms of population and GDP than all the rest of Southeast Asia together.

A further important factor is the Government's firm commitment to the pursuit of a more open economy. Also noteworthy is the constant concern with avoiding social tensions in the transition process towards a market economy. In fact, artificially controlling certain instruments enhances the competitiveness of China's external sector. Thus, for example, controlling the rural exodus by means of worker territorial registration policies (hukou) means that urban population levels in China are much lower than in other countries at the same level of development (see Graph). Similarly, domestic control of price inflation (in particular for non-tradeable goods such as housing, energy and services) and of salary increases (up by 15% since 1980, compared with an 80% rise in GDP), together with tight exchange rate controls, guarantees considerable comparative advantages for China's productive fabric at an international level, while providing employment (or underemployment) and stability for many of the country's citizens. All of this limits the emergence of social tensions that could jeopardise political stability.

[2] Even after the change in the basket of benchmark currencies on July 21, 2005, the dollar still represents, by all estimates, over 75% of the weight of the basket.

A further similarity between China and the Southeast Asian model relates to structural factors. Private savings rates are among the highest in the world (42.5% of GDP in 2003), in the case of both households and companies, and the demographic evolution of the country over the past 50 years of communism is very similar to that observed in its Asian neighbours, in particular in relation to the reduction of the dependency ratio over the past few years (see the adjoining population pyramid). All this confirms our initial intuition: the path of economic development in China is, for many of its fundamentals, similar to the course taken by its Asian neighbours before the eruption of the financial crisis.

It seems unlikely, however, that China will make the same mistakes as its Asian neighbours. Rather, Beijing appears to have incorporated the weaknesses that sparked the crisis into its model in a way that works in its favour.

With regard to productivity, China's economy shows a rate of advance that is very similar to that of the European countries during periods of strong growth. Just under half of GDP growth is attributable to productivity gains, with capital and labour contributing just over one third and one sixth, respectively. In addition, compared with other developing countries, China has relatively high rates of labour productivity growth (see Graph), a factor that supports the sustainability of the country's model of development.

A further significant difference exists in the area of capital account regulation. In contrast to the deregulation in neighbouring countries, China exercises control over its capital account. Though moderate in the case of FDI (inflows and outflows must be authorised by Government agencies), the level of control is very strict as regards short-term capital flows. Portfolio inflows can only be directed to markets reserved for foreign investors (B shares) or to foreign capital issues ("H" shares in Hong Kong and ADR in markets such as the US), while outflows require official approval. There are also very tight restrictions on foreign currency borrowing, with authorization required from the Government, and a limit of 10% is imposed on short-term borrowing. Finally, only large companies (in which the State generally has an important stake) can hold foreign currency for an indefinite period. The rest of the economic agents are obliged to convert foreign currency to local currency in order to avoid uncontrolled flows of foreign currency within the country. China, therefore, seems to have understood the role played by short-term capital flows and overhasty capital account liberalisation during the Asian crisis, introducing measures in this respect with a view to protecting the country from abrupt disruptions in its economy.

Beijing clearly seems to be aware therefore that identical conditions to those of its neighbours before the crisis could set the stage for the system to fail for very similar reasons to those observed in 1997-1998.

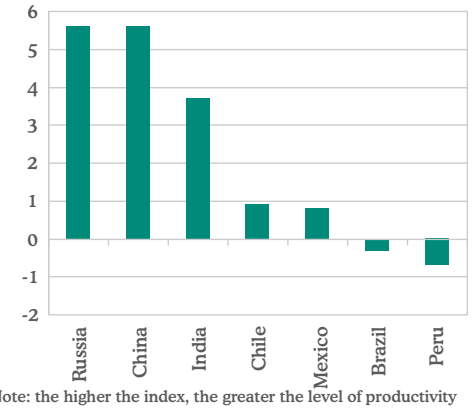
In effect, one of the weak points of its economy is precisely the banking system. The bad debt ratio in China still stands above that of other developing countries: higher than the ratio observed in Latin America and within the group of big Asian economies, only below that of countries such as the Philippines (see Graph). China's banks, which are state owned, very often do not use risk management or investment selection techniques any more reliable than simple political criteria. Similarly, a weak consumer lending market is an obstacle to the channelling of the enormous quantities of savings towards more productive activities and to the consolidation of a steady and deep enough level of domestic demand to compensate for the ups and downs in external demand.

The other factor which undermined the growth model of China's neighbours was a pronounced real appreciation in exchange rates. For this reason, China is stubbornly maintaining its exchange rate under control in an attempt to keep its exports competitive (all the more so now with a weak dollar). If the Asian crisis was short term and characterised by its immediacy and volatile capital flows, China seems to be using all the means at its disposal, despite the criticism

China: population pyramid 2005
(in thousands)

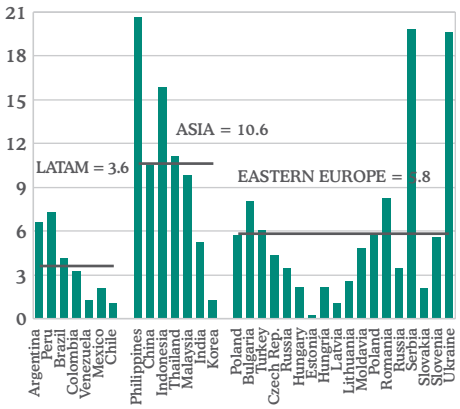
Source: World Bank

Index of labour productivity relative to labour costs
(2004)



Note: the higher the index, the greater the level of productivity
Source: CEIC

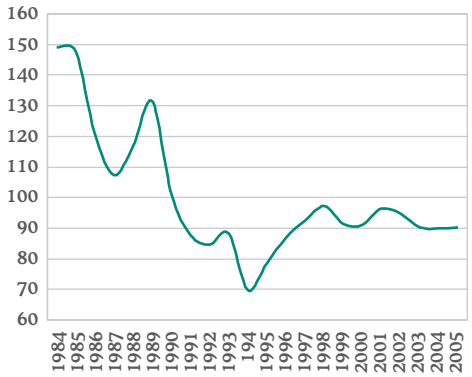
Bad debt ratio (2005)



Source: IDB

China: real effective exchange rate

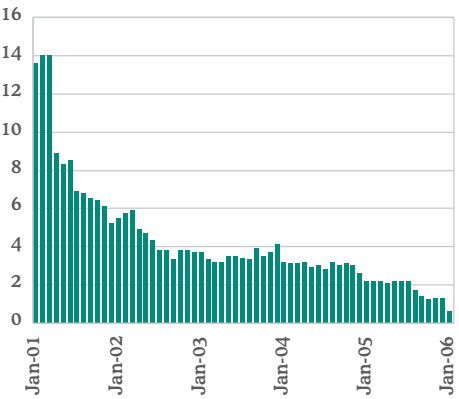
(sample average = 100, increase = appreciation)



Source: BBVA

Rental prices

(% real annual change)



Source: CEIC

of the international economic community, to protect itself from a similar episode.

Is China safe from all these risks?

Despite having drawn very valuable lessons from the recent history of the region, China still faces a number of risks.

As regards the domestic economic structure, these include doubts about the country's fiscal sustainability. Important reforms are still needed in this area, with the resulting potential for increased government spending in the future. In particular, it is likely that at some point the population will demand improvements to the social security system, which is still in its infancy, and that political motivations will lead to a greater degree of intervention (infrastructure, unproductive political investments), and thus higher spending. One might also point to a certain degree of institutional risk (due, for example, to the corruption that taints legal security) and to socio-political risk (linked to the Taiwan question and demands for greater democracy, for example). While the probabilities attached to these three elements are low, their ramifications could have serious consequences for the country. An even greater cause of concern is the potential risks associated with the fragility of the banking system despite government efforts to strengthen it using the country's ample currency reserves. A loss of confidence in the banking system could lead to a destabilization of domestic demand and changes in investor risk perceptions. A further source of concern is the over-investment that exists in the Chinese economy, the biggest recipient of FDI in the world. This has potentially dangerous consequences for corporate profits. For now, however, it seems that over-investment only affects certain sectors of the economy (automobiles, cement etc.).

The most likely sources of risk may therefore be external. China's resurgence could paradoxically be the cause of its downfall. Thus, a shift in foreign investor sentiment could reduce FDI flows into China, jeopardising the high rates of investment and GFCF that currently exist and which are necessary for social and political stability. However, a substantial proportion of domestic investment is still funded by internal flows, so that a drying-up of external financing would have little impact. More important would be the impact of a trade war. Given the Chinese government's prioritization of the export sector, the loss of such important markets as the US market would have disastrous consequences. The likelihood of such an event has increased over recent months and concern over Chinese competition at a global level is reflected in recent accusations of manipulation of the renminbi[3]. Given the limited development of the internal market and low levels of consumption, it would be fatal for the Chinese economy if trade barriers were put in place as occurred after the great depression in the 1930s. Today more than ever, therefore, China needs a strong world economy, with the consequences for the domestic economy of a recession in the industrial economies likely to be grave.

Conclusions

China's economy shares some of the characteristics of the growth models that evolved in the Southeast Asian countries. Its strengths of high productivity, a fixed real exchange rate and limited capital account liberalisation, however, mean that the possibility of a crisis in China like the one observed in those countries during 1997 and 1998 is relatively low. This is not to say that the country faces no risks in the short or medium term. The financial sector remains weak and several sectors are starting to show signs of over-investment. In addition, the reserve accumulation policy, the semi-fixed nominal exchange rate and the resulting monetary expansion could at some point begin to generate inflationary pressures.

[3] Recently, the American senators D. Schumer and R. Graham have proposed the introduction of a tariff on Chinese imports of 27.5%, according to Congress the level of undervaluation of the yuan, as a means to protect US businesses from the artificial competition of the Chinese export sector.

International Context

	Real GDP (%)				Consumer prices (%. average)			
	2003	2004	2005	2006	2003	2004	2005	2006
USA	4.2	3.5	3.3	3.2	2.7	3.4	3.4	2.1
EMU	1.8	1.4	2.3	2.2	2.1	2.2	2.2	2.1
Japan	2.7	2.7	3.0	3.0	0.0	-0.3	0.4	0.5
China	10.1	9.9	10.0	9.5	3.9	1.9	2.0	2.0

	Official interest rate (%. end of period)				Exchange rate (vs $. end of period)			
	30/06/06	Dec-06	Jun-07	Dec-07	30/06/06	Dec-06	Jun-07	Dec-07
USA	5.25	5.25	5.25	5.25				
EMU ($/€)	2.75	3.50	4.00	4.00	1.28	1.27	1.29	1.30
Japan (yens/$)	0.00	0.75	1.25	1.25	114	113	108	105
China (cny/$)	5.85	6.10	6.35	6.35	7.99	7.75	7.60	7.50

Latin America

	Real GDP (%)				Consumer prices (%. end of year)			
	2004	2005	2006	2007	2004	2005	2006	2007
Argentina	9.0	9.2	7.3	6.2	6.1	12.3	11.0	12.0
Brazil	4.9	2.3	3.6	3.0	7.6	5.7	4.5	4.8
Chile	6.2	6.3	5.3	5.6	2.4	3.7	3.2	2.4
Colombia	4.8	5.2	4.8	4.6	5.5	4.9	4.2	3.9
Mexico	4.2	3.0	4.0	3.2	5.2	3.3	3.4	3.5
Peru	5.2	6.4	5.6	4.7	3.5	1.5	2.5	2.5
Venezuela	17.9	9.3	4.1	3.6	19.2	14.4	12.3	16.9
LATAM [1]	**6.0**	**4.4**	**4.5**	**3.9**	**6.8**	**6.0**	**5.3**	**5.7**
LATAM Ex-Mexico	6.6	4.9	4.6	4.1	7.3	6.9	5.9	6.5

	Fiscal balance (% GDP)				Current account balance (% GDP)			
	2004	2005	2006	2007	2004	2005	2006	2007
Argentina [2]	2.6	1.8	2.0	1.8	2.2	3.2	2.7	1.9
Brazil	-2.5	-3.0	-3.0	-2.5	1.9	1.8	1.0	1.0
Chile [2]	2.4	4.9	6.2	1.9	1.7	0.6	1.0	-0.8
Colombia	-1.2	0.0	-1.5	-1.7	-1.0	-0.2	-1.7	-1.5
Mexico	-0.3	-0.1	0.0	0.0	-1.1	-0.7	-0.3	-1.1
Peru	-1.1	-0.3	0.0	-0.7	0.0	1.3	0.5	-0.3
Venezuela [2]	-1.9	1.6	-2.3	-3.1	14.1	17.7	14.0	12.3
LATAM [1]	**-0.9**	**-0.7**	**-0.9**	**-1.0**	**1.3**	**2.0**	**1.5**	**1.0**
LATAM Ex-Mexico	-1.2	-1.0	-1.3	-1.4	2.7	3.4	2.4	2.1

[1] Average of the countries. [2] Central Government.

	Exchange rate (vs $. end of year)				Interest rates (%. end of year)[3]			
	2004	2005	2006	2007	2004	2005	2006	2007
Argentina	2.99	3.05	3.15	3.30	3.1	5.0	7.5	12.0
Brazil	2.72	2.28	2.40	2.50	17.8	18.0	14.5	13.5
Chile	576	514	540	550	2.3	4.5	5.5	5.5
Colombia	2404	2279	2550	2631	7.8	6.3	6.4	7.1
Mexico	11.15	10.63	11.00	11.70	8.7	8.2	7.0	7.0
Peru	3.28	3.42	3.28	3.40	3.0	3.3	4.75	5.25
Venezuela	1920	2150	2150	2362	12.4	10.9	10.1	9.8

[3] For each country interest rate see the following page.

Argentina

	2004	2005	2006f	2007f
GDP (%)	9.0	9.2	7.3	6.2
Consumer prices (% end of year)	6.1	12.3	11.0	12.0
Trade balance ($bn)	12.1	11.3	10.1	9.5
Current account (% GDP)	2.2	3.0	2.7	1.9
Reserves ($bn. end of year)	19.6	28.1	27.6	33.6
Exchange rate (end of year vs US$)	2.99	3.01	3.15	3.30
Fiscal balance (% GDP) [1]	2.6	1.8	2.0	1.8
Interest rate (end of year) [2]	3.1	5.0	7.5	12.0
Real effective exchange rate (end of year. dec-97=100)	50	52	53	55
BBVA-MAP (end of year, Jun-95=100)	117	131	136	133

1/ Argentina: Central Government Balance. Excluding privatisation receipts
2/ Argentina: 30-d deposits interest rate in pesos; Brazil: SELIC rate

Brazil

2004	2005	2006f	2007f
4.9	2.3	3.6	3.0
7.6	5.7	4.5	4.8
33.7	44.8	41.0	35.0
1.9	1.8	1.0	1.0
52.7	53.8	56.0	52.0
2.72	2.28	2.40	2.50
-2.5	-3.1	-3.0	-2.5
17.8	18.0	14.5	13.5
65	81	76	74
79	77	80	82

Chile

	2004	2005	2006f	2007f
GDP (%)	6.2	6.3	5.3	5.6
Consumer prices (% end of year)	2.4	3.7	3.2	2.4
Trade balance ($bn)	9.2	10.2	17.5	7.3
Current account (% GDP)	1.7	0.6	1.0	-0.8
Reserves ($bn. end of year)	16.0	16.0	17.6	17.6
Exchange rate (end of year vs US$)	576	514	540	550
Fiscal balance (% GDP) [1]	2.4	4.9	6.2	1.9
Interest rate (end of year) [2]	2.3	4.5	5.5	5.5
Real effective exchange rate (end of year. dec-97=100)	84	97	91	88
BBVA-MAP (end of year, Jun-95=100)	89	107	132	100

1/ Chile: Central Government
2/ Chile: Official interest rate (from August 2001 in nominal terms); Colombia: 90-d DTF interest rate

Colombia

2004	2005	2006f	2007f
4.8	5.1	4.8	4.6
5.5	4.9	4.2	3.9
1.4	1.4	0.6	-0.8
-1.0	-0.2	-1.7	-1.5
13.5	15.0	15.2	16.3
2404	2279	2550	2631
-1.3	0.0	-1.5	-1.7
7.8	6.3	6.4	7.1
83	92	81	80
128	151	156	151

Mexico

	2004	2005	2006f	2007f
GDP (%)	4.2	3.0	4.0	3.2
Consumer prices (% end of year)	5.2	3.3	3.4	3.5
Trade balance ($bn)	-8.8	-7.6	-4.8	-12.5
Current account (% GDP)	-1.1	-0.7	-0.3	-1.1
Reserves ($bn. end of year)	61.5	68.7	73.0	75.0
Exchange rate (end of year vs US$)	11.15	10.63	11.00	11.70
Fiscal balance (% GDP)	-0.3	-0.1	0.0	0.0
Interest rate (end of year) [2]	8.7	8.0	7.0	7.0
Real effective exchange rate (end of year. dec-97=100)	107	114	110	104
BBVA-MAP (end of year, Jun-95=100)	158	193	209	196

2/ Mexico: 28-d Cetes interest rate; Peru: Interbank interest rate

Peru

2004	2005	2006f	2007f
4.8	6.7	5.6	4.7
3.5	1.5	2.5	2.5
2.8	5.2	6.0	5.7
0.0	1.3	0.5	-0.3
12.6	14.1	15.0	15.5
3.28	3.42	3.28	3.40
-1.1	-0.4	0.0	-0.7
3.0	3.3	4.8	5.3
90	87	89	86
99	113	128	115

Uruguay

	2002	2003	2004	2005
GDP (%)	-11.0	2.2	12.3	6.2
Consumer prices (% end of year)	25.9	10.2	7.6	4.9
Trade balance ($bn)	0.0	0.2	0.0	0.0
Current account (% GDP)	3.1	-0.5	-0.8	0.6
Reserves ($bn. end of year) [3]	0.8	1.9	2.3	3.1
Exchange rate (end of year vs US$)	27.13	29.19	26.56	23.51
Fiscal balance (% GDP) [1]	-4.1	-3.2	-1.8	-2.5
Interest rate (end of year) [2]	69.9	7.5	5.7	4.6
Real effective exchange rate (end of year. dec-97=100)	90	75	81	87
BBVA-MAP (end of year, Jun-95=100)	85	86	89	81

1/ Venezuela: Central Government
2/ Uruguay: 30-d BCU Papers interest rate in pesos; Venezuela: 90-d Certificado Participaciones rate
3/ Venezuela: including FIEM

Venezuela

2004	2005	2006f	2007f
17.9	9.4	4.1	3.6
19.2	14.4	12.3	16.9
21.4	30.4	23.8	19.7
14.1	17.7	14.0	12.3
24.1	29.6	24.8	23.5
1920	2150	2150	2362
-1.9	1.6	-2.3	-3.1
12.4	10.9	10.1	9.8
91	90	98	102
208	286	307	282

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