

Latinwatch

Economic Research Department

Fourth quarter 2006



Latin America exceeds expectations
Oil prices deflate
Interest rates and recessions
Energy imbalances in South America
Vietnam: the new tiger?

Index

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Editorial	2
I. The economic and financial environment for Latin America	3
The weight of fundamentals in the oil market	6
II. Under the Microscope	8
Using the term structure of interest rates for predicting recessions	8
Towards a correct evaluation of macroeconomic risk: The case of the output gap	11
Methods for estimating human and physical capital: an application for Venezuela	13
Gas integration in Latin America	16
Growth in Asia: Vietnam	20
III. International Context	23
IV. Activities index	

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Editorial

Within a favourable external environment, Latin America finds itself immersed in its strongest growth cycle of the past few decades. Average growth in the region in the past three years stands at 5%, accompanied by average inflation of 6% and a combined budget deficit of under 1% of GDP.

The main enemy in similar cycles in the past was a lack of policy consistency, which, unlike in other emerging economies, prevented a sustained growth trend from developing. Clear evidence of this situation has been seen in high levels of macroeconomic instability in the face of vulnerability to external shocks, and the magnification of these as a result of this inconsistency.

The main challenge facing the region is to minimise these ills of the past by extending structural reforms and introducing institutional changes which improve the climate for investment, mainly private, to flourish, which is a key factor in extending the current growth trend beyond the favourable cycle for commodities.

A large number of the economies in the region have been growing above their potential in the past few years, and this is a factor which has to be considered in terms of the impact this could have on the factors market and inflation developments. In this area, greater independence for central banks and more fiscal discipline (primary surpluses in the main economies) have allowed a sustained fall in inflation, which constitutes a new development compared with previous cycles. Price stability plays a key role in achieving sustainable growth, given the high costs in terms of economic development and welfare incurred by inflation volatility.

For that reason, one of the main challenges facing the region, and where many countries have shown progress, is in carrying out institutional changes, and by creating mechanisms which lead to lasting price stability. The evidence points to greater economic freedom, more stable political situations, less ideological polarization, and the consolidation of the political system consistently producing lower and more stable inflation rates.

A greater degree of ideological polarization is linked to greater disparity in economic policy preferences, while in the case of countries with greater political stability economic policy tends to be more continuous. This translates into frequent discontinuity in fiscal and monetary policy, which are key elements in cushioning the impact of external shocks and how these filter through into the foreign exchange market.

Another big challenge lies in insulating the impact of these shocks by adopting mechanisms which avoid fiscal policies of a pro-cyclical nature, which amplify the imbalances generated. The characteristics of the markets mean that access to financing is in turn highly dependent on the economic situation. This makes it necessary to strengthen and introduce mechanisms to encourage savings on an institutional basis, as well as rules which allow savings to be increased during periods of expansion, thereby softening cycles, and making it more likely that economies move in a sustainable fiscal direction. The key factor is to take care to avoid making these funds fungible by offering them as backing for greater debt, which would go against fiscal objectives.

The greatest challenge facing the region in the coming years is to guarantee progress in reforms which allow consolidation of the current bonanza. Some countries have done their homework, others are halfway there, while some still have to start this process. Post-election periods are the ideal moment to make progress in this direction, although the spectre of policies being adopted with a more populist bias unfortunately has still not been banished in some countries.

I. The economic and financial environment for Latin America

Expansion continues with greater geographical diversification

The world economy is still expanding at a healthy pace of around 5%. Moreover, in contrast to previous cycles, growth is spread over a much wider geographical area. Along with the strengthening recovery in Europe, the major emerging market countries are still performing surprisingly well and end-year growth projections have had to be revised up. We have lifted our growth estimate for China by 1.5 points, and 0.5 of a point has been added to the euro area and Latin America for the second half of the year. The exception is the United States, which has an unchanged GDP growth forecast, at 3.3%. In general, as the IMF's projections also show (see adjoining graph), the world economy is expected to maintain a solid growth performance over the coming quarters, with GDP growth rates outstripping those expected initially at the start of the year.

With this broad geographical base, the current expansion phase in global growth is the strongest since the 1970s. Factors such as technological development and the globalisation of the world economy, markets and financial systems have provided favourable conditions for growth. In addition, in this cycle inflationary risks have been contained despite having coincided with a period of rising commodity prices (the BBVA-MAP has risen by over 20% annually in the period 2004-2006) and extraordinarily low real interest rates. For these reasons, if we bear in mind both the apparent reversal of the upward trend in commodity prices and the shift in monetary policy in the OECD countries towards more neutral rates of interest, the risk of a rise in inflation remains relatively low.

However, global growth in the period ahead will largely depend on the extent to which growth in the more dynamic regions is immune to the moderate slowdown already apparent in the United States. In fact, as we describe below, it is in the US economy where we observe the greatest uncertainties for the months ahead.

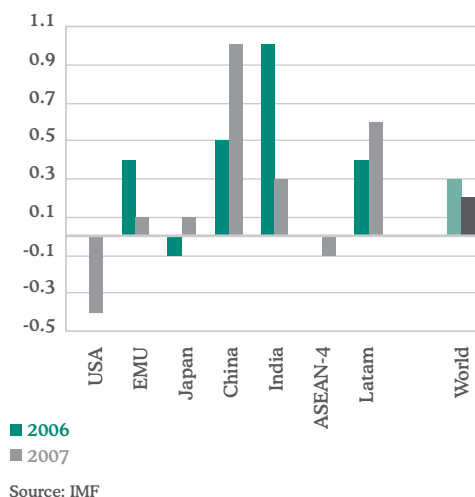
New uncertainties for the world economy...

One of the most significant developments since the end of the third quarter has been the generalised fall in the prices of raw materials, affecting among others the prices of gas, copper, aluminium, zinc, nickel, and oil. In the case of oil in particular, there have been important changes in a number of the factors which were pushing up prices over the past few months.

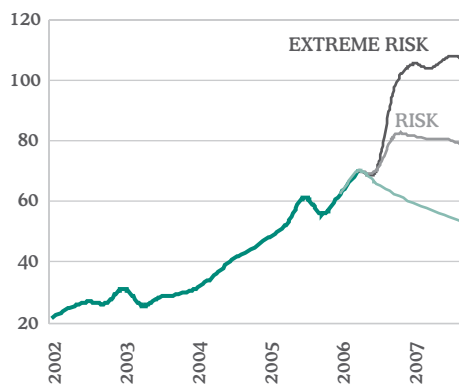
Let us examine some of these factors. First, unlike what happened in 2005, a relatively benign hurricane season in the Gulf of Mexico has eliminated the possibility of major disruptions in oil supply in the area. Second, there has been a significant easing of oil price pressures linked to geopolitical risks as a result of diplomatic progress towards easing tensions in the Middle East. We also do not expect recent events in North Korea to have an impact on oil markets. In September, Israel completed its troop withdrawal from Lebanon, in compliance with the main UN resolution for settling the conflict. The other political risk affecting oil price expectations, the dispute between the United States and Iran over nuclear energy, also seems to be subsiding, although negotiations could be more complicated following North Korea's nuclear test. In this case, although a negotiated settlement like the one that brought to an end the recent Israel-Lebanon conflict still looks some way off, Washington now seems to be increasingly moving away from the use of military force to resolve the conflict. With oil around \$60 a barrel, the risk for the global economy deriving from an oil price shock is today considerably lower than it was a few months ago. This therefore increases the probability

Revised IMF growth projections from April to September 2006

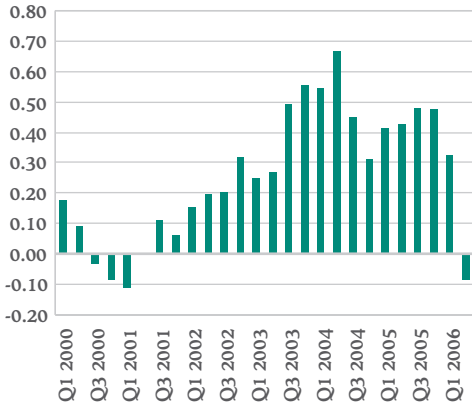
(percentage points)



BBVA: oil scenarios

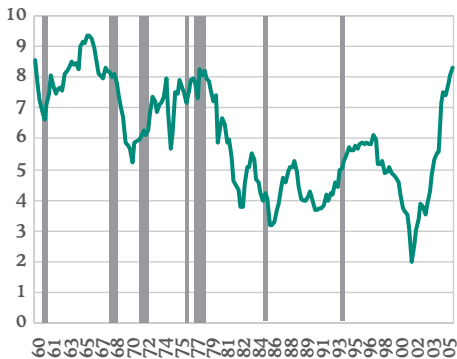


USA: contribution of residential investment to GDP (pp)



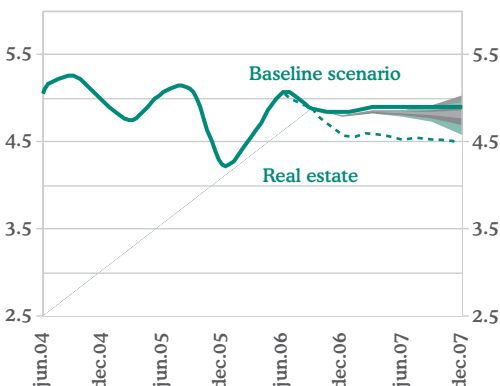
Source: National Statistics Office

Corporate earnings as a percentage of GDP



Source: BBVA using US Fed data

USA: 10-year interest rates



Source: BBVA

of our baseline scenario, which implies an average oil price of almost \$66.5 a barrel in 2006 and \$58.2 in 2007. Also supporting these oil price developments would be the environment of slower growth in the global economy. In sum, we expect oil prices to remain stable at around the levels reached at the end of September.

The above context does not mean the world economy is free of risks. Other sources of uncertainty have recently taken on greater weight. Of these, the most important is without doubt the downturn in the US real estate sector. In our baseline scenario, the US economy decelerates gradually to slower rates of GDP growth. Residential investment will make a negative contribution for the first time since 1995 and consumption will ease back gradually as support from wealth and income gains deriving from the increase in house prices over recent years weakens. However, the economy should continue to expand at rates near potential GDP, with growth projected at around 2.8% in 2007. Support will come from growth in the rest of the world and the accumulated dollar depreciation, which together are allowing net exports to make a positive contribution to growth for the first time since 1995. In addition, non-residential investment has remained buoyant, underpinned by strong corporate earnings, high levels of liquidity and low levels of debt-servicing costs in an environment in which global financing conditions are still very positive.

The most likely response of the monetary authorities to this economic situation will be to hold official interest rates at their current level of 5.25% for some time. This for a number of reasons. For one, inflation is going to fall, but will remain near the upper limit of the range targeted by the Federal Reserve. For another, the slowdown in activity will be of limited magnitude. The economy has both domestic and external supports that will allow it to withstand a deceleration in residential investment. A further reason is that following a period of high levels of international liquidity, central banks are likely to adopt a cautious approach when lowering official interest rates. Monetary conditions in the United States are not in restrictive territory, while consumer and business expectations seem relatively stable. In such an environment, long-term interest rates are unlikely to see much movement, with scope to rise to 5%, the reference level in the event that current market expectations of lower rates in 2007 should give way to expectations of stable official rates. Capital flows, for their part, have remained remarkably buoyant and interest in buying US assets has picked up again, on the part of both central banks and private agents. This also places checks on any increase in long term yields.

...but their probability remains low

The risk scenario facing the Federal Reserve, however, is that a slowing economy linked to a sharp downturn in residential investment and private consumption could take GDP growth down to rates near 2%. The probability of this coming to pass is nonetheless low. Recent experiences of adjustment in the residential sector in countries such as the United Kingdom and Australia show little impact on the economy as a whole. Gains both in terms of wealth and employment in recent years, as well as the structural reduction in interest rates, are to a large extent responsible for the high levels of house prices and their resistance to prolonged downturn. However, if the probability of this scenario were to rise, the Federal Reserve could attempt to “buy insurance” against slowing growth, reducing its official interest rates towards at least 4.5% in 2007. This would take 10-year rates down to levels around 4.3%.

In addition to these circumstances that can limit the effects of property market adjustment on the rest of the US economy, there are also doubts as to its impact on the world economy. The current process of globalisation has in a number of cases brought about a re-

orientation of trade flows. In the case of Asia, growth has become increasingly endogenous, strengthening the intra-regional trade ties while reducing the relative weight of the United States in Asian exports. On the other hand, the macroeconomic situation of the emerging markets is in general very positive, with several countries running a current account surplus and accumulating reserves. As a result, the macroeconomic environment is today much less vulnerable than was the case in the period prior to the financial crises in the past decade. Growth in Europe, meanwhile, is expected to reach 2.5% in 2006, a higher than expected rate. Here it is important to stress the recovery in domestic demand on the back of a strong corporate sector and a pick-up in business and consumer confidence. In this context, official interest rates in Europe are likely to rise to 4% by the middle of 2007, with the euro remaining relatively strong, at around its current levels of 1.30 to the dollar.

Stronger growth in Latin America

Against the backdrop of this positive international environment, the economic upturn in Latin America that started in 2003 has intensified during 2006, with rates of growth outstripping those initially anticipated at the beginning of the year. The region is expected to grow by 4.9% this year, which would take accumulated real growth over the last 3 years to 16%, double the advance recorded over the period 1997-2003.

As far as the external factors driving growth are concerned, it should be noted that, despite falling back from the spectacular figures posted in the first half, capital inflows since the start of this year have sustained the same high levels as in 2005. In addition to this, Latin America is the only region in the world to have fully covered its borrowing requirements by September. High international liquidity is helping to keep financing conditions relatively easy, a factor reflected in low risk premia despite this year's busy electoral calendar. One final factor to add to this picture is the fact that terms of trade are still at historically positive levels. And not only because of the price of oil, other commodities, particularly metals, have also been playing a part.

This externally-injected bonanza has received a further significant boost from the growing contribution from domestic demand to growth in the region. At the same time, external surpluses, though still robust, have been decreasing. The banking system has played an important role in this development. The expansion in credit over the past 3 years has been significant, with a real growth rate in 2006 of over 20% year-on-year. In such circumstances, it is worth highlighting the relatively contained trends in inflation. In fact, at the same time as we lifted our growth projections for the region, we have been revising down forecasts for the rate of increase of inflation. With the exceptions of Argentina and Venezuela, the region is meeting inflation targets, and overall we expect an inflation rate at the end of the year of 5.1% (compared with a forecast six months ago of 5.9% and an inflation rate in 2005 of 6.0%).

With regard to next year, we remain positive about Latin America's prospects, with GDP growth projected at 4.0% and inflation at 5.4%. At the same time, there should be further consolidation in the fiscal position, with a deficit below 1% of GDP for the fourth consecutive year and a relatively comfortable external position. The current account surplus is forecast to reach 0.9%, compared with a deficit of 2% on average over the period 1980-2002. It is nonetheless advisable to bear in mind the risks noted above in relation to the international environment, since although the Latin American economies now have stronger fundamentals, they, like all other countries, are not immune to external shocks.

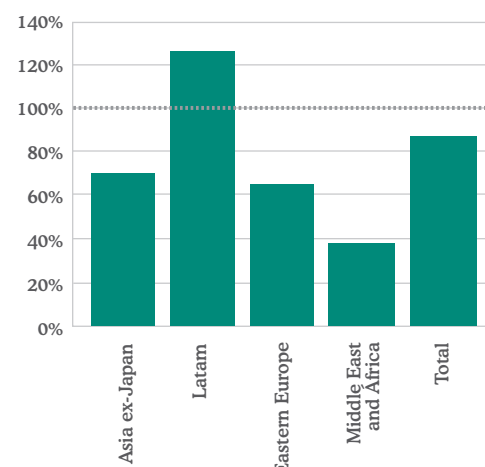
Central scenario: GDP growth by region

	2005	2006	2007*
USA	3.5%	3.3%	2.8%
EMU	1.4%	2.5%	2.2%
China	10.2%	10.4%	9.5%
Latam	4.4%	4.9%	4.0%
World	4.9%	4.9%	4.6%

Source: BBVA (*forecast)

Sovereign debt: volume issued relative to borrowing requirements

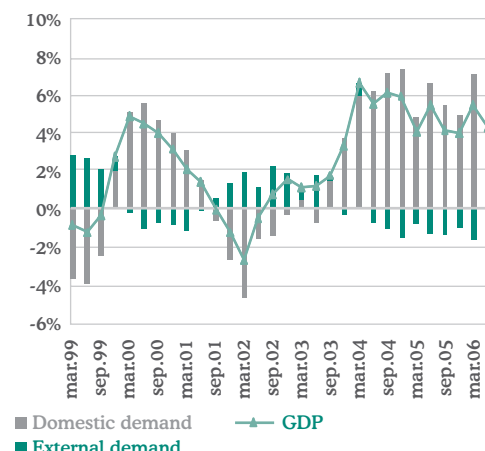
(in %)



Source: JP Morgan (septiembre 2006)

Growth in Latin America

(% yoy)



Source: BBVA

The weight of fundamentals in the oil market

Oil market analysts tend to hold one of two widely differing views. There is always one group that thinks the price of oil will rise to levels over 100 dollars and another, to which we belong, that argues that the market equilibrium price is under 50 dollars.

The Malthusian outlook

The first view (the dominant one) focuses on the structural imbalance between supply and demand. The emerging markets, led by China, are the economies in which demand for oil is strongest. The result has been a major structural change in the energy market, which has seen a fourfold increase in consumption of oil, a threefold rise in consumption of natural gas and a fivefold increase in consumption of electricity in these economies over the last 20 years.

China, together with other emerging market countries such as India, accounts for over half of growth in demand for oil in the past few years, which represents a drop in the elasticity of oil consumption to world GDP.

On the supply side, pessimism abounds, and the question that begs itself is the following: how long can oil, as a non-renewable resource, last? The obvious answer is that sooner or later oil will run out. This fundamental point is backed up by other evidence of a short term nature.

Many analysts assert that no major new oil fields have been discovered since 1980, giving rise to the suspicion that there is little more left to discover. That is to say, global oil production has already peaked and net production will start to fall: faster growth in demand than in supply is therefore structural. The obvious result of this scenario is clearly an explosive situation for oil prices. It is moreover a Malthusian view of the oil market.

A more optimistic outlook

The second view accepts many of the arguments of the first, but allows for some attenuating factors on both the demand and the supply side, similar to those discussed in Thomas Malthus' seminal work "An Essay on the Principle of Population" (1798).

On the demand side, the elasticity of oil consumption to GDP is higher than that calculated in the industrial countries given the current levels of prices. As far as the emerging economies are concerned, these countries are beginning to absorb part of the increases in demand with smaller increases in supply due to the gains in efficiency being observed in economies such as China and India.

On the supply side, it is not entirely true that no new oil reserves or production have been added since 1980. The fall in prices between that year and the latest upward cycle in oil prices, except for periods of conflict, acted as a brake on exploration and the bringing on stream of production in the more complex oilfields.

Oil projects were previously assessed on the basis of prices below 18 dollars a barrel, meaning that only about 20% of potential new reserves were economically viable. However, with today's assumed oil price of 40 dollars a barrel, almost all of the projects not considered viable are now being started up.

Concrete results of this are beginning to be seen in Canada, for instance, where production has started at a major deposit of oil sands in Alberta. This project alone represents a 14% increase in proven world oil reserves, a similar rise to the one at the time of the North Sea developments.

A similar situation exists in the Caspian Basin, the Orinoco Strip in Venezuela and in the North Sea itself, without taking into account the "marginal" reserves of the other OPEC countries.

The apocalyptic view that oil is about to run out takes little account of these factors on both the demand side and the supply side.

The idea that oil prices will converge towards an equilibrium level below 50 dollars makes allowance for these factors. The short-term divergence of prices from this level is therefore due to geopolitical risk factors and the expectations associated with the predominant position of the first of the two energy market views.

Interpreting the market...

This more optimistic view of the oil market is reflected in the events of the past three months over which oil prices have fallen by more than 25%. The reasons behind this correction are a) lower expectations of adverse supply shocks after a benign hurricane season in the Gulf of Mexico, as projected at the end of the first quarter; b) the increased likelihood of a negotiated settlement with Iran; c) the end of the Lebanon conflict and, finally, d) a possible fall in speculative trading after the heavy losses incurred by the Amaranth investment fund in the gas market. The effect of the latter has been to shift investor attention away from this type of commodity investment over the past month. It should also be added that the recent nuclear test by North Korea is expected to have little impact on the market, although it could complicate to some extent negotiations with Iran.

Some analysts believe that what mainly lies behind recent oil price developments is a slowdown, as yet not fully visible, in the global economy, essentially because oil prices and the prices of other commodities have moved downwards in tandem.

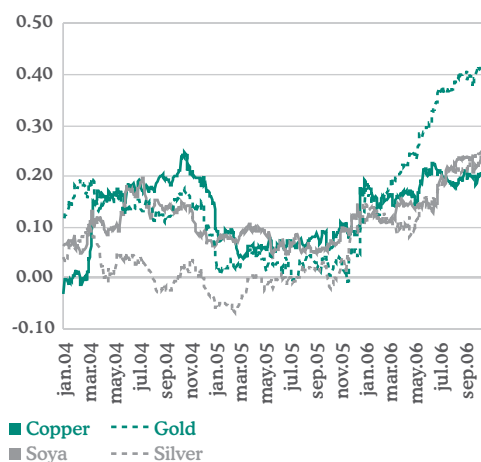
While there is indeed a perception that economic growth is slowing, in our view any slowdown will be modest. In fact, growth in the US economy in 2007 is still projected at near the level of potential GDP.

The behaviour of oil prices in the past quarter would seem to suggest that the speculative component of the commodities market is more important than previously thought. In fact, some 60 billion dollars have been channelled to these markets. The effect of a volume of speculative investment of this magnitude is clear: it generates additional and fictitious demand for commodities and puts upward pressure on futures prices.

This may be a key factor in explaining why commodities have moved together over this cycle and why, for example, the price of copper stands at over twice its equilibrium level, well beyond what the fundamentals justify. In addition to strong demand in China, there is a speculative component that is playing a key role.

One possible hypothesis, therefore, is that despite being in very different markets, commodities as a whole are tracking oil price developments, with this relationship in part being effectively due to speculative investment.

Correlation between oil and other commodity prices (12 months, daily changes)



Source: BBVA

OPEC production cut

OPEC, which is currently producing almost 1.5 million barrels a day more than its quota, has announced a plan to cut daily oil output by 1.2 million barrels in a bid to stop

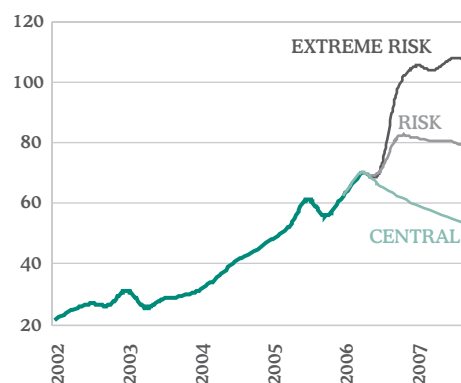
the sharp slide in oil prices observed over recent weeks. This perception of over supply in the market is reflected in the United States, where inventories have reached a five-year high, even after adjusting for demand.

The cartel members arguing most strongly for a production cut are those which find themselves producing under their current quotas, so that a cutback will not necessarily mean a fall in output. In fact, even if the supply cut is implemented, the rest of the OPEC producers will probably sacrifice production of heavy crudes.

The unknown factor in assessing the likelihood of the proposed cutback being implemented is the behaviour, given the forthcoming elections to the US Congress, of the countries within OPEC allied with the United States.

A further factor to be considered is that since 2002 increased supply and rising US inventories have been accompanied by higher prices. Prior to that, oil prices and the stock of reserves showed a strong negative correlation. A key variable that must be taken into consideration is the price expectations associated with the spare production capacity of producing countries. The greater the capacity for increasing production, the greater the perception that the market is prepared to withstand the geopolitical risk factors of a possible partial loss of production in one of the oil-producing countries.

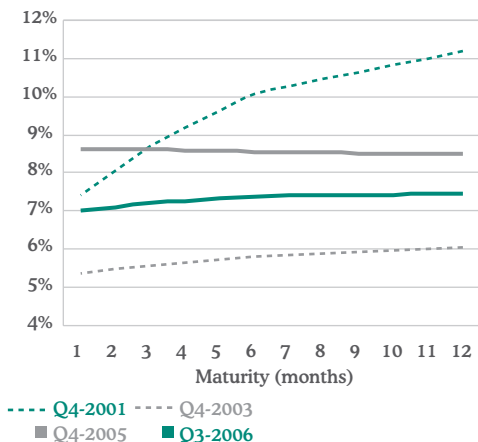
Oil scenarios (in USD)



Source: BBVA

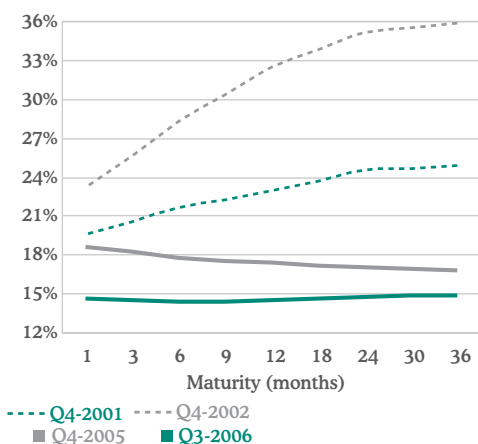
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Graph 1:
Mexico: term structure of interest rates



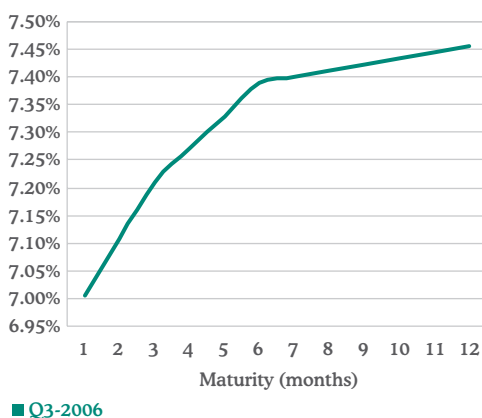
Source: BBVA using Bloomberg data

Graph 2:
Brazil: term structure of interest rates



Source: BBVA using Bloomberg data

Graph 3:
Mexico: term structure of interest rates



Source: BBVA using Bloomberg data

II. Under the Microscope

Using the Term Structure of Interest Rates to Predict Recessions

The Term Structure of Interest Rates and expectations

The most widespread definition of the Term Structure of Interest Rates, henceforth referred to as TSIR, is the curve which represents the relationship between yields and maturities of risk-free zero-coupon bonds.

Its most immediate use is as a means of measuring the theoretical prices of financial assets and discounted future cash flows. It serves as a point of reference for valuing fixed-income instruments (bills, notes, bonds, warrants), and for any other type of debt whether it be corporate, bank or international. It is an indispensable tool in creating portfolios of fixed-interest instruments, and in the valuation of fixed-income derivatives as well as physical assets. Its use is not confined to operators in the financial markets. It is also a basic tool in macroeconomic analysis. TSIR is used to derive information on future spot interest rates. Since spot rates are comprised of a component which is the real rate and another which factors in future inflation, another use to which TSIR is put is to gauge whether the yield curve correctly predicts inflation and future real interest rates.

Given its ability to predict spot rates, TSIR is also used to forecast the level of economic activity. The empirical evidence found in developed countries indicates that a strongly upward sloping yield curve anticipates economic acceleration, while an inverted or negative yield curve is a forewarning of a recession.

There are a number of alternative theories which attempt to explain the shapes the TSIR takes¹. However, none of these are totally satisfactory given the empirical evidence. Depending on the particular moment in time, the different theories throw up results which are more or less consistent with the observed market data.

Among these different theories, the most common in the literature is the theory of rational expectations. In its purest form, the theory assumes agents are risk neutral, which means that the term interest rates implied by spot rates in the TSIR reflect the expectations agents have about future spot rates.

The pure expectations theory states that the expected value at $t=0$ of the spot rate at s years in place between the future periods $n-s$ and n , and which is unknown at $t=0$, is equal to the implied forward rate at s years in the current TSIR for the period between $n-s$ and n .

$${}_s f_n = E_0 [{}_s i_n]$$

According to this theory, the spot rate for any maturity m years can be represented as the combination of the one-year spot rate and all the implied one-year forward rates to m .

$$e^{i_m \times m} = e^{i_1 \times 1} \prod_{n=2}^m e^{i_n \times 1}$$

The theory of liquidity preference introduces the concept of aversion to risk. This theory states that implied forward rates in the TSIR are the expected value of future spot rates plus a risk or liquidity premium which factors in the maturity risk.

$${}_s f_n = E_0 [{}_s i_n] + h_n$$

¹ For a more detailed analysis of the theories regarding the shape of the TSIR, see Rodríguez Barrio (1996).

Since it is impossible to know the expectations held by agents with regard to future interest rates, in practice different approaches are accepted as valid. In any case, it seems clear that agents do not always formulate their expectations in the same manner, since at times they will demand a risk or liquidity premium for investments with longer maturities, while at other times no premium is asked for, or this in fact could be negative.

In an attempt to validate the data, different theories are combined. For example, the market segmentation theory (which assumes the fixed-income market is segmented along maturity lines in such a way that asset prices are formed independently for each term segment) co-exists with the rational expectations theory with liquidity preference. The US Federal Reserve, for example, has in the past few months worked under the assumption of this Modified Expectations Theory to explain the current TSIR².

In any case, independent of how agents form expectations, it is clear that the analysis of implied rates is important, given the information it provides on future spot rates, and therefore, future economic activity.

Is the TSIR a useful tool for predicting economic growth?

In order to gauge the ability of the TSIR under the rational expectations theory to predict future economic activity, we propose the following estimation³:

$$g_{t+h} = \beta_1^{m,n} + \beta_2^{m,n} [i_t^m - i_t^n] + u_t^{m,n} \tag{1}$$

for $h = 1, \dots, 4$ and m and $n = 1, \dots, 36$; with $m < n$.

Where annualised growth between quarter t and $t+h$ is given by the slope of the curve. For the slope of the curve we have used different combinations of spot rates for instruments with maturity terms m and n .

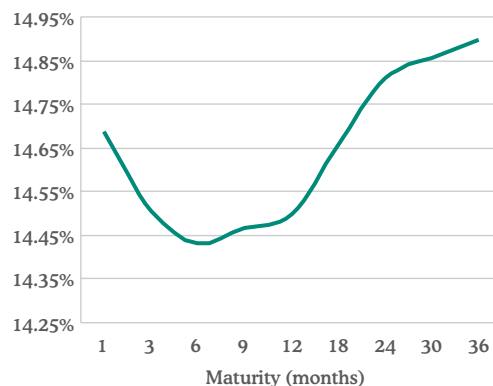
The analysis focuses on Brazil and Mexico, using money market data. The results for the ability to predict changes in economic growth two and three quarters ahead are given in Tables 1 and 2. In the case of Mexico, the results obtained for all the maturities indicate that the slope of the curve is not a useful tool for predicting economic growth.

However, in the case of Brazil there is evidence that the curve is useful in this respect. With a timeframe for predicting the level of economic activity of 1-4 quarters, the estimates provided by the TSIR do show a certain ability to forecast GDP growth. Independent of the measurement for the slope, the results are relatively poor in the case of predicting GDP growth one quarter ahead. However, the model gains in forecasting power in the case of between two and three quarters, only for this to diminish when it comes to predicting accumulated growth in the next 12 months.

As regards the interest rates which provide the best results, the 3-month instrument is undoubtedly the best choice at the short end of the curve, and the yield on an instrument of between two and three years at the long end of the TSIR.

Graph 5 shows the relationship that exists between the slope of the TSIR, as measured by the difference between the spot rate at three years and the spot rate at three months, and economic growth accumulated in the three quarters following the point of observation of this slope.

Graph 4:
Brazil: term structure of interest rates



■ Q3-2006

Source: BBVA using Bloomberg data

Table 1. Results of the estimation of (1) for h = 2

$$g_{t+h} = \beta_1^{m,n} + \beta_2^{m,n} [i_t^m - i_t^n] + u_t^{m,n}$$

m,n	Brazil			Mexico		
	beta2	s.d.	R2	beta2	s.d.	R2
6.1	-0.66	0.26	0.19	-0.35	0.84	0.01
6.3	-1.16	0.45	0.20	0.35	1.63	0.00
9.1	-0.51	0.20	0.18	-0.28	0.67	0.01
9.3	-0.75	0.30	0.18	0.06	1.12	0.00
9.6	-1.68	0.87	0.10	-0.97	3.19	0.00
12.1	-0.41	0.16	0.17	-0.22	0.55	0.00
12.3	-0.54	0.23	0.16	-0.02	0.84	0.00
12.6	-0.84	0.44	0.10	-0.48	1.59	0.00
12.9	-1.68	0.87	0.10	-0.97	3.19	0.00
24.3	-0.41	0.12	0.19			
24.6	-0.49	0.21	0.13			
24.12	-0.77	0.51	0.05			
36.3	-0.36	0.12	0.18			
36.6	-0.41	0.19	0.11			
36.12	-0.58	0.38	0.05			

Source: BBVA

Table 2. Results of the estimation of (1) for h = 3

$$g_{t+h} = \beta_1^{m,n} + \beta_2^{m,n} [i_t^m - i_t^n] + u_t^{m,n}$$

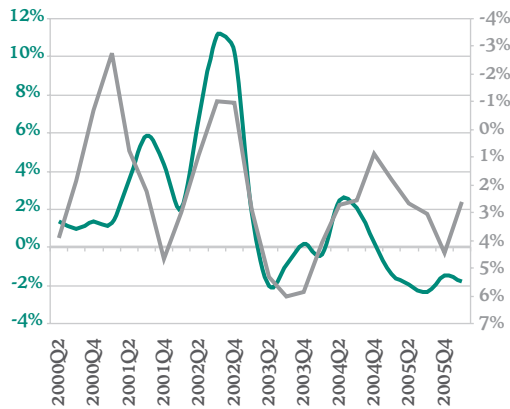
m,n	Brazil			Mexico		
	beta2	s.d.	R2	beta2	s.d.	R2
6.1	-0.50	0.21	0.18	-0.29	0.56	0.01
6.3	-0.90	0.34	0.20	0.35	1.23	0.00
9.1	-0.40	0.16	0.18	-0.23	0.46	0.01
9.3	-0.61	0.23	0.19	0.07	0.87	0.00
9.6	-1.50	0.68	0.14	-0.90	2.68	0.00
12.1	-0.33	0.13	0.18	-0.19	0.39	0.01
12.3	-0.44	0.17	0.18	-0.01	0.66	0.00
12.6	-0.75	0.34	0.14	-0.45	1.34	0.00
12.9	-1.50	0.68	0.14	-0.90	2.68	0.00
24.3	-0.36	0.09	0.25			
24.6	-0.47	0.14	0.20			
24.12	-0.85	0.37	0.13			
36.3	-0.32	0.09	0.24			
36.6	-0.40	0.13	0.19			
36.12	-0.65	0.27	0.13			

Source: BBVA

² See Bernanke (2006).

³ Due to the existence of heteroskedasticity and autocorrelation caused by the overlap of prediction horizons of the different equations, we have duly corrected the standard errors using the Newey and West method (1987).

Graph 5:
Brazil: yield curve and growth*



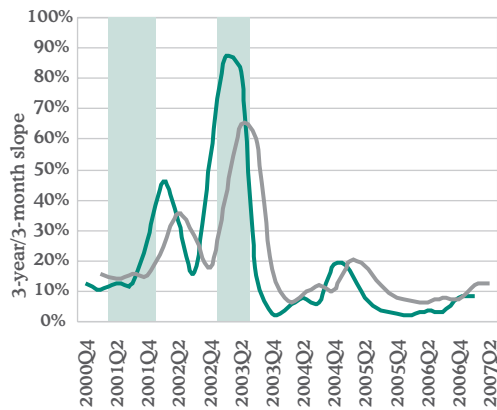
■ 3-year/3-month slope

■ GDP growth

* Each point represents the slope of the yield curve at that time and economic growth 3 quarters later.

Source: BBVA

Graph 6:
Brazil: probability of recession as estimated by the TSIR



■ Probability with 2 quarters ahead

■ Probability with 3 quarters ahead

* Shaded areas indicate an economic recession

Source: BBVA

Both in the case of Brazil as well as Mexico (although in the latter case the results are not significant), the empirical evidence consistently shows that positive slopes predict lower or even negative growth rates, while an inverted TSIR is symptomatic of greater growth in the following quarters.

This outcome is contrary to the evidence found in the case of developed countries. One possible explanation for this relates to the expectations of agents and confidence in monetary policy. In a country such as the US, faced with the current inflation shock, expectations of future inflation do not shoot up, which is why short-term rates are raised while long-term rates remain relatively steady, leading to a negative slope in the curve. Thus, a negative slope predicts lower inflation, but with an accompanying fall in growth in the following quarters.

In developing countries, the markets do not perceive inflation as a transitory phenomenon. In the face of an inflationary shock, expectations for inflation shoot up on the assumption of greater inflation in the future. This causes a shift in the entire curve both at the short and long ends. In the face of these expectations, the central bank and/or the government is forced to offer higher yields for all maturities. Thus, with a positive slope, the country grows less or falls into a recession in the following months.

The ability of the TSIR to predict recessions

To complete the above study, we have tested the ability of the TSIR to predict recessions. In order to do so, we have formulated the following probit model with the aim of determining the probability the TSIR assigns at each moment of time to a recession taking place in the following months. The absence of long series of interest rates is of greater importance here, given that the number of recessions countries face in the period under study is low.

Defining the binary variable $recess=0$ as the case of no recession, and $recess=1$ when a recession is indicated in the quarter⁴, we have:

$$P[recess_{t+h} = 1 | i_t^m - i_t^n] = F[\beta_1^{m,n} + \beta_2^{m,n} [i_t^m - i_t^n]], \quad (2)$$

for $h = 1, \dots, 4$ and $m, n = 1, \dots, 12$

Once again, in the case of Mexico the figures do not provide any results of significance. On the other hand, in the case of Brazil, the estimates obtained are significant. As in the above case, the 3-year – 3-month slope is the most suitable instrument to use. For timeframes above three quarters and below two, the TSIR completely loses its ability to predict recessions. However, the situation is different for cases of between two and three quarters. Graph 6 shows that in July 2002, the TSIR assigned a probability of more than 80% to negative GDP growth rates from the start of 2003. The probability a quarter earlier, in April, of this taking place was almost 60%. The fixed-income markets, however, failed to discount the recession of 2001, given that this was the result of an unexpected energy shock in the middle of a recovery phase in the economy.

⁴ We use the normal macroeconomic definition of recession as stated by the NBER: two consecutive quarters of negative growth measured by the seasonally-adjusted quarter-on-quarter rate.

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Towards a correct evaluation of macroeconomic risk: The case of the output gap

The uncertain output gap

The so-called “output gap” (1) is a key factor in determining the ability of a country to keep inflation steady, while sustaining economic growth in the short term. As a result, assessing this ability is a major source of interest and effort on the part of the research departments of central banks and large corporations in the private sector.

It is common for studies on potential output and the output gap to confine themselves to an estimate of these variables (the “expected value”) for any given point in time. This approach is highly risky given the high degree of uncertainty linked to estimating potential output due both to unobservable shocks which change the direction of this variable as well as the lack of a fully satisfactory method for estimating it, and the subsequent plethora of alternative methods available (the results of which normally differ significantly).

It is therefore necessary to supplement these spot estimates (whatever the method used to derive them) with measurements of uncertainty and risk scenarios which allow a more cautious valuation of the possibilities of a widening of the output gap, which could eventually lead to a pick-up in the pace of inflation and/or a slowdown in economic growth in the short term.

In this sense, ideally one should be able to draw on a complete specification for the probabilities associated with the different possible values of potential output (and therefore the output gap) in the particular period under consideration. Fortunately, the huge capacity of modern computers allows us to achieve this at a very low cost using stochastic simulation (Monte Carlo simulation) of the statistical model which is considered to be ideal for obtaining spot estimates.

The simulation allows us to supplement the “expected value” of potential output, which is only an average of all the possible trajectories (2) with analysis of different trajectories or groups of particular trajectories (simulations), and estimate on the basis of these the probabilities associated with different scenarios (especially those considered to be most “dangerous”, which is to say, those which one should protect against).

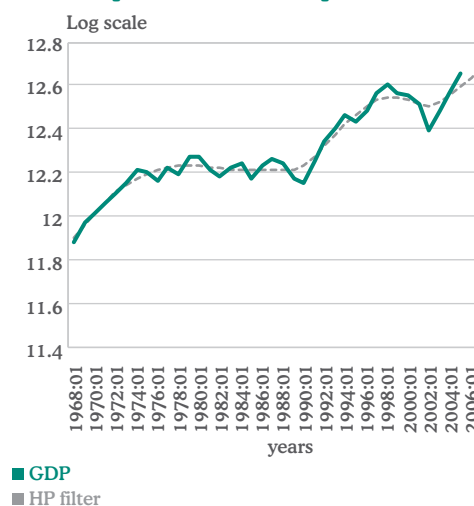
Argentina as an illustrative case

We present below by way of simple illustration, but nonetheless applicable in general, the application of the approach we propose in estimating potential output and the output gap in Argentina in 2005, using one of the most simple and commonly used estimates for the potential output and output gap of a country, namely the “Hodrick-Prescott Filter” (HP Filter).

Graph 1 shows Argentina’s GDP for the period 1975-2005 along with a spot estimate (expected value) of the potential output using the HP filter, with $\lambda=7$ (3), including its projected value for 2007. This gives us an “expected” output gap for 2005 of around 6%. However, a prudent evaluation of risk, as defended above, requires the analysis

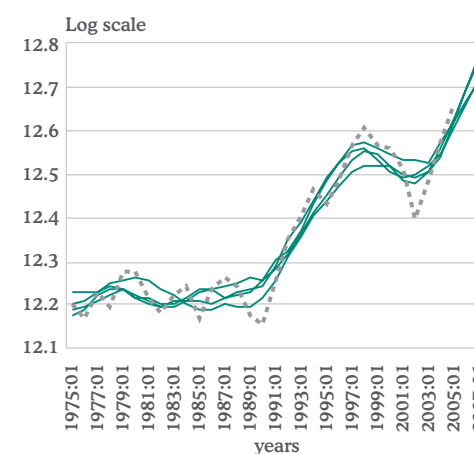
of individual trajectories for possible potential output given the GDP data observed. Graph 2 shows four of these (along with historical GDP data), which result from the HP Filter simulation for the same value of λ (details of the simulation method used are provided in the Technical Appendix).

Graph 1:
GDP and expected value of potential output



Source: IMF and BBVA estimates

Graph 2:
GDP and simulations of potential output

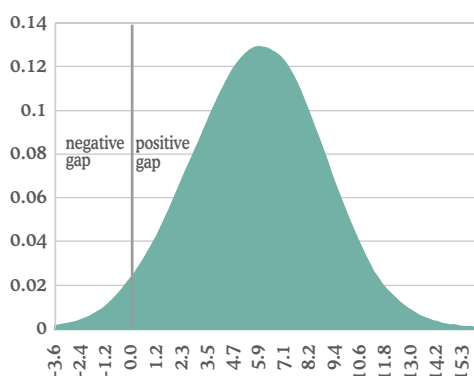


Source: IMF and BBVA estimates

The contribution of the simulations lies in the fact that on the basis of a sufficiently large number of these one can estimate the probability distribution of the output gap for each year. In particular, Graph 3 shows the output gap distribution for 2005 based on 5,000 simulations (each simulation is the result of subtracting from the GDP value for 2005 a simulated value for potential output for this year, with both values represented logarithmically).

Using this distribution estimated in the above manner, it is possible to calculate the probability associated with any scenario for the relevant output gap under consideration. For example, the probability of the output gap being negative in 2005 (GDP below potential output) is given by the area of the distribution to the left of zero. The resulting value of this is under 5%. Similarly, the probability of the gap being equal to or greater than 2% is 90%.

Graph 3:
Distribution of output gap



Source: IMF and BBVA estimates

However, these results could change appreciably according to the value assigned to λ (see note 3). Therefore, before assigning too much credibility to these results, one should evaluate their sensitivity to variations in this parameter within the series of values as a whole which can be considered reasonable options, as well as the changes produced by using alternative methods to the HP Filter.

Notes:

- (1) The output gap is the difference between GDP (the real volume of goods and services produced in an economy at any given time) and the potential output (the value to which GDP converges in the long run with the same stock of available factors of production and technology in the period in question). The importance of the gap lies in the fact that its size is directly related in the short term to the rate of inflation and inversely related to the rate of economic growth.
- (2) The spot estimate for potential output aims to give an approximation to the “expected value”, which represents the average value of all the possible trajectories, and which under the usual assumptions of symmetry and unimodality of the distribution of shocks also represents the value around which most of the probability is grouped.
- (3) In our case, the value we assign to λ aims to make the trend GDP component resulting from the application of the HP Filter correspond in the best way possible to the contemporary idea of potential output, according to which the gap between GDP and potential output is a key determinant of inflation and the rate of economic growth in the short term. In order to achieve this, λ was assigned the value which maximizes the power of prediction of the difference between GDP and the trend generated by the HP filter for inflation and economic growth within the context of a bivariate vector autoregression model which includes this difference as an error correction term.

Technical Appendix

For the HP Filter simulation, we start from the equivalent form of this using the following model of unobserved components for gross domestic product:

$$\begin{aligned}
 (1) \quad & Y_t = \mu_t + v_t \quad \text{con } v_t \sim N(0, V) \\
 (2) \quad & \mu_t = \mu_{t-1} + \beta_t \\
 (3) \quad & \beta_t = \beta_{t-1} + \omega_t \quad \text{con } \omega_t \sim N(0, V/\lambda)
 \end{aligned}$$

Where Y_t represents GDP, μ_t and β_t are unobservable components, which in our example represent the level and annual change in potential output, while v_t and ω_t represent the shocks (also unobservable) which respectively cause GDP to deviate from its potential level and change the trajectory of potential output.

The estimate (expected value) for μ_t produced by the HP Filter for a given value of λ is equivalent to that obtained by applying the “Kalman Filter” to the state-space representation of the above model of unobserved components (1)-(3) for the same value of λ . The procedure we have used to simulate the above model is as follows:

- (i) We begin by using the historical data for Y for the period $t=1$ to $t=T$, for the estimate of the expected value of μ_t and the value of V obtained by maximum likelihood.
- (ii) We assume that the value of μ_t for the first two periods of the sample of available data (μ_1 and μ_2) is equal to the spot estimate (expected value) obtained using the Kalman Filter and that the true value for V is equal to its estimated maximum-likelihood.

(iii) Given these assumptions and taking the observed historical values for Y_t , as given, simulations of different trajectories of v_t and ω_t for $t=3,4,\dots,T$ are carried out, in such a way that the i -th of these simulations satisfies (in addition to the mutual normality and independence of the random variables v_t, v_s, ω_t and ω_s for all t and all s) the following condition (which guarantees that these are conditioned by the historical values of Y_t):

$$\omega_t^i + v_t^i = Y_t - 2\mu_{t-1}^i + \mu_{t-2}^i$$

(iv) On the basis of the values of v_t^i and ω_t^i thus obtained, the i -th simulation for the value of m_t is derived directly from the recursive application of the equations (2) and (3) of the model, which are summarised in the following expression:

$$\mu_t^i = 2\mu_{t-1}^i - \mu_{t-2}^i + \omega_t^i$$

All the estimates and simulations were carried out using Windows RATS econometric programme (version 6.20).

Methods for estimating human and physical capital: an application for Venezuela

This paper briefly describes the procedure for estimating the stock of net fixed capital by means of the perpetual inventory method (PIM), and for deriving a proxy for the stock of human capital, adjusting the economically active population with an estimate of the return on education based on a version of the Mincer equation. Finally, we apply these methodologies to the particular case of Venezuela.

Net fixed capital stock¹

There are essentially two ways of measuring the capital stock of a country. One of these is to use direct information, that is, to calculate the quantity of capital goods for each year. The other is based on indirect information, for example by accumulating data on gross fixed investment for a sufficiently long series of years. The latter approach is the PIM, which is the one we describe in this paper and apply in our estimation of the capital stock in Venezuela.

The first step in the perpetual inventory approach is to determine a pattern of retirements of capital goods based on a survival function. One frequently-used distribution in this type of calculations, for the pattern of retirements it implies and the simple relationship between its parameters, is the Erlang distribution derived from the Gamma distribution function.

The stock of gross fixed capital is defined according to the following expression:

$$KBF_t^i = \sum_{j=0}^{T_i} IBF_{t-j}^i \cdot [1 - f(\alpha, \beta, j)]$$

where KBF_t^i = Gross fixed capital stock of asset type i in t , IBF_t^i = Gross fixed capital investment, T_i = Maximum life of asset type i , and $f(\alpha, \beta, j)$ = survival function.

The Gamma distribution is given by:

$$f(x, \alpha, \beta) = \frac{1}{\beta^\alpha \cdot \Gamma(\alpha)} x^{\alpha-1} e^{-x/\beta},$$

where $\Gamma(\alpha)$ is the Gamma function; if the parameters α and β are entirely positive this is then referred to as the Erlang distribution.

In order to obtain the net stock of fixed capital (KFN), one must adjust for depreciation the series for the gross fixed capital stock. To do so, we employ the adjusted geometric depreciation function, since it is considered to be the one that best captures the phenomenon of obsolescence that we wish to quantify.

$$KFN_t^i = \sum_{j=0}^{T_i} IBF_{t-j}^i \times (1 - f(\alpha, \beta, j)) \times (1 - v/T_i)^j$$

where $(1 - v/T_i)^j$ is the factor of adjustment and v/T_i the rate of depreciation. Adjusted geometric depreciation includes an adjustment parameter for efficiency "v", which makes it possible to vary the speed of adjustment between different types of capital goods.

¹ The methodology described follows that proposed by Palacios, Puente and Gómez (2005) in an application of the PIM for Venezuela.

Stock of human capital

The contribution made by workers to the production of goods and services depends on their skills and knowledge. For this reason, if we are to accurately gauge their contribution to GDP, we must adjust the employment series for these two variables.

One estimate of these skills and knowledge is the average schooling of the population. Assuming perfect competition in a regression of real wages based on the years of schooling of employees, the coefficient associated with years of schooling gives an estimate of the return on education and its productivity. This is what Mincer (1974) proposed:

$$\log(w_i) = \alpha + \beta_0 S_i + \beta_1 X_i + \beta_2 X_i^2 + \varepsilon_i$$

where w is real wages, S years of schooling, X work experience and ε a stochastic shock with mean 0 and variance σ^2 .

When estimating this equation the ideal situation is to have available a panel data set for the variables under consideration, that is, observations of these variables for different individuals at different moments in time. Alternatively, the addition of signals to Mincer's original equation can be undertaken on the basis of cross-sectional data using artificial cohorts, as in the study by Sapelli (2003).

Given that this type of data is unavailable, we propose an aggregate estimation of the Mincer equation, using time series methods, as defined in the following equation:

$$\log(w_t) = \alpha + \beta_0 S_t + \beta_1 \log(\text{pib}_t) + \beta_2 \log(\text{emp}_t) + \varepsilon_t(1)$$

where t represents time and output and employment have been added as control variables. Since it is easy to imagine a potential simultaneity problem between these variables and average wages, the equation was estimated using the instrumental variables method.

Estimated stock of physical capital in Venezuela for the period 1950-2005

In the estimation of the net capital stock, the capital goods considered in the case of the non-oil sector were residential construction, non-residential construction, machinery and equipment, transportation equipment and other capital goods. For the oil sector, it was possible to break down capital goods into non-residential construction and machinery and equipment. Table 1 reports the parameters used in the estimation of the gross and net capital stock.

Having estimated the stock of capital by type of good, we proceed to aggregate the different stocks in order to determine the total capital stock, both for the oil and the non-oil sector, by summing the components. Graph 1 shows the evolution of the net fixed capital stock by components for the non-oil sector.

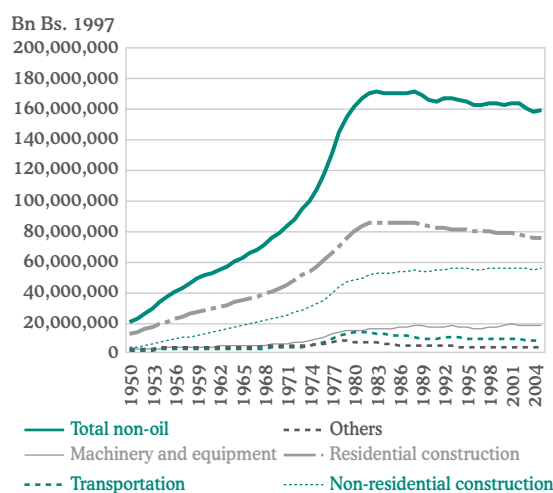
It is interesting to note that most of the components show no growth since the beginning of the 1980s, with a notable contraction in residential construction. This graph suggests that low investment has played a key role in the prolonged stagnation of the non-oil sector in the Venezuelan economy. Earlier studies, in addition to highlighting this phenomenon, show that not only has investment been scarce, but that the use of the factors of production has been very inefficient.

Table 1. Parameters for capital stock estimations

	OIL SECTOR			NON-OIL SECTOR		
	NRC	MACH	RC	NRC	MACH	TRANS OTHERS
E(x)	32	8	50	45	14	12 10
Var(x)	128	16	250	225	28	24 20
Estand.Dev.(X)	11.31	4.00	15.81	15.00	5.29	4.90 4.47
Efficiency (V)	1.25	1.50	1.00	1.00	1.25	1.25 1.25
alfa	8	4	10	9	7	6 5
beta	4	2	5	5	2	2 2

Source: BBVA

Graph 1: Non-oil net fixed capital stock



Source: BBVA using BCV data

Estimated stock of human capital in Venezuela for the period 1950-2005

The estimation of (1) for the period 1958-2003 provides us with a return on investment in education of 14.4%, a figure relatively close to the one Sapelli found for Chile (13.2%). However, given the low significance of the parameter of interest, we have carried out a Bayesian estimation exercise². The results, which have the expected sign and magnitude, as well as an acceptable level of significance, are presented in Table 2.

The next step is to use the rate of return to adjust employment: Adjusted employment = Employment * $e^{0.144t}$.

Graph 2 shows the evolution of employment and employment adjusted for quality for the period 1950-2005. As might be expected, the dramatic rise in the school attendance of the population during the period considered results in the series adjusted for quality sloping upwards more steeply (growth) than the non-adjusted series.

Of even greater interest than the above graph is to study the dynamics of the employment variable, comparing the rates of growth of employment before and after adjusting for quality during different periods. The results of this comparison show that although the series defined taking into account individuals' education is always more dynamic, this dynamism is losing momentum. This deceleration, together with that shown by the stock of capital, to a large extent explain the prolonged period of stagnation of the Venezuelan economy.

² For each of the regression parameters, we establish a priori normal independent distributions. In the case of α , β , y β_0 , they are diffuse (arbitrarily wide variances), but for β_0 it does provide useful information, with an average value of precisely the value of the return parameter estimated by Sapelli for Chile (13.2%), and with a variance in a proportion of 3 to 1 to the sample variance estimated by maximum likelihood (σ^2); more specifically, the a priori variance of β_0 was fixed at $3\sigma^2/\lambda^2$.

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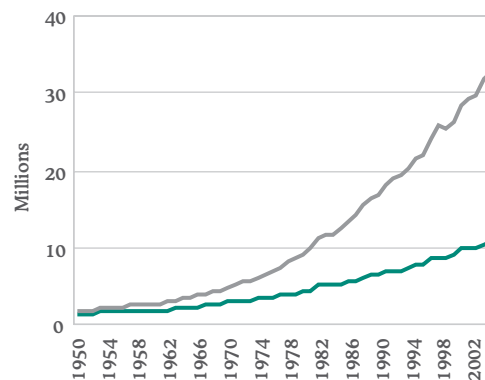
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Table 2. Dependent variable: log of real wages

Variable	Coefficient	P-value
Constant	15.81433680	0.00011778
S_t	0.13181841	0.05177696
log(pibt)	2.35490978	0.00000002
log(empt)	-2.41175597	0.00000000

Source: BBVA

Graph 2: Employment and employment adjusted for quality



■ Employment
■ Adjusted employment

Source: BBVA using INE data

Table 3. Employment growth in different decades

	A Employment	B Adjusted Employment	B/A
50-59	2.87%	4.47%	1.56
60-69	4.43%	5.95%	1.34
70-79	4.00%	6.61%	1.65
80-89	4.59%	6.70%	1.46
90-99	3.61%	4.58%	1.27
00-05	2.00%	2.50%	1.25

Source: BBVA using INE data

Gas pipeline network and gas reserves in the Southern Cone



Source: The Economist

Gas integration in Latin America

The Latin American economies are facing a situation in which natural gas is growing in importance in their energy portfolios. Although the region has around 4% of proven world reserves, most of these are found in the north (Venezuela and Trinidad Tobago in the Caribbean, and Bolivia and Peru in the Andes), while demand is concentrated in the south. Given this situation, integration on a large scale presents itself as a natural solution to solving this imbalance between gas supply and demand, while at the same time fostering economic integration in the region.

However, attempts to do so have so far failed. Beyond the barriers resulting from the different degrees of economic development in different countries (and as a result different levels of development of their gas markets), the main obstacle to energy integration lies in a lack of political will (either as a result of unresolved diplomatic disputes or because of over-intervention by the state) and, above all, the doubtful economic and technical viability of the proposals that have been put forward to achieve this integration.

Energy imbalance

Demand is concentrated in the Southern Cone (Brazil, Argentina and Chile), where gas consumption has been growing at double-digit rates for years. Although the main importers are Chile and Brazil, the latter is poised to significantly increase domestic output in the next few years. On the other hand, Argentina could shortly move from being an exporter to a net importer of gas.

Brazil in fact plans to increase net output from 16 million cubic metres per day (MM m³/d) at present to 40 MM m³/d before 2009¹. In addition, Petrobrás plans to start at the end of 2008 large-scale production of an undersea field in Bahía de Santos, where output in 2011 is forecast to reach 30 MM m³/d. If these plans are successfully implemented, Brazil will cover 60% of its own gas needs².

There are two main poles of activity on the supply side in the region. On the one hand, Trinidad and Tobago and Venezuela in the Caribbean together have 70% of the region's reserves. Although Trinidad is an important producer, Venezuela without doubt has the greatest potential due to its vast reserves. Although a large part of these are found "linked" to oil reserves³, the exporting potential of the country (which has yet to be exploited) is still high. Its closer proximity to North America makes this market the obvious economic alternative (as is already the case with gas from Trinidad and Tobago and oil from Venezuela), although factors of a political nature could lead to the south of Latin America acquiring greater importance on the demand side in the future.

Bolivia and Peru have fewer reserves although they are closer to demand centres. The percentage of these reserves linked to oil is also much lower. In addition, domestic demand in these countries is still low, which significantly boosts their export potential, particularly in the case of Bolivia. The reliance of both of these countries on exports of hydrocarbons for revenues is very high, as is their need for private investment, particularly foreign, given their limited technical and financial capacity to exploit the resources.

¹ The projected increase will come mainly from two basins in which Petrobras has been working for years: Bahía de Campos and Espírito Santo.

² For estimated maximum demand of 121 MM m³/d in 2011.

³ This refers to gas extracted along with oil. A part of this gas is reinjected into the oil well to maintain it in optimum production conditions. Venezuela's membership in OPEC requires it to respect oil production quotas, which indirectly limits its potential output of gas.

The main exporters of gas are Argentina and Bolivia. The former has traditionally supplied Chile (6-7 BCM/y),⁴ although for the past three years it has encountered serious problems in guaranteeing supply due to a lack of investment incentives for exploration and production and strong domestic demand growth, both of which are the result of domestic price control policies. With scant capacity to increase domestic production (and with a ratio of reserves to output of only 11 years) within 5-10 years, Argentina could shortly become a net importer of gas⁵.

In fact, Argentina already imports between 5 and 8 MM m³/d of gas from Bolivia, and their governments have just agreed a 20-year extension to their current contract. The amount to be imported will be increased to 16 MM m³/d by the middle of 2008 and to 27.7 MM m³/d from 2010 at an initial price of US\$5/MM BTU, which will be reviewed on a quarterly basis in line with changes in international fuel oil and diesel prices⁶. However, extensive investment will be needed in order to fulfil the terms of the contract. On the one hand, Bolivia will need to invest at least one billion US dollars to increase its output, and the new 1,500km-long Northeast Gas Transmission Pipeline linking the two countries could cost close to US\$1.3 billion to build.

The decline of Argentina and the rise of Bolivia

In the wake of the crisis in Argentina, Bolivia has emerged as the big potential gas supplier of the Southern Cone. As a result of the sector opening up to foreign investment, capital expenditure on exploration and development of gas fields in the period 1997-2004 amounted to close to US\$5 billion. As a result, big projects were put forward to extend the country's gas pipeline network to Brazil, Argentina and also Chile, where a liquefied natural gas (LNG) terminal was planned with a view to exporting to the US West coast.

However, widespread demonstrations against these projects took place in Bolivia. These protests led to the approval of a new Hydrocarbons Law in May 2005, which cancelled the LNG project in Chile, and increased taxes on production from 18% to 50%. A year later, the new president of the country, Evo Morales, decreed the complete nationalization of the country's hydrocarbons industry, and raised taxes on the two main gas fields to 82%⁷.

The vagueness of the Nationalization Decree (No. 28701) leaves it unclear whether it involves a total or partial takeover, in that it does not imply the expropriation of assets, but does refer to total control of the industry's operations and output. Foreign companies, which have as yet not sought recourse for compensation through international arbitration, are currently in the final stages of renegotiating production contracts

Export prices of Bolivian gas to Argentina and Brazil are currently between US\$4-5/MM BTU⁸. These prices are close to the levels seen in the past few days in the international markets⁹, which may lead the Bolivian government to review its plan to increase export prices to Brazil to above US\$6-7/MM BTU.

⁴ 1 BCM = 103 MMm³. Argentina also exports some gas to Brazil and Uruguay.

⁵ The tariff freeze introduced as a result of the crisis in Argentina in 2001 brought a halt to expansion in exploration and production. Between 2000 and 2004 the country's gas reserves fell 35% and since 2005 supplies to Chile have been seriously affected during peak demand. So far, good hydroelectric conditions have allowed Chile to avoid an energy crisis, but the partial stoppages in two large Argentine electricity plants (8% of installed capacity) will add to tensions in the energy balance between the two countries in the coming southern summer. Argentina may even not renew one export contract or another with Chile in 2007.

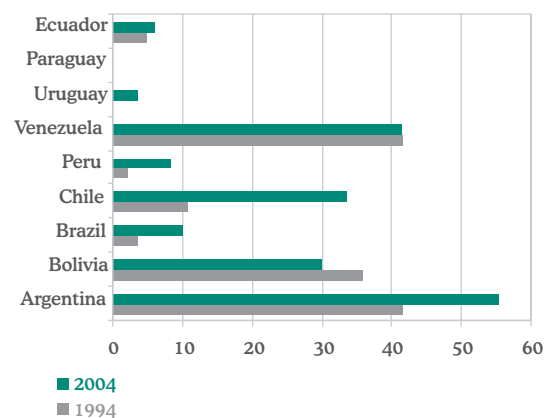
⁶ BTU (British Thermal Unit), an energy measurement unit in which gas prices are usually stated. 1USD/MM BTU is equivalent to about US\$36,000/MM m³.

⁷ The San Antonio and San Alberto fields account for 70% of the country's current output. The fields are operated by Petrobrás, Repsol and Total.

⁸ International gas pipeline headline prices. The final gas price for the consumer also includes the cost of transportation in the domestic network.

⁹ The price of gas in the US (Henry Hub) stands on average at US\$6.6/MM BTU for the whole of 2006.

Percentage of natural gas in energy portfolio 1994 vs 2004



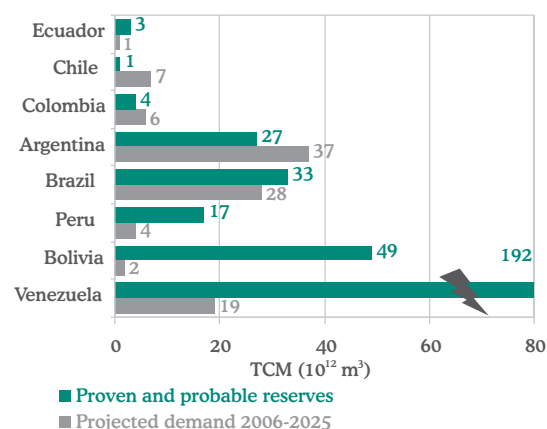
Source: Enerdata

Gas reserves in Latin America as at 31/12/2005

Country	Reserves (% LatAm)	Reserves/Production (years)
Argentina	7%	11
Bolivia	11%	71
Brazil	4%	27
Colombia	2%	17
Peru	5%	>100
Trinidad	8%	19
Venezuela	61%	>100
Others	2%	88

Source: BP Statistical Review 2006

Gas reserves and future demand



Source: The Economist

Description of the international gas pipeline network in Latin America

Country	Gas pipeline	Investment (Mill.USD)	Capacity (Mill m ³ /día)	% use
Argentina-Chile	Norandino	241	5	48%
	Atacama	230	9	28%
	Gasandes	162	10	54%
	Pacifico	150	3,5	27%
	Methanex YPF	2	2	94%
	Methanex SIP	3	1,3	98%
Argentina-Brazil	Methanex PAN	7	2	80%
	TGM (Uruguayana)	125	2,8	33%
Argentina-Uruguay	Petrouuguay	4	1	8%
	Cruz del Sur	40	6	3%
Total Argentina		964	42,6	40%
Bolivia-Brazil	Gasbol	2100	30	77%
	Lateral Cuiabá	120	2,8	50%
	Uruguayana-Porto Alegre	180	2,8	64%
Bolivia-Argentina	Yabog I	n.a.	8,2	79%
	Total Bolivia		2400	43,8

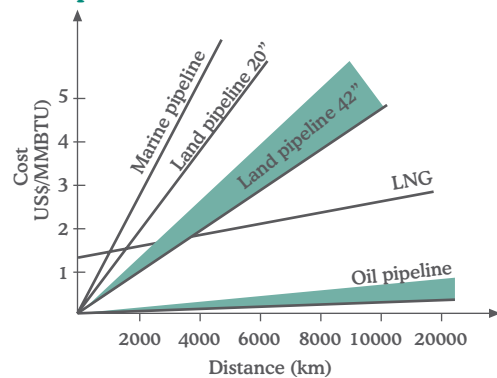
Sources: CEPAL, Enarsa and BBVA estimates

Pipeline gas imports in 2005 (BCM)

	Argentina	desde Bolivia
Argentina		1.74
Brazil	0.20	8.63
Chile	6.50	
Others	0.12	

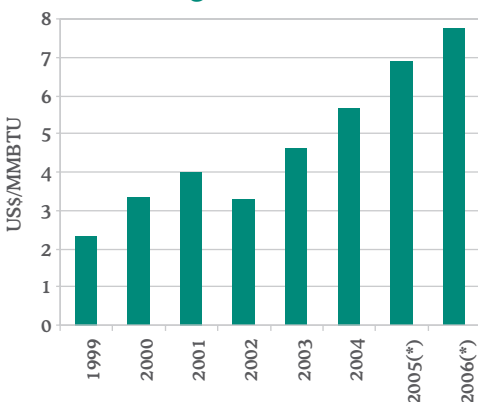
Source: BP Statistical review 2006

Comparison of hydrocarbon transportation costs



Source: AIE and Jensen (2000)

Price for the US of LNG imports from Trinidad Tobago



Source: US Department of Energy (DOE).

(*) BBVA estimates using DOE data up to March 2006.

Peru and the big energy ring

Given the difficulties in developing Bolivia's energy potential, the countries in the Southern Cone turned their attention to Peru, where in August 2004 the big Camisea gas field started up. The "Great Gas Ring" project was announced in June 2005, involving the building at an estimated cost of US\$2.5 billion of a gas pipeline between Peru and Chile, linking up with the gas pipeline networks of Argentina and Bolivia.

Apart from the dispute between Chile and Peru over their maritime border, experts believe that without the input of Bolivian gas, the project will not be viable as Camisea's reserves are not sufficient to supply the Southern Cone given strong US demand for LNG (at prices above those seen in South America).

Venezuela and the Great Southern Gas Pipeline

With Bolivia and Peru out of the reckoning, Venezuela proposed to its partners in MERCOSUR the building of a new gas pipeline with the capacity to transport 150 MM m³/d of gas to Argentina and Brazil. The new "Great Southern Gas Pipeline" would stretch 8,000 km (9,750 km including branch lines to Uruguay and Paraguay), crossing the Amazon river and forest.

The costs and construction time for a project of these characteristics are prohibitive. Although the developers of the project calculate an investment of 20 billion dollars and estimate a construction time of seven years, independent estimates put the figures at double this. In view of this, the alternative of transporting LNG by sea to Brazil and Argentina would be quicker and more profitable¹⁰, involving three years to build at a maximum cost of US\$9 billion. Of the total, US\$3 billion would go towards building a liquefaction plant in Venezuela, US\$1 billion each for regasification plants in Argentina and Brazil and the rest for a fleet of tankers.

On the other hand, Venezuela's ability to produce the amount of gas needed (30 MM m³/d) in order to be able to set transportation charges similar to those for the Bolivia-Brazil gas pipeline (Gasbol) has been questioned¹¹. Although a series of offshore projects have been identified which could increase the volume of free gas reserves (close to Trinidad and Tobago), for the moment Venezuela's gas reserves are largely linked to its oil reserves. Also, a big increase in domestic demand is forecast. Although the risk associated with gas shortages could be offset by bringing Bolivia on board, the interventionist bent of both governments¹² is not the best advertisement for attracting the private investment which would be needed.

LNG, the most reliable alternative source of diversification

Brazil has an agreement with Bolivia to import a maximum of 30 MM m³/d through to 2019. Although it currently imports 26 MM m³/d (60% of current demand), plans exist to increase this contract to 45 MM m³/d en 2010. However, with the nationalization of the industry in Bolivia, and the prospect of Bolivia increasing its export prices, Brazil has decided to freeze its investment in the neighbouring country, halt the extension of the Gasbol pipeline, and look for alternatives for the additional imports being forecast. In addition to the plans mentioned above to increase domestic output, the Brazilian government is aiming to boost the use of bio-diesel and ethanol (as well as LPG and conventional diesel) as alternatives to natural gas for use in transport and electricity generation. In this sense, Petrobras is planning to build at least two regasification plants with the capacity to process between

¹⁰ In general, for distances of over 3,000 km it is more profitable to transport gas by sea in the form of LNG than by pipeline because of high pressure loss.

¹¹ Venezuela already produces 77MM m³/d, used entirely to meet domestic consumption.

¹² In 2005, the Venezuelan government unilaterally increased taxes on the extraction of gas and designated PdVSA as the company responsible for new gas projects.

15-20 MM m³/d of natural gas. The LNG will come from Trinidad Tobago or from Africa. The plants could be operating at the end of 2008, with an estimated investment of around US\$300-600 million.

In Chile, the lack of security in supplies from Argentina, and the prospect of the latter passing on the increase in the cost of gas from Bolivia has led to the speeding up of the construction of a regasification plant with the capacity to import 10 MM m³/d. The plant will cost 400 million dollars and could be in operation in 2008. The supplier will be British Gas, with which Chile has signed a contract for the first two years (at an estimated price of US\$7/MM BTU¹³) while it renegotiates a long-term contract at better prices. The gas will possibly come from Nigeria or Equatorial Guinea.

Conclusions

Latin America for years has been looking for an integrated solution to the region's energy imbalances. However, issues of both a political and economic nature have put a drag on the different solutions which have been proposed.

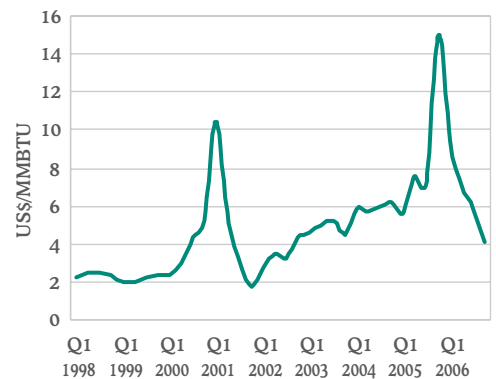
While the "Great Gas Pipeline" connecting Venezuela to Argentina and Brazil is totally lacking in economic sense (and from an environmental point of view), the "Great Southern Ring" project offers a sensible alternative towards integration if it includes the presence of Bolivia. However, the potential of this country as an exporter of gas has been seriously compromised by the sudden nationalization of its hydrocarbons sector. Investment in exploration and production has dropped by more than 40% since the approval of the new Hydrocarbons Law. The lack of domestic financial and technical resources points to an uncertain future for Bolivia, marked by a lack of private investment, and a less-than-optimal use of its energy resources.

Although Brazil is the main importer of Bolivian gas, the discovery of a large gas field in its own territorial waters puts it in a good position to negotiate a good price for imported gas. On the contrary, Argentina faces the situation of increasing dependence on Bolivian gas if investment remains sluggish and growth in domestic demand continues. In Chile, increasing problems of supply from Argentina have reinforced its strategy of opting for LNG in order to avoid an energy supply crisis in the short term. To the extent that progress is made in improving relations between Chile and Bolivia, some type of supply agreement between the two countries could emerge.

In the longer term, once bilateral disputes have been resolved, and the current regulatory uncertainty removed, interest in the "Great Energy Ring" project could be renewed to the benefit of producers, consumers and, even this time around from the start, Bolivia. Lastly, the LNG alternative should not be ruled out as the motor of energy integration, through sales contracts in the Atlantic basin (from Venezuela) as well as in the Pacific (Peru and Bolivia).

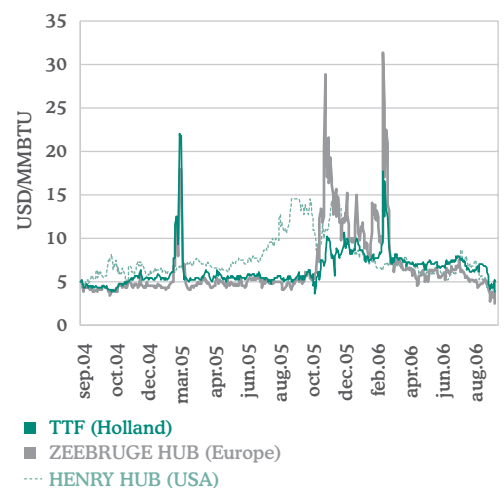
¹³ The new price for Argentine gas imported via pipeline came into effect in August 2006. The price increased from US\$2.5/MM BTU to US\$4.5/MM BTU.

Henry Hub quarterly natural gas prices (USA)



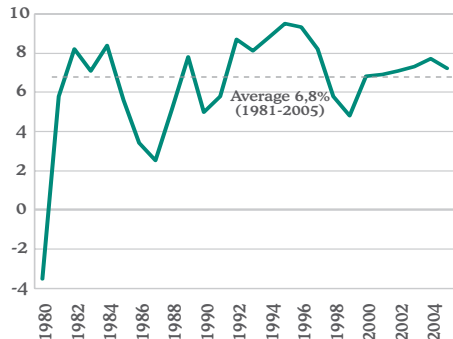
Source: Datastream

Natural gas prices in Atlantic basin



Source: Bloomberg

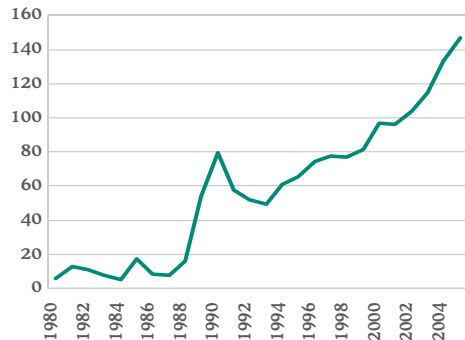
Annual growth rate (%)



Source: FMI

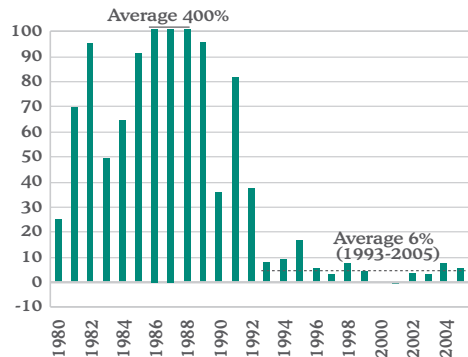
Openness to trade

(ratio of trade flows to GDP)



Source: OMC y PIB

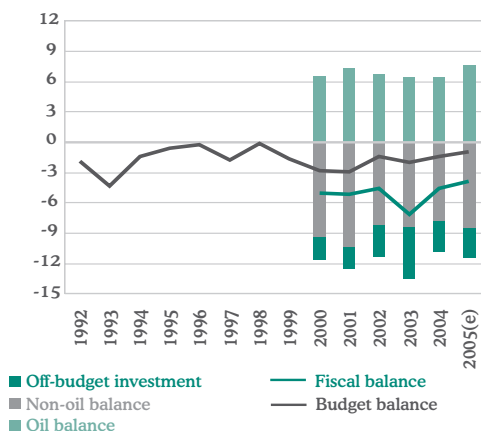
Annual inflation rate (%)



Source: FMI

Breakdown of fiscal balance

(% of GDP)



Source: IMF; (e) estimate

Growth in Asia: Vietnam

Vietnam has maintained a strong rate of expansion from the start of the 1980s, becoming the third-fastest growing economy in the world (close to 7%) after China and Singapore. Under a one-party socialist regime since reunification in 1976, and after the failure of the initial Soviet model, the country has undergone strong growth sustained by three main pillars.

In the first place, progressive structural reforms, a process which began with the political changes introduced in 1986 (the market socialist programme of Doi Moi), and which have been continued more recently as the country gears up for its entry into the World Trade Organization (WTO) at the end of this year. Secondly, and in line with the above, a policy of increasing openness to international trade supported by very competitively low salaries, which is reflected in trade flows equivalent to 150% of GDP (10% in the 1980s). Thirdly, strong growth in the labour force, with an average increase in the past few decades of between 2.5% and 3%, above the 2% rate of increase for the population as a whole.

Stability after reforms

The measures in the “Doi Moi” programme included among other things, a virtual end to the collective system of agriculture, the introduction of a greater degree of price liberalization, a significant opening up to trade, and the adjustment of the exchange-rate policy to reflect market valuations. These factors not only allowed renewed dynamism, but also made a decisive contribution towards a greater degree of macroeconomic stability, particular in keeping a lid on price rises.

After outbreaks of hyperinflation in the 1980s, annual inflation in the past 15 years has stabilized at around 6%. However, most recently, inflation has moved above that figure to 10% at times due in part to the impact of non-structural factors – food price rises due to adverse weather conditions and the pass-through of higher crude oil prices to other sectors – but also due to sharp rises in lending (40% in 2005). The Central Bank has responded to this situation by increasing the reserve requirements ratio, and by raising key interest rates (base, rediscount and refinance rates).

On the fiscal side, there has been a budget deficit of less than 3% since the middle of the 1990s. However, despite the progress made, this apparent picture of stability and orthodoxy is a long way off from providing a complete representation of reality. A large part of tax revenues come from oil (30%), and the budget deficit excluding this source of revenue has averaged 9% of GDP since 2000. In addition to this, one has to take into account off-budget investment, which adds around another 3 points to financing requirements. This off-budget spending has been directed mainly at investment projects (resources channelled by the Development Assistance Fund; DAF), and to a lesser extent in the recapitalization of the state-owned commercial banks (SOCB). Public debt, therefore, has increased in the past few years to over 40% of GDP, which, while not an alarming figure, is one that needs to be kept tabs on.

The balance of payments makes for positive reading in that the current account deficit is easily covered by Foreign Direct Investment (FDI) flows – particularly in the heavy industry and energy sectors, with 50% coming from Taiwan, Korea and Japan – as well as development aid, which has allowed the country to double its foreign reserves in less than three years. Vietnam, however, is running a trade deficit as a result of strong domestic demand, real exchange-rate appreciation and stagnant textile exports as a result of the United States maintaining a quota system – despite the bilateral trade agreement signed in 2001 - and the removal in 2005 of quotas for competing WTO member countries such as China. This has been partly offset by notable rises in the price of crude oil, which is one of the country’s main exports. Despite the fact Vietnam accounts for barely 0.4% of global GDP, its oil reserves represent 0.3% of the world total, and its output 0.5%.

Flows from two other areas have helped shore up the current account. On the one hand, tourist receipts. According to the World Tourism Organization (WTO), foreign tourist arrivals in Vietnam grew annually at 20% in 2004 and 2005. Outside of the reach of the tsunami in December 2004, and with Severe Acute Respiratory Syndrome (SARS) fears overcome, Vietnam has grown in importance as a tourist destination despite the country having the highest number of human avian influenza cases in the world since the virus reappeared in Asia – although there have been no cases in 2006. The other source of flows is remittances by Vietnamese living overseas. The Labour Ministry estimates there are some 400,000 Vietnamese immigrants, with current transfers to Vietnam reaching levels equivalent to 6-7% of GDP in the past few years.

The new Development Plan (2006-2010)

The Tenth National Congress of the Communist Party of Vietnam was held in Hanoi on April 18-25. The Congress, which is held every five years, reviews previous objectives and sets new medium-term targets. In the political area, one of the most significant changes was that for the first time candidates were allowed to be put forward for the post of Secretary General, who was re-elected by the National Assembly in July along with the new Prime Minister (Nguyen Tan Dung) and new President (Nguyen Minh Triet) – with their predecessors standing down because of old age.

In the economic area, the key policy issue both of the Congress and Assembly in July was the approval of the new Socio-Economic Development Plan for the period 2006-2010. The fundamental principles in fulfilling the plan's objectives are more competitiveness through entrepreneurship and integration with the world economy, along with the improvement and renewal of institutions incorporating more democratic practices – in line with the first Anti-corruption Law approved at the end of 2005. This is not to be confused with the introduction of a democratic political system. The final document includes an expected real rate of growth of 7.5-8%, with a drop in the contribution of agriculture to 15% of the total, and real investment in capital of 40% of GDP. The outcome of this will be the creation of 8 million new jobs, and a fall in the urban unemployment rate to 5%, as well as a decrease in the number of households living below the poverty line to 10% of the total.

Risks and challenges for growth

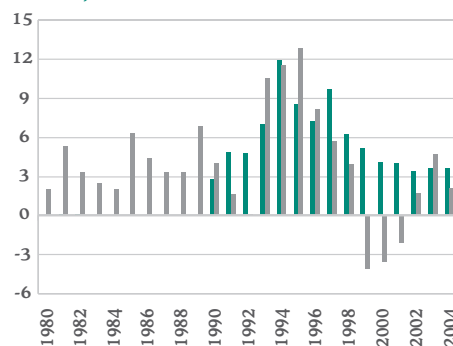
It is foreseeable within the current international environment and domestic stimulus measures that the strong economic growth of the past two decades will continue in the medium and long term. However, it should be pointed out that this scenario is not without its risks, and that crucial reforms will be necessary.

One of the main short-term threats has to do with the evolution of inflation, with upward pressure coming from the increase in the costs of raw materials and the significant increase in lending. The current inflation rate is in addition “contaminated” by regulated prices for basic products – the IMF estimates these account for 26% of the CPI - and the subsidies handed out because of the rise in oil prices. The more restrictive measures introduced by the Central Bank should help prices to stabilize, but the lack of exchange-rate flexibility could work against this aim being achieved.

The evolution of crude oil prices will also be a determining factor in the future, not only for the trade balance and inflation, but also for the national accounts. Although unlikely, a sharp downward correction in oil prices from current levels would cause a significant shock to budget revenues. In the current bonanza period, the government has failed to create a stabilization fund, which would help absorb at least some of these possible negative developments. The situation here has been made worse by the subsidies mentioned above. The government's investment plans could be undermined by a less favourable scenario for oil prices.

Foreign direct investment

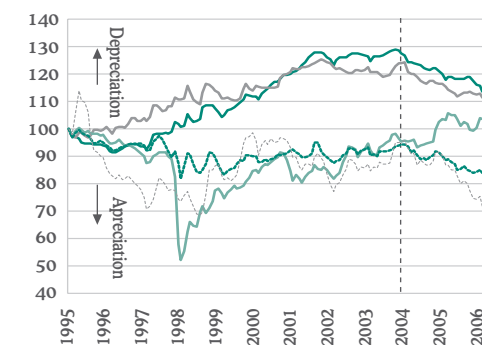
(% of GDP)



■ FDI
 ■ Current account (inverted)
 Sources: United Nations and IMF

Real bilateral exchange rate

(index, 100 = Jan-95)

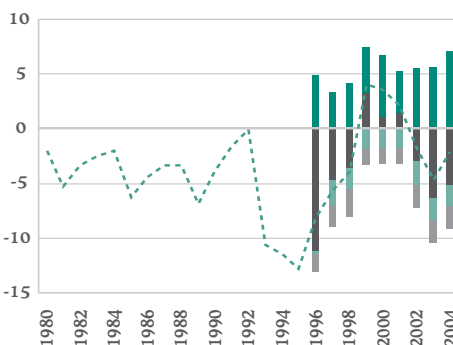


■ USA Singapore
 ■ China Japan
 ■ Korea

Source: BBVA using IMF data

Current account balance by component

(% of GDP)

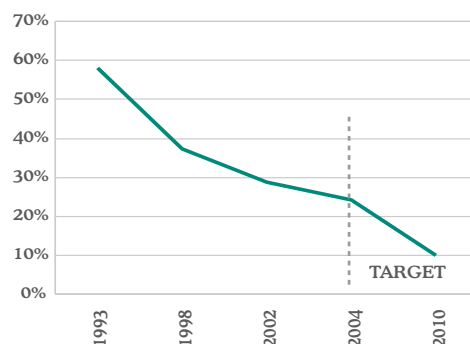


■ Current transfers ■ Trade
 ■ Income TOTAL
 ■ Services

Source: FMI

Poverty line

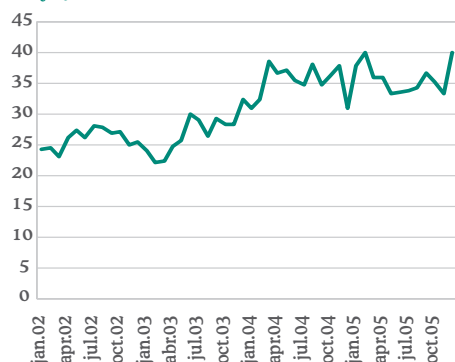
(% of total households)



Source: Socio-Economic Development Plan (2006-2010)

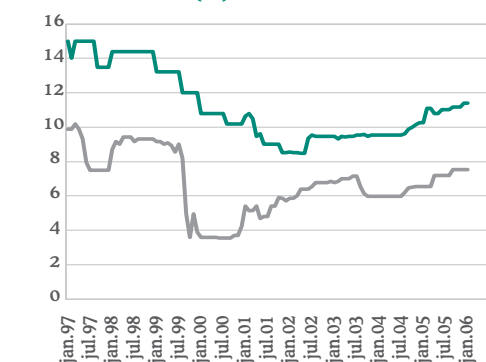
Growth in private lending

(% yoy)



Source: FMI

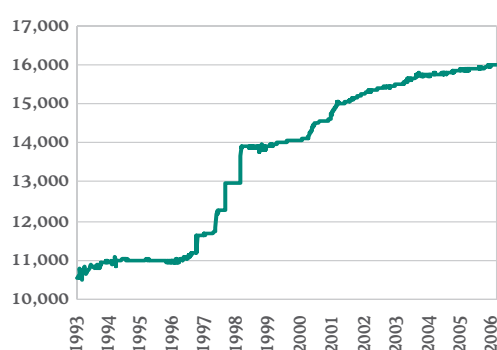
Interest rates (%)



■ Lending rate
■ 3m-deposit rate

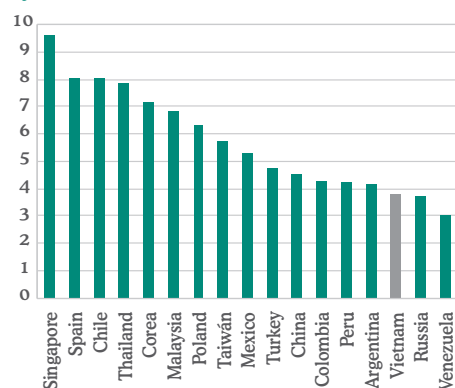
Source: FMI

Exchange rate (VND/USD)



Source: Bloomberg

Synthetic business environment index



Source: BBVA

Steps in the right direction

The current process of reforms is crucial for maintaining Vietnam's high potential growth rate. Allowing greater participation in the economy by the private sector, both domestic and foreign, would boost competition in the markets and lead to greater efficiency and dynamism. The restructuring of state-owned companies, both the SOCB and SOE, is vitally important to guarantee fiscal targets are met as well as the objectives for investment, growth and the fight against poverty. The growing involvement of the Vietnamese economy in an increasingly competitive global environment will require additional measures to improve the formation of technical and human capital, which in turn will require resources to be freed from inefficient use. New property rights and bankruptcy laws need to be approved to improve the environment in which business is conducted by means of a better regulatory framework. At the same time, within a stable political environment, the government needs to push ahead in areas such as transparency, how it presents the national accounts, efficiency, and the fight against corruption, as well as the strengthening of the country's institutions.

ANNEX: Towards a more market-oriented banking sector

The banking system is one of the priority focuses of attention as regards medium- and long-term growth. About 80% of assets are in the hands of four state-owned banks whose main clients are state-owned enterprises (SOE), which totalled 2,800 in 2005. These banks apply what are normally non-market practices – Vietnam has not signed the Basel accords – which makes monetary policy transmission difficult, and which results in the build-up of worrying and scantily transparent levels of non-performing loans. Increasing competition and the gradual introduction of international management standards have been brought about by the arrival of foreign banks, which have been attracted by the current inefficiency of the sector and the low level of banking penetration – there are only 1.3 million individual current accounts, and 50% of the money supply is in the form of cash.

Vietnam's membership in the WTO could allow the maximum stake foreign banks are permitted to hold in so-called joint-stock commercial banks to increase from 10% at present to 49%. At the start of 2006, the maximum duration of banking licenses held by foreign operators was increased from 20 years to 99 years. These developments come within a gradual opening up of the capital markets and the business environment, as is the case of the Unified Enterprise Law (UEL) and the Common Investment Law (CIL) approved last year. The aim here is to boost private investment by creating a level playing field for domestic and foreign players, by improving the corporate governance practices of the SOE, and by allowing foreign entry in infrastructure projects.

Linked to reforms in the banking sector and the SOE, one of the risks in the future concerns the sustainability of public debt, which is conditioned by the possible need to recapitalize the SOCB. Analysis by the IMF presents two different scenarios based on the related fiscal costs of this situation. Central forecasts, without contingency obligations related to the restructuring of the SOCB, point to public debt being held at sustainable levels, with a total deficit of 3.5%. The alternative scenarios point to similar results by 2025, but with possible problems appearing in the medium term deriving from high contingency risks (debt stock above 60% in 2007-2010).

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International Context

	Real GDP (%)				Consumer prices (%. average)			
	2004	2005	2006	2007	2004	2005	2006	2007
USA	4.2	3.2	3.3	2.8	2.7	3.4	3.6	2.1
EMU	1.8	1.5	2.5	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	10.2	10.4	9.5	3.9	1.8	1.5	2.0

	Official interest rate (%. end of period)				Exchange rate (vs \$. end of period)			
	30/09/06	dic-06	jun-07	dic-07	30/09/06	dic-06	jun-07	dic-07
USA	5.25	5.25	5.25	5.25				
EMU (\$/€)	3.00	3.50	4.00	4.00	1.27	1.27	1.29	1.30
Japan (yenes/\$)	0.25	0.50	1.00	1.25	115	115	110	105
China (cny/\$)	6.12	6.12	6.39	6.39	7.91	7.82	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	8.1	6.8	6.1	12.3	10.0	10.0
Brazil	4.9	2.3	3.3	3.0	7.6	5.7	3.2	4.5
Chile	6.2	6.3	5.0	5.5	2.4	3.7	2.9	2.4
Colombia	4.8	5.2	4.8	4.6	5.5	4.9	4.6	3.9
Mexico	4.2	3.0	4.6	3.4	5.2	3.3	3.8	3.5
Peru	5.2	6.4	6.8	5.5	3.5	1.5	1.8	2.2
Venezuela	17.9	9.4	7.5	3.6	19.2	14.4	17.7	17.3
LATAM ¹	6.0	4.4	4.9	4.0	6.8	6.0	5.1	5.4
LATAM Ex-Mexico	6.6	4.9	4.9	4.2	7.3	6.9	5.6	6.1

	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	2.3	3.2	3.1	2.0
Brazil	-2.5	-3.1	-3.0	-2.5	1.9	1.8	1.0	0.9
Chile ²	2.4	4.9	7.6	3.9	1.7	0.6	1.9	0.9
Colombia	-1.3	0.0	-1.5	-1.7	-0.9	-1.6	-1.7	-1.5
Mexico	-0.3	-0.1	0.2	0.0	-1.0	-0.6	-0.3	-1.3
Peru	-1.0	-3.0	0.7	-1.0	0.0	1.4	0.9	0.4
Venezuela ²	-1.9	1.6	-2.3	-3.1	14.1	17.7	17.6	11.8
LATAM ¹	-0.9	-0.8	-0.7	-0.9	1.3	2.0	1.7	0.9
LATAM Ex-Mexico	-1.2	-1.2	-1.2	-1.3	2.7	3.3	2.7	2.0

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	3.14	3.20	3.8	6.4	8.7	10.8
Brazil	2.72	2.28	2.25	2.40	17.8	18.0	13.5	13.5
Chile	576	514	540	550	2.3	4.5	5.3	5.3
Colombia	2404	2279	2350	2421	7.8	6.3	7.3	7.5
Mexico	11.20	10.63	10.90	11.28	8.7	8.0	7.0	6.5
Peru	3.28	3.42	3.26	3.30	3.0	3.3	4.50	5.25
Venezuela	1920	2150	2150	2408	12.4	10.9	10.1	9.8

³ For each country interest rate see the following page.

Argentina

	2004	2005	2006p	2007p
GDP (%)	9.0	9.2	8.1	6.8
Consumer prices (% end of year)	6.1	12.3	10.0	10.0
Trade balance (\$bn)	12.1	11.4	10.8	9.5
Current account (% GDP)	2.3	3.2	3.1	2.0
Reserves (\$bn. end of year)	19.6	28.1	30.6	40.2
Exchange rate (end of year vs US\$)	2.99	3.05	3.14	3.20
Fiscal balance (% GDP) ¹	2.6	1.8	2.0	1.8
Interest rate (end of year) ²	3.8	6.4	8.7	10.8
Real effective exchange rate (end of year. dec-97=100)	50	52	51	55
BBVA-MAP (end of year, Jun-95=100)	117	131	137	134

¹ Argentina: Gobierno Central y excluye ingresos por privatizaciones
² Argentina: Depósitos a 30 días en pesos; Brasil: SELIC

Brazil

	2004	2005	2006p	2007p
GDP (%)	4.9	2.3	3.3	3.0
Consumer prices (% end of year)	7.6	5.7	3.2	4.5
Trade balance (\$bn)	33.7	44.8	43.2	35.0
Current account (% GDP)	1.9	1.8	1.0	0.9
Reserves (\$bn. end of year)	52.7	53.8	60.0	58.0
Exchange rate (end of year vs US\$)	2.72	2.28	2.25	2.40
Fiscal balance (% GDP)	-2.5	-3.1	-3.0	-2.5
Interest rate (end of year)	17.8	18.0	13.5	13.5
Real effective exchange rate (end of year. dec-97=100)	65	81	82	76
BBVA-MAP (end of year, Jun-95=100)	79	77	78	80

Chile

	2004	2005	2006p	2007p
GDP (%)	6.2	6.3	5.0	5.5
Consumer prices (% end of year)	2.4	3.7	2.9	2.4
Trade balance (\$bn)	9.2	10.2	17.5	7.3
Current account (% GDP)	1.7	0.6	1.9	0.9
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	7.6	3.9
Interest rate (end of year) ²	2.3	4.5	5.3	5.3
Real effective exchange rate (end of year. dec-97=100)	84	97	89	87
BBVA-MAP (end of year, Jun-95=100)	89	107	147	121

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

Colombia

	2004	2005	2006p	2007p
GDP (%)	4.8	5.2	4.8	4.6
Consumer prices (% end of year)	5.5	4.9	4.6	3.9
Trade balance (\$bn)	1.4	1.4	0.6	-0.8
Current account (% GDP)	-0.9	-1.6	-1.7	-1.5
Reserves (\$bn. end of year)	13.5	15.0	15.2	16.3
Exchange rate (end of year vs US\$)	2404	2279	2350	2421
Fiscal balance (% GDP)	-1.3	0.0	-1.5	-1.7
Interest rate (end of year)	7.8	6.3	7.3	7.5
Real effective exchange rate (end of year. dec-97=100)	83	92	88	86
BBVA-MAP (end of year, Jun-95=100)	128	151	154	150

Mexico

	2004	2005	2006p	2007p
GDP (%)	4.2	3.0	4.6	3.4
Consumer prices (% end of year)	5.2	3.3	3.8	3.5
Trade balance (\$bn)	-8.8	-7.6	-3.4	-12.5
Current account (% GDP)	-1.0	-0.6	-0.3	-1.3
Reserves (\$bn. end of year)	61.5	68.7	73.0	75.0
Exchange rate (end of year vs US\$)	11.20	10.63	10.90	11.28
Fiscal balance (% GDP)	-0.3	-0.1	0.2	0.0
Interest rate (end of year) ²	8.7	8.0	7.0	6.5
Real effective exchange rate (end of year. dec-97=100)	107	114	107	104
BBVA-MAP (end of year, Jun-95=100)	158	193	210	198

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

Peru

	2004	2005	2006p	2007p
GDP (%)	5.2	6.4	6.8	5.5
Consumer prices (% end of year)	3.5	1.5	1.8	2.2
Trade balance (\$bn)	2.8	5.2	7.0	6.5
Current account (% GDP)	0.0	1.4	0.9	0.4
Reserves (\$bn. end of year)	12.6	14.1	15.5	16.0
Exchange rate (end of year vs US\$)	3.28	3.42	3.26	3.30
Fiscal balance (% GDP)	-1.0	-3.0	0.7	-1.0
Interest rate (end of year)	3.0	3.3	4.5	5.3
Real effective exchange rate (end of year. dec-97=100)	90	87	88	86
BBVA-MAP (end of year, Jun-95=100)	99	113	136	127

Uruguay

	2003	2004	2005	2006p
GDP (%)	2.2	11.8	6.6	5.6
Consumer prices (% end of year)	10.2	7.6	4.9	6.3
Trade balance (\$bn)	0.2	0.0	0.0	0.0
Current account (% GDP)	-0.5	-0.8	0.6	0.6
Reserves (\$bn. end of year) ³	1.9	2.3	3.1	n.d.
Exchange rate (end of year vs US\$)	29.19	26.56	23.51	23.28
Fiscal balance (% GDP) ¹	-3.2	-1.8	-2.5	-2.5
Interest rate (end of year) ²	7.5	5.7	4.6	n.d.
Real effective exchange rate (end of year. dec-97=100)	75	81	87	89
BBVA-MAP (end of year, Jun-95=100)	86	89	81	83

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	2006p	2007p
GDP (%)	17.9	9.4	7.5	3.6
Consumer prices (% end of year)	19.2	14.4	17.7	17.3
Trade balance (\$bn)	21.4	30.4	32.1	28.2
Current account (% GDP)	14.1	17.7	17.6	11.8
Reserves (\$bn. end of year)	24.1	29.6	35.7	29.2
Exchange rate (end of year vs US\$)	1920	2150	2150	2408
Fiscal balance (% GDP)	-1.9	1.6	-2.3	-3.1
Interest rate (end of year)	12.4	10.9	10.1	9.8
Real effective exchange rate (end of year. dec-97=100)	91	90	102	105
BBVA-MAP (end of year, Jun-95=100)	208	286	306	282

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Bogota www.bbva.com.co

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Coyuntura Macroeconómica y Financiera	Cemex	Bogotá, August 2006
Coyuntura Macroeconómica y Financiera	Secretaría de Hacienda Distrital	Bogotá, September 2006

Buenos Aires www.bancofrances.com.ar

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Perspectivas Económicas 2006-2007	PSA Citroën Peugeot	Buenos Aires, August 2006
Perspectivas Macroeconómicas y Sector Construcción e Inmobiliario 2006-2008	Inversores Inmobiliarios - Cámaras de Comercios de Tarragona y Tortosa	Buenos Aires, September 2006

Caracas www.provincial.com

Title	Institution-Client	Place and date
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Coyuntura y Previsiones Macro 2007	Kimberly Clark	Caracas, August 2006
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Lima www.bbvabancocontinental.com

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FDI: 5 Aspectos que Pueden Ayudar	Bloomberg	Lima, July 2006
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Contexto Económico y Mercado Laboral	Universidad Católica del Perú	Lima, Setiembre 2006

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Mexico www.bancomer.com

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Situación Económica y Perspectivas para los Exportadores	Clientes Banca Empresas	Santiago, 23 August 2006
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