Global Macroeconomic Scenarios and World Trade Statistics and Forecast

FOR THE

PANAMA CANAL AUTHORITY

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Comparison of Macroeconomic Outlooks: 2001 and 2005

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The Base Case Scenario

In developing the Most Probable Case, called the Base Case or Baseline Scenario, Global Insight, Inc. first researched all economic conditions at a particular point in time and created a "present day" economic reality, and calibrated each country model to "present day" conditions. Then, Global Insight made several assumptions regarding the immediate future based on current data. Finally, we extended this forecast to the year 2025 using the structural relationships built into the models, most of which are econometric in construction. In turn, the economic projection has a short term, based on current expectations and a long term projection based on long term trends. For example, we first looked at the current situation of the US and created a current-day scenario based current conditions, monetary policy, GDP by sector, etc., while in 2001 the current-day picture was based more on the extent of the economic recession and the impact of the 9-11 terrorist attacks. Based on current assumptions, whether in 2001 or now, we then developed a forecast for the short term and then extended the forecast to the year 2025. We defined the short term in terms of the next 5 years, the medium term as being the period for the following 5 years, and the long term as being the projection to 2025. In both projects, the final end-point forecast was for 2025.

In the 2001 forecast, the world economic recession took precedence, and the expected recovery, following normal economic cycles, was delayed due to the terrorist attacks. Originally we had expected that the economic structural adjustment in 2001 could be complete by the end of 2001 or the beginning of 2002. Unfortunately, the September 11 terrorist attack on the United States destroyed the prospective adjustment process and brought the economy down to the edge of a global recession. This required us to assess the impact of the terrorist attack besides economic structural adjustment for the short term.

Assumptions for the Base Case Macroeconomic Forecasts

Many of the assumptions used in both projects (2001 and 2005) remain the same. Population growth, for example, is assumed to slow on a world level over time although certain countries' rates will be above average. Below is a list of the key economic assumptions put into the models in 2005 for the base case scenario and how they compare to those used in 2001.

Assumptions in 2005	**Correspondence with 2001**
Aggregate world population growth will continue its gradual, secular long-term decline, from 1.2% per year in recent years to 0.8% in 2025	Same
Domestic saving rates increase as incomes rise in the early stages of economic development, but they moderate and decline in the later stages	Same

The world economy will not face any extended, severe petroleum shortages over the next 25 years. Indeed, Global Insight believes there is plenty of oil still waiting to be discovered, on top of the huge quantities in previously discovered fields waiting to be developed. Also, the US supplies 40% of its own requirements.	Same
Crude oil prices will decline from their current, artificially-high levels over the next ten years, but recover gradually as OPEC's excess capacity fades away.	In 2001, crude prices were not "high" due to the recession. We assumed that oil prices would increase in accordance with demand-supply factors. Demand has outstripped the original projections.
The global economy will not fall into a deflationary trap. The current pockets of deflation (e.g. China) will disappear during the next few years as the world recovery advances.	In 2001 there were no such pockets of deflation.
The major industrialized countries do not allow their commercial disputes to frustrate global trade liberalization or to degenerate into a major, competitive trade war. In short, incremental trade liberalization will continue.	In 2001, trade assumptions were similar. Even though the number of trade disputes has increased annually since 2001, the general trend has always been toward more open and liberal trade between nations.
After completing their current recovery, non-oil primary commodity prices will resume their secular long-term decline.	Same
Emerging markets will not backtrack on their economic reforms on any large scale, but instead will continue the trend toward greater openness, deregulation, and privatization.	Same
The global trend toward more flexible exchange rate regimes and greater capital mobility will continue without any major backtracking.	Same
Most industrialized countries will not completely shut their doors to immigration, but will become more selective in their immigration policies.	Same

There will not be any global calamity that depresses world population or capital stock, or that leads to a prolonged depression in world output, such as a world war, medieval-scale plagues or epidemics, a giant meteor crash, or other planetary-scale disaster.	Same

Assumptions for the Alternative Macroeconomic Forecasts

The Best Case

Global Insight used its global macroeconomic scenario model to generate the scenario driven by the assumptions below, called the **Best Case** scenario. Global Insight gives this scenario a 15% probability (see Comparison of Probabilities below).

- Productivity growth is 0.5 percentage points higher every year than in the base case.
- Long-term interest rates are 1 percentage point lower every year than in the base case.
- World oil prices are 10 $/barrel lower every year than in the base case.

All of the scenario work was developed around the base case, which has been assigned a 70% probability. The above drivers of growth provide stimulus to the major industrialized nations and, secondarily, to the developing world. Oil consuming nations realize a lower cost of crude petroleum and related products, while oil exporting nations realize a reduction in incomes. For the oil exporters, this Best Case is actually worse than the Base Case because of their dependence on oil income, even in the face of slightly higher economic growth worldwide.

The Worst Case

To develop the Worst Case scenario, a reciprocal set of assumptions was made, compared to the best case assumptions, to generate lower economic growth. These assumptions were:

- Productivity growth is 0.5 percentage points lower every year than in the base case.
- Long-term interest rates are 1 percentage point higher every year than in the base case.
- World oil prices are 10 $/barrel higher every year than in the base case.

The higher oil prices are a boom to the major exporters, such as Venezuela, Saudi Arabia, etc., so this negative scenario is actually good for such countries, so long as the reduced economic growth does not depress oil demand below Base Case estimates. For the consuming nations, higher oil prices mean higher costs as the price effects move through the economy. In market-based economies such as the U.S., we assume that the higher prices have a depressive effect on economic output but that the central bank accommodates the slower growth by cutting interest rates to mollify the impact.

Comparison of Probabilities: 2001 and 2005

Assigning probabilities to the economic and trade results of a set of assumptions is more an art than a science, even when the results are derived from a set of rigorously estimated, proven econometric models. Many events cannot be captured statistically in such models. Indeed, the terrorist attacks in the U.S. in September 2001 are a good and poignant example of this fact of economic forecasting, just as the SARS epidemic was not foreseen within the models. Also, the historical variation in any particular economic variable, such as labor productivity or commodity prices, is not necessarily a good guide to future variation and, therefore, may not be usable to estimate future probabilities within some predefined range.

The probability of a particular scenario occurring is an estimate of the likelihood that the general economic picture portrayed in the model output will come true. Of course, the likelihood that every variable in the model will assume the precise value displayed in the output files, for every year of this 25-year forecast, is almost zero. Therefore, it must be realized that the probabilities assigned to the scenarios for this study are used more as *ordinal rankings* of the scenarios than as exact probabilistic estimates. The probabilities were set based on the considered opinion and experience of the economists who compile the economic data, review each country's economic and political landscape, and run the models by making critical assumptions about key economic drivers.

In 2001, when the major industrialized economies were in recession and there were several exogenous factors affecting the recovery, we were less confident in the base case scenarios than we are now in 2005. Indeed, while the current phase of the recovery might be described as unusual because there are some countries with relatively high growth and others with deflation, and China has appeared as a target of foreign investment while the consumers in the U.S. are continuing to buy goods, we are more confident in the way in which the current economic situation worldwide may unfold.

Also, we must constrain the sum of the probabilities to be 100% since we are examining three outcomes that are mutually exclusive.

The following table shows the comparison of the probabilities of the 3 scenarios in each study.

Scenario	Description	Probability 2005	Probability 2001
Base Case	A long-term forecast of the major economies and key variables under the assumptions	**70%**	**60%**
Worst Case	A long-term forecast using assumptions of weaker growth in key economic areas, such as productivity	**15%**	**25%**
Best Case	A long-term forecast using higher growth assumptions for key areas of each economy	**15%**	**15%**

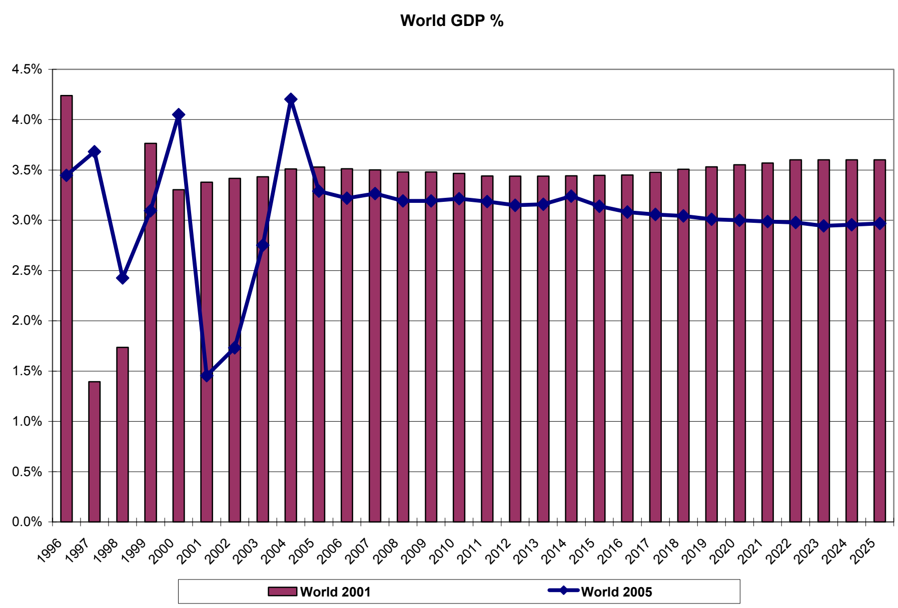
In the current study, in other words, we are slightly more optimistic in general, assigning a lower probability to the worst case now than in 2001. In 2001, we were more uncertain in the baseline projection and the worst case had a higher probability than the best case.

This reflected, to some extent, the fact that the scenarios were carried out following the September 11 attacks. Now, we assign a stronger probability to the baseline forecast. In short, this implies that Global Insight is now more optimistic to a small degree, when compared to the 2001 outlook.

Following are comparisons of the economic projections developed for the major countries in this study.

World Economic Growth

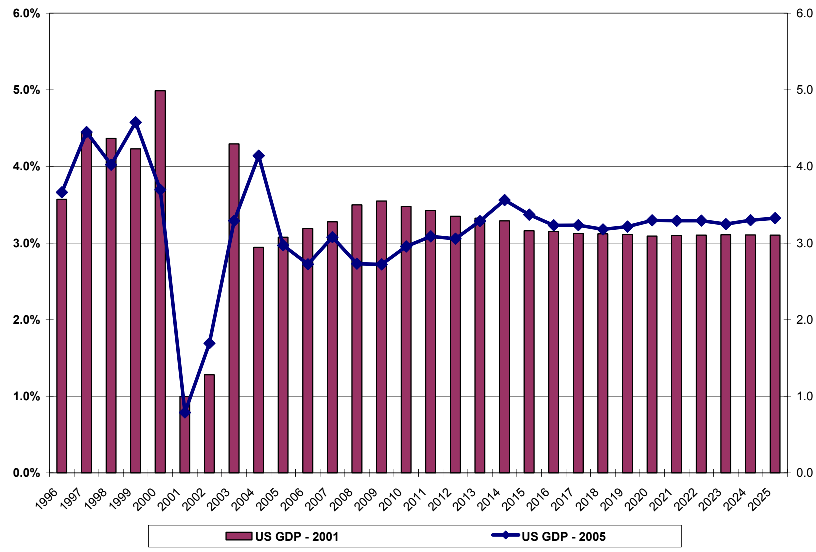
At the world level, in the base case, the outlook for world growth showed a different pattern when comparing the two studies. In 2001, we expected that, economic growth throughout the world would recover quickly from the terrorist attacks of 2001. In fact, a recession ensued (real GDP growth less than 2% at the world level is generally considered a recession), which held world growth below this threshold for 2001-02. The eventual recovery, which took place strongly in 2004, was partially pent-up demand; the U.S. was the main driving force behind this expansion, along with China, with US consumers purchasing more and more goods from abroad, and investors pouring funds into China to support growing manufacturing businesses.



Lower interest rates in the US fueled much of the upturn into 2004, and incomes also grew in real terms. As a result, the US economy (see below) served as the locomotive for the rest of the world, along with China's unabated appetite for raw materials as other goods to feed its manufacturing and export industries.

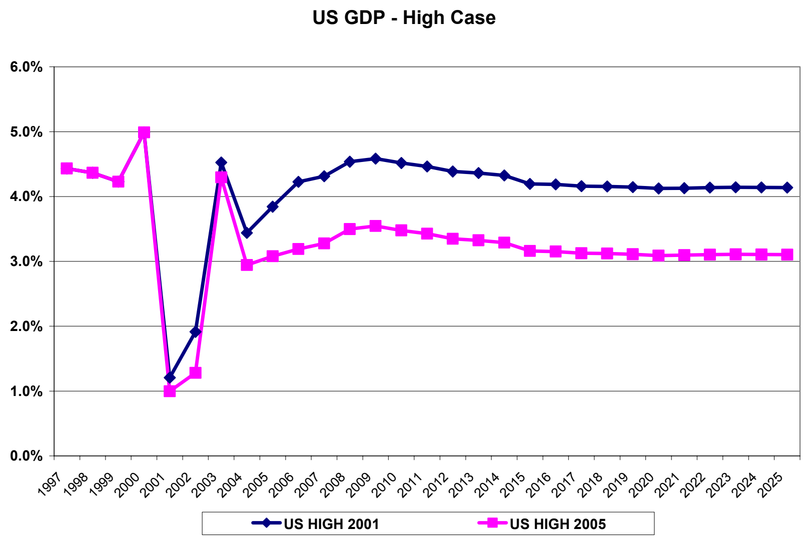
United States

The chart below shows the 2001 and 2005 studies' base case outlook for the U.S. economy. The severe economic downturn in 2001, caused mainly by the terrorist attacks but foreseen earlier by Global Insight as a period of potential economic weakness, was already predicted in the 2001 study and the actual rate of economic growth was very close to this prediction.

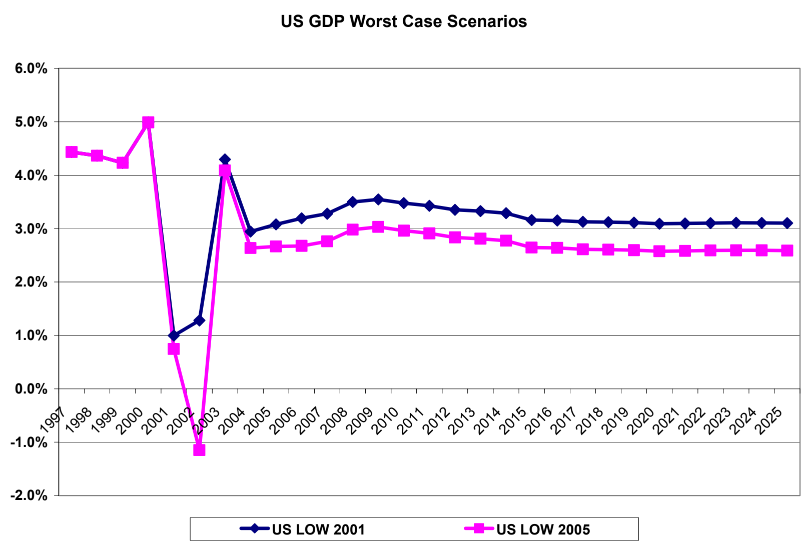


After 2001, the performance of the US economy was, in fact, slower than had been expected through 2003, as the recovery took longer to take hold even in the face of dramatic interest rate cuts. Once the stimulative effects of the interest rate cuts and the tax reductions took effect, the economy took off, reaching 4.4% real growth in 2004, one year after the forecast done in 2001.

For the high case, the outlook for the U.S. now calls for slower growth than previously considered in the high case in 2001, as shown in the chart below. Instead of averaging more than 4% per year real growth under the 2001 optimistic assumptions, we now think that the growth will be more in the range of 3.0-3.5% through the 2025 period, due to increased imports, the effects of a large government deficit which was not foreseen in 2001, and productivity improvements whose overall impact is, over time, slightly less than in the 2001 optimistic scenario.



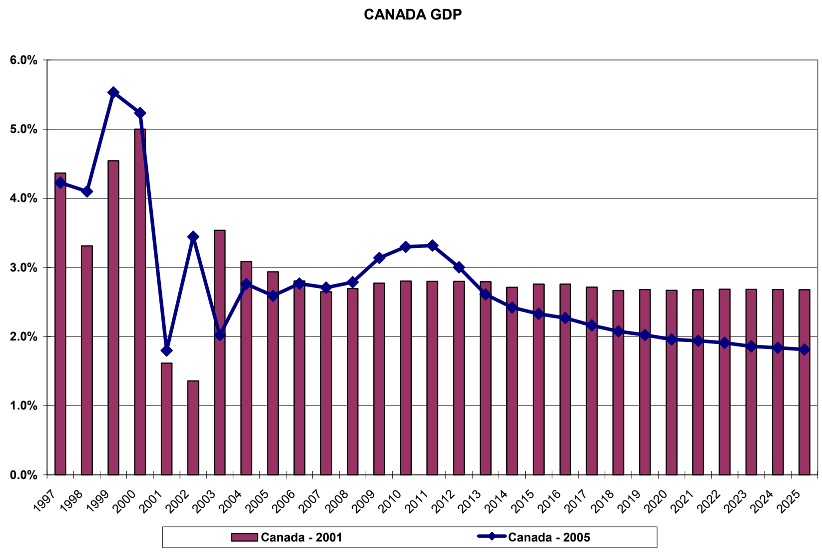
For the worst case comparison, the U.S. GDP is now expected to be lower than the 2001 worst case. In 2001, we outlined a drop-off of economic growth in 2001, followed by a return to modest levels of growth in the longer run. In fact, the 2001 low scenario was accurate in picking the drop-off, but in fact the economy fell more severely than anticipated, aggravated by the terrorist attacks, among other factors.



Now, we expect US economic growth to average about 0.5% less through 2025 under the worst case scenario than we projected in 2001 under the low case.

Canada

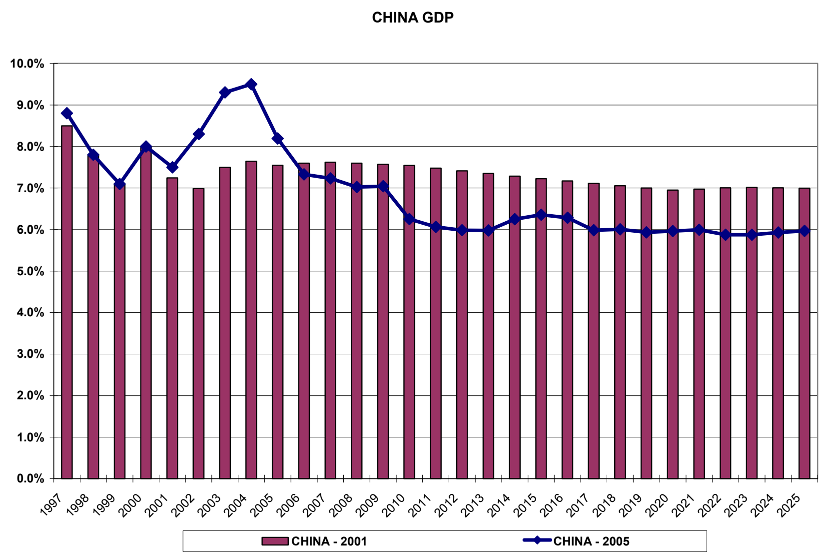
The difference in economic growth between the two studies can be clearly seen in the chart below, where the current forecast is stronger in the medium term, but weaker in the long term.



Historical data has been revised, of course, which is typical for most countries, including Canada. The slower growth is generally consistent with the world economic growth projections, and Canada is now expected to be in line with global trends.

China

The case of China is one of the most important factors that has affected the world trade picture since the study in 2001. This fact is well known. In 2001, we were predicting strong economic growth, by world standards, but the economy was stimulated by a series of successful policies and outside factors that helped to accelerate the economy starting in 2001, the year of the earlier study.



In particular, China managed to attract considerably more direct foreign investment than previously expected, and this, in turn, provided the capital for massive manufacturing infrastructure build-up. The costs were low enough, and the quality (on most goods) high enough for China to become a major price target in basic commodities, which were sold worldwide through a well-organized promotion program. Additionally, confidence in China improved in terms of its ability to start up new manufacturing operations, mainly for export, and to provide the necessary inputs (including minimum of red tape), to set new operations in motion.

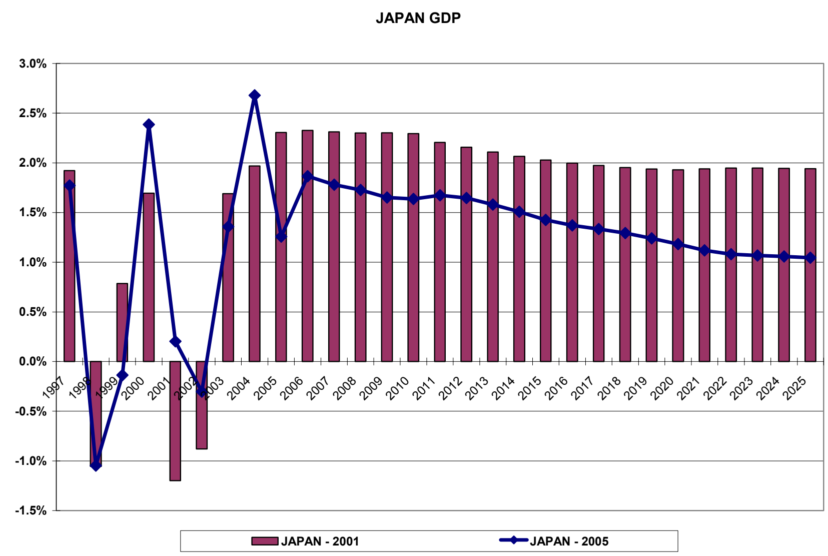
Meanwhile, China maintained the renminbi's fixed relationship to the dollar[1], even as foreign reserves improved and the economy became more solid in financial terms (and threats of corporate bankruptcies diminished somewhat). Under these assumptions, China's GDP forecast calls for stronger economic growth than expected in the 2001 study, at least through 2006. However, we see signs of a slowdown (NOT a crash or hard landing), and this is reflected in the 2005 forecast.

[1] Note that China implemented a scheme on July 25, 2005, to tie the renminbi to a basket of other currencies (the weights were not specified), with an allowed daily maximum adjustment of 0.3% against the basket. This unexpected shift will force changes in China's competitiveness over time. However, recent updates of the China economic outlook by Global Insight still confirm the expectation of a soft landing from tie high growth rates of the 2002-2004 period. Some more information on the change in exchange rate scheme can be found in the Baseline Scenario report.

Japan

The outlook for Japan is considerable weaker than in the 2001 study, as shown in the chart below. Note that the fastest growth rate in this entire time-perspective is 2.7% which occurred last year, 2004. Japan's historical growth, which has been revised upward in some years and downward in others, shows erratic performance, which we do not believe will be the case in the future. However, the future is likely to call for slower overall growth due to a series of factors whose strength (or weakness) was now so apparent in 2001 as it is now. These factors include:

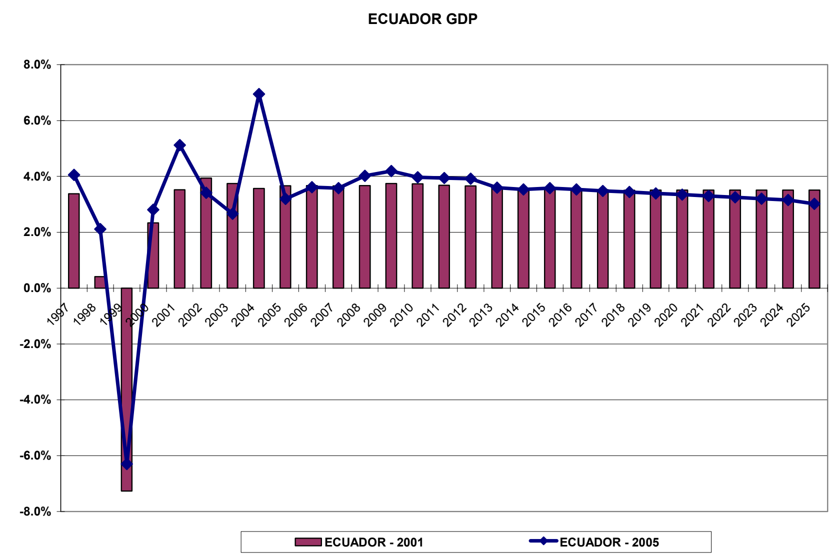
- Export prices that are high, especially in dollar terms as the dollar weakens
- Still questionable loans at some of the nation's major banking institutions
- Competition from China for basic and intermediary goods manufacturing
- A consumer sector that is expected to continue spending, but at a very slow pace.



The comparatively high rate of growth in 2004 came at the beginning of the year, with slower rates in the final quarters, so we feel confident in the current, lower growth rate forecast.

Ecuador

The changes in the outlook for Ecuador are small when the two studies are compared.



Of course, the strong performance in 2004, even in the face of en embattled president, was definitely not foresee in 2001. The growth in that year, while preliminary as of this writing, was very strong by historical standards.

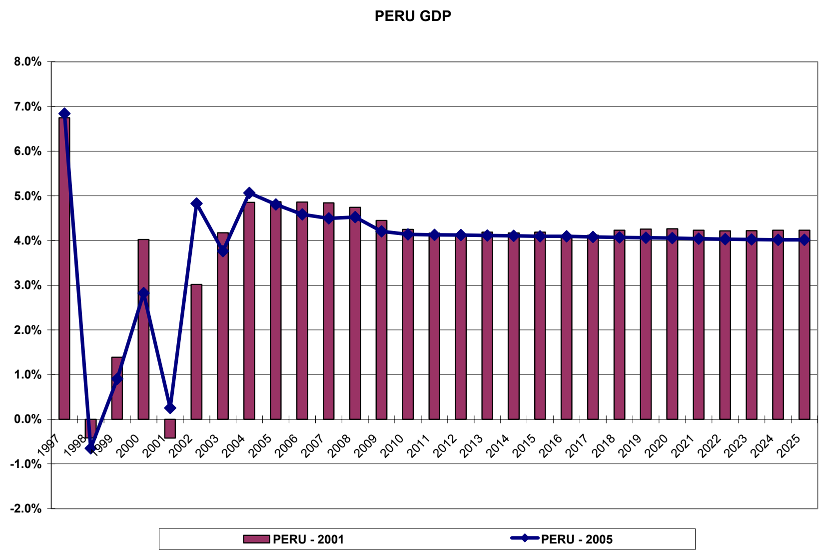
We expect that the full potential of Ecuador to growth economically will not be fully realized; however, growth will average above 3.5% per year throughout the forecast period to 2025. This projection is in line with the previous study.

There are risks to the near term forecast, of course, given the political turmoil in the country now and the recent move of the President Gutierrez to a safe haven in Brazil. We do not foresee any further investment in the mining sector, even with high oil prices (currently), but construction should improve.

In short, the main differences between the current and previous long-term outlooks for the macro economy of Ecuador are few and small.

Peru

Data revisions notwithstanding, the history of Peru's economy remains clear. Also, the actual growth in the economy starting in 2001 was faster than predicted in that year in our study for the ACP. Indeed, while we foresaw a strong 2004, we did not predict that the economy would grow at 4.8% that year, which was just reported.



However, in the current study, we see a little more weakness in the near term when compared to the previous projection. This is due mainly to

- Slower world growth than previously predicted, hence weaker markets for Peru's exports
- A slower growth projection for China (see "China" in this report)
- A new President in 2006 who will take at least a year to determine a policy to diminish the government deficit
- A central bank policy that will not be too stimulative, to avoid over-heating.

Peru's exports will continue to grow, but at rates that are slightly slower than previously expected (2001) in view of overall slower economic growth worldwide.

Chile

Chile's outlook in the long terms has been revised downward slightly, from about 5.8% average annual growth to 5.0%. This is still extremely strong growth and we expect this is more sustainable than the previous growth rates from the 2001 study.

Chile is primarily an export-driven economy, with copper, manufactures, wood pulp and fruit being the main commodities. Copper prices have been extremely high, but we do not predict that these high levels can be maintained, so they are lowered in the forecast period. Fruit and related products, including wine, should continue to see strong growth in exports.

In short, we are more comfortable with the 2005 forecast which is more controllable and is financially more sustainable in the long term than the 2001 study results.