

The World Bank's Unified Survey Projections: How Accurate Are They?

An Ex-Post Evaluation of US91–US97

Jos Verbeek

The Unified Survey projections prepared annually by World Bank country teams are not optimistic and have greatly improved over time — and they are more accurate than the International Monetary Fund's World Economic Outlook projections.

Exogenously chosen variables — except for exports — are more accurate in the short run than the indicators calculated by the country model used. Inaccuracy is less pronounced in 1995 and 1996.



Summary findings

Since 1984, the Unified Survey has been the World Bank's principle mechanism for gathering quantitative macroeconomic information from country teams on Bank member countries. After gathering annual data those teams also do most-likely-scenario projections.

Verbeek examines the numerical projections of macroeconomic indicators carried out by World Bank country teams for Unified Surveys for fiscal years 1991–97. He studies the accuracy of short-term projects (for the current year, first year, and three years ahead) for 23 countries in the different World Bank regions. He also compares the Unified Survey projections with the International Monetary Fund's (IMF) projections for its fall *World Economic Outlook* (WEO).

He finds that:

- The Unified Survey projections are inaccurate when evaluated over the whole period investigated (1990–96). However, their accuracy has improved over time.

- Improvements are notable in projections for investment, GDP inflation, and government deficit. Projections of external indicators — such as import and export growth — are still substantially inaccurate and should be greatly improved.

- The Unified Survey projections are as accurate as — or more accurate than — the WEO projections.

- One cannot characterize the United Survey projections as optimistic.

This is the first systematic attempt to evaluate the accuracy of country team macroeconomic projections over time and the first to compare these with the IMF's WEO projections.

This paper — a product of the Development Data Group, Development Economics — is part of a larger effort in the Bank to evaluate its data products and its tools used to generate its quantitative projections. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Mismake Galatis, room O4-086, telephone 202-473-1177, fax 202-522-2753, Internet address mgalatis@worldbank.org. Policy Research Working Papers are also posted on the Web at <http://www.worldbank.org/html/dec/Publications/Workpapers/home.html>. The author may be contacted at jverbeek@worldbank.org. March 1999. (59 pages)

The Policy Research Working Paper Series disseminates the findings of work in progress to encourage the exchange of ideas about development issues. An objective of the series is to get the findings out quickly, even if the presentations are less than fully polished. The papers carry the names of the authors and should be cited accordingly. The findings, interpretations, and conclusions expressed in this paper are entirely those of the authors. They do not necessarily represent the view of the World Bank, its Executive Directors, or the countries they represent.

THE WORLD BANK'S
UNIFIED SURVEY PROJECTIONS
How Accurate Are They?
An Ex-Post Evaluation of US91-US97



Jos Verbeek
Development Data Group
Development Economics
The World Bank

The findings, interpretations, and conclusions expressed in this paper are entirely those of the author. They do not necessarily represent the views of the World Bank. I would like to thank especially Jean Adams for excellent research assistance and Robin Lynch, Peter Moll, David McMurray, Robert Lynn, Cathy Wright Olga Plagie, and Bill Easterly for data, perceptive remarks, and constructive comments and Joost Polak for his valuable editorial comments.

1. Introduction

This study is designed to give systematic feedback to World Bank country teams on the accuracy of the projections made in their annual Unified Surveys of developing country economic prospects. The Unified Survey is the World Bank's principal mechanism for gathering quantitative macroeconomic information on its member countries. This study evaluates the accuracy of surveys for current years, and one and three years into the future. The Unified Surveys used are those of the World Bank's Fiscal Year 1991 (US91) through FY1997 (US97). The study addresses the following questions:

- How accurate are the Unified Survey short-term projections, and has their accuracy improved or deteriorated over time?
- Are the Unified Survey projections optimistic?
- Are the Unified Survey projections better or worse than naive forecasts under which one assumes that this year's projection equals last year's outcome?
- How do the World Bank projections compare to the IMF's World Economic Outlook projections?

Our main two findings are that, surprisingly, the Unified Survey projections are more accurate than the World Economic Outlook projections done by the International Monetary Fund—and that one cannot characterize the Unified Survey projections as optimistic.

The Unified Survey projections are inaccurate when evaluated over the whole period (1990-1996) under investigation. However, their accuracy has improved greatly in recent years. The improvements are notable in projections for investment, GDP inflation, and the government deficit. Further strengthening of the projections of external indicators, such as import and export growth, is a must, as their inaccuracies are substantial for the period as a whole as well as for the outer years.

This study is the first systematic attempt to evaluate the accuracy of country team macroeconomic projections over time, and the first to compare these projections with the IMF's World Economic Outlook projections. The accuracy of the Unified Survey projections has been scrutinized (Hicks and Vaugeois (1990)) and criticized (Lewis (1997)) by World Bank economists. Hicks and Vaugeois (1990), evaluated the accuracy of the Unified Surveys Projections over 1983-85. Two of their conclusions, for a sample of 34 countries and 4 indicators¹ were that: (a) GDP growth projections tend to be moderately optimistic and (b) the countries in the Africa region had the greatest overestimation of all the indicators analyzed, while those for the Asian countries were generally underestimated. Lewis (1997) criticizes the quality of the forecasts and the appropriateness of the tools (RMSM-X) used. His main criticism is that the behavioral structure of the Revised Minimum Standard Model eXtended (RMSM-X) (see World

¹ The indicators analyzed are GDP, import and export growth, plus gross domestic investment.

Bank 1997) is too simple to seriously answer creditworthiness questions, and that this tool is applied in a mechanical manner without much thought.

Regions	Countries	Indicators
Africa:	Cameroon	1. GDPmp* Growth
	Cote d'Ivoire	
	Kenya	
	Zimbabwe	
	Nigeria	2. Export (GNFS) growth
Eastern /Central Europe	Zambia	3. Imports (GNFS) growth
	Hungary	4. GDPmp Inflation
	Poland	5. Gross Domestic Investment as ratio to GDPmp(current prices)
Turkey		
Middle East/North Africa	Algeria	6. Government deficit as ratio to ratio to GDPmp (current prices)
East Asia & Pacific	Egypt	
	China	7. Current Account Balance as ratio to GDPmp (current prices)
	Philippines	
Indonesia		
South Asia	India	
Latin America & Caribbean	Argentina	
	Brazil	
	Chile	
	Colombia	
	Ecuador	
	Mexico	
	Peru	
	Venezuela	*mp: market prices

This study examines 23 countries across the world's regions (Table 1). The countries were selected according to data availability, their economic size in terms of GDP, and their indebtedness. Projected and actual values were tabulated for 7 indicators for each country (Table 1). The indicators can be divided into two groups: indicators that are chosen by the country teams—GDPmp growth, export growth, GDPmp inflation—and indicators that are calculated by the macroeconomic model used—current account balance as ratio to GDP, import growth, gross domestic investment to GDP ratio, and the government deficit as a ratio to GDP.

The main findings of the paper are that the Unified Survey projection are not optimistic, have improved greatly over time, and that the exogenously chosen variables—except for exports—are more accurate in the short run than the indicators calculated by the model. However, the difference in accuracy becomes less significant as the projection

² The indicators analyzed are GDP, import and export growth, plus gross domestic investment.

period lengthens. The IMF's World Economic Outlook projections are less accurate than the World Bank Unified Survey projections when examined over the whole period under investigation (1990-96). The World Bank Unified Survey projections are clearly more accurate in the later years, 1995 and 1996.

The remainder of the paper is organized as follows: Section 2 gives a brief description of the Unified Survey and the projections made with it. Section 3 explains the content of the database used for this study, the type of forecast that is being evaluated, and the different evaluation methods applied to the data set. Section 4 looks at the accuracy of projections and whether their quality has improved or deteriorated over time, and addresses the issue of whether projections are optimistic or pessimistic, or show a bias among the different regions. Section 5 examines the accuracy of the Unified Survey projections over time. Section 6 compares the World Bank Unified Survey projections with the IMF's World Economic Outlook projections, and Section 7 sets out the main conclusions.

2. The Unified Survey

The Unified Survey is carried out each year within the World Bank and has been its principal mechanism since 1984 for gathering quantitative macroeconomic information from country teams on member countries. Teams working on countries that are borrowing on IBRD terms (or that have a major impact on the world economy) are asked to formulate and quantify a "most likely" scenario for a set of macroeconomic variables.³ The main use of these macroeconomic projections is to evaluate the creditworthiness of these countries and compare regional and global aggregates compiled from the Unified Survey with the Global Economic Prospects (GEP), which is independently projected by the Bank's Development Prospects Group (DECPG). The Unified Survey Instructions Guide (1997) describes a "most likely" scenario as follows:

- The *most likely* scenario is usually not the same as the *base* case often used in the Country Assistance Strategy (CAS). Traditionally the CAS has contrasted a low-performance *base* case with a more favorable *high case* associated with greater policy reform and higher Bank lending programs; more recently, some CAS reports have identified the higher-performing scenario as the appropriate *base* for this purpose. The scenarios are often chosen to illustrate in quantitative terms the impact of proposed reforms, or the potential cost of changes in domestic or international economic conditions. For the Unified Survey, country teams are asked to make judgments and to distill the uncertainty down to a single set of projections.
- Global trade, interest rate, and commodity price assumptions on the international economic environment are used to the maximum extent possible. One strength of the Unified Survey process is that it obtains simultaneous results for a large number of countries sharing the same exogenous external assumptions. For most economies, there is no reason to modify the projected global trends; if it is necessary to do so in specific areas

³ Until the Unified Survey of FY98, the indicator coverage of the projection part of the survey was the same as the C-annexes of Country Assistance Strategy (CAS) documents.

(e.g., because of long-term export contract arrangements), the reasons are well documented in a memo that accompanies the submission.

- Realism is preferable to over-optimism. While it is appealing to imagine that all economies can achieve 5 to 7 percent real GDP growth and double-digit export growth in a year or two if only the right policies are followed, for many countries this is not likely to happen. Useful analysis of risk and creditworthiness requires the most realistic assessment of economic prospects that can be provided, rather than a rosy outlook in which unrealistically high growth obscures all risks.

3. Data Set, Definition of Projections and Methods of Evaluation

The data set. The database for this study contains for each country and indicator the projections and outcomes for the seven Unified Surveys (US91 to US97) under scrutiny. The database contains individual country pages, a page for each region⁴ and an overall (world) table. See Annex A for a country (China) example, Annex B for an example of a regional (Latin America) table, and Annex C for the overall (world) table. In the regional and the overall tables, the countries are weighted equally, as the purpose of the study is to provide feedback to the individual World Bank country teams on the accuracy of their projections, rather than on the accuracy of projections by regions or developing world as a whole⁵.

Type of projections. Four kinds of projections are presented in the database: the projection for the current, first-, second-, and a three-year average (least-square) projections.

The current-year projections are the projections for year x , say 1996, appearing in the Unified Survey of fiscal year $x+1$, i.e., US97, which were carried out in the fall of 1996⁶. The first-year are projections for year x , say 1996, appearing in the US of the World Bank's FY96. The three-year average or least-square growth rates forecast for period x to $x+2$, say 94-96, appear in the Unified Survey of the World Bank's FY95. From now on we will use the abbreviation US97 for those projections done in the fall of 1996.

There is debate in the literature about which outcomes to use, as the outcomes are revised several times before they become final (see Aysoy and Yilmaz (1998)). Artis in his evaluation of the Fund's World Economic Outlook (Artis 1996) has chosen the first outcome, arguing that confronting the forecaster with the available set of outcomes at the time of the forecast, does not oblige him to forecast the data revision process as well. However, in this study we chose the latest actual values available at the time of this

⁴ We grouped Europe and Central Asia (ECA) together with Middle East and North Africa (MNA), and South Asia (SAS) and East Asia and the Pacific (EAP), because not enough countries in these regions were covered in the Unified Survey exercises.

⁵ To evaluate regional and worldwide development projections, one should compare the projections and outcomes of the World Bank's Global Economic Prospect publication.

⁶ Fall 1996 is in the Bank's fiscal year 97 which begins on July 1 of calendar 1996.

study, which are those of the US97 and US98, prepared during the fall of 1996 and 1997 respectively. Our choice is motivated by the fact that the latest data are often more reliable than the first outcome which could be, in some cases, estimates and not the final outcomes.

Methods of evaluation. The literature is replete with suggested techniques for evaluating forecasting exercises (see Wallis (1989) for a survey). In this paper we focus on the following five evaluation techniques:

1. *The Mean Absolute Deviation (MAD).* This technique has the advantage of simplicity. It provides information about how far projections are from outcomes by taking the absolute value of projections minus outcomes. In its simplicity resides also its deficiency. It does not give a benchmark against which to appraise the performance of the projections. Consequently, the same projections could be considered accurate by one person and inaccurate by another. As this forecasting error statistic depends on the scale of the dependent variable, it can best be used as a relative measure to compare projections for the same time series across different models or across different time periods: the smaller the error, the better the forecasting ability according to the mean absolute deviation criterion. The formula for the mean absolute deviation is:

$$\begin{aligned} \text{MAD} &= \Sigma |\text{forecast error}| / \text{number of forecasts} \\ &= \Sigma |o_t - p_t| / n \end{aligned}$$

where o_t is the outcome of the indicator at time t , p_t is the projection of this indicator and n is number of periods for which projections are available.

2. *The Root Mean Square Error (RMSE).* Like the MAD, the RMSE method is a projection evaluation statistic that depends on the scale of the dependent variable and, hence, is best used to compare different series of projections for the same indicator. The set of projections with the lowest RMSE is better than the others. This technique measures the accuracy of a series of projections relative to others, but again fails to inform us about how efficient a single series of projections is (see outcome-projection regression technique below). The formula of the root mean square error is:

$$\text{RMSE} = (\Sigma (o_t - p_t)^2 / n)^{1/2}$$

where the term between the outer brackets is the so-called Mean Square Error (MSE)

3. *Decomposition of the Mean Square Errors.* The econometrician Henri Theil (Theil, 1966) developed a simple decomposition of the MSE into three components. Each component addresses a different aspect of the accuracy of the projections. The bias component indicates how far the mean of the forecast is from the mean of the actual series. The variance component indicates how far the variation of the forecast is from the variation of the actual series and the covariance component measures the remaining unsystematic projection errors. If the projection is accurate, the bias and variance components should be small such that most of the error is concentrated in the covariance component. The formula of the decomposition can be written as follows:

$$\text{MSE} = (P - O)^2 + (s_o + s_p)^2 + 2(1 - r)s_o s_p$$

Note that the bias, variance, and covariance proportions add up to one, once we divide both sides of the equation by the MSE.

$$1.0 = (P - O)^2/\text{MSE} + (s_o + s_p)^2/\text{MSE} + 2(1 - r)s_o s_p/\text{MSE}$$

Where O , P , s_o , and s_p are the mean and standard deviation of the outcome and projection respectively and r is the correlation coefficient.

4. *Theil's Inequality Coefficient.* The simplest model to project an indicator is the "no-change" projection i.e. the projection for next year is equal to the outcome of this year. One can compare a set of projections to the "no-change" set of projections by using the measure introduced by Theil (Theil 1966). Theil's inequality coefficient compares the RMSE of the projections for a given indicator with the RMSE of its naïve alternative i.e. the "no change" projection. If Theil's inequality coefficient is equal to 0, then the model projects perfectly. Smaller than 1 indicates that the model performs better than the "no-change" model. If Theil's inequality coefficient is equal to 1, then the "no-change" model projects as accurate as the projection model used. If the projection model performs worse than the "no-change" model Theil's inequality coefficient is greater than 1. Note that this measure is scale invariant and hence is more suitable to evaluate the accuracy of the model used to project the indicator than the MAD and RMSE. The formula of Theil's inequality coefficient can be written as follows:

$$\text{Theil's Inequality Coefficient} = \text{RMSE (model)} / \text{RMSE ("no-change" model)}$$

5. *Outcome-Projection Regression.* This technique allows a test of the efficiency of the projections. Rationality consideration suggests that a "good" (or "rational") projection should produce errors that are unbiased and not serially correlated. Evidence to the contrary would suggest immediately that an improving correction could be made to the projection process. The regression allows identifying clearly what parameter restrictions would correspond to the perfect forecast. The following equation is estimated:

$$O_t = \beta_0 + \beta_1 P_t + v_t$$

Where O_t is the outcome, P_t the projection and v_t an error term. The projections are efficient if the estimates of β_0 and β_1 are not significantly different from, respectively, 0 and 1. However, as β_0 and β_1 are likely to be correlated, the appropriate test for efficiency is a joint one.

4. Accuracy of the Unified Survey Projections.

The accuracy of the projections will be analyzed through the mean absolute deviation (MAD), the root mean square error (RMSE), the decomposition of the RMSE's sister, i.e., the mean square error (MSE), and Theil's inequality coefficient and an outcome-projection regression. Note again that the first two measures, MAD & RMSE, are scale dependent and do not provide an objective benchmark to evaluate them against. The MAD & RMSE are best used for comparison of projections done over time, across

different projection models and/or across different regions. We will put most weight on these two measures to compare the accuracy of the Unified Survey projections done over time, e.g., for the US96 for the current year compared with those done for the US95 for the current year and to compare the accuracy of projections done for the same time series, but by different regions or institutions e.g., projections for the World Bank's Unified Survey and the IMF's World Economic Outlook. Hence, this section will put more emphasis on the other three measures.

Table 2. Accuracy of Unified Survey Current Year Projections (full sample)

	GDP Growth US91-US97	GDP Inflation US91-US97	GDI/GDP ratio US91-US97	CAB/GDP ratio US91-US97	GBB/GDP ratio US84-US97	Export Growth US91-US97	Import Growth US91-US97
Mean Dependent Variable	3.2	124.8	21.9	-2.4	-3.4	7.3	9.2
Mean Absolute Deviation	1.7	23.8	2.3	1.4	3.1	6.3	7.7
AFR	2.2	11.2	2.7	2.2	5.2	10.1	8.6
SAS & EAP	0.9	2.3	2.6	0.7	3.0	5.7	5.9
ECA & MNA	2.0	16.7	1.7	1.8	2.9	5.6	7.8
LAC	1.4	50.3	2.3	1.0	1.8	4.1	7.7
Root Mean Squared Error	2.7	91.4	3.2	2.2	5.3	9.4	11.5
AFR	3.5	20.9	3.9	3.0	8.1	14.4	12.1
SAS & EAP	1.3	3.2	3.6	0.9	4.5	7.2	7.0
ECA & MNA	3.2	66.0	2.5	2.8	4.7	7.3	11.4
LAC	2.1	147.6	2.9	1.7	2.8	5.8	12.8
Decomposition of MSE	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Bias Proportion	3.9	2.6	4.0	7.4	7.6	3.0	2.9
Variance Proportion	0.0	45.7	0.5	2.2	4.0	4.9	2.6
Covariance Proportion	96.1	51.7	95.5	90.4	88.3	92.1	94.5
Naïve Theil	55.0	14.9	120.7	58.2	178.8	66.7	56.1
AFR	66.1	73.4	111.5	71.4	218.8	67.9	67.0
SAS & EAP	55.1	85.0	159.2	45.5	486.6	74.9	63.6
ECA & MNA	61.0	94.9	88.2	57.1	177.4	64.7	53.5
LAC	39.9	13.9	138.2	45.8	83.4	59.8	51.5
Outcome-Projection regression							
Adjusted R-Squared	68.2	98.6	77.7	77.9	21.2	21.8	48.8
β_1	0.83	1.11	0.85	0.95	0.38	0.60	0.80
t test: if < 2 then $\beta_1 = 1$	3.76	-9.95	3.69	1.10	8.52	4.18	2.69
β_0	0.98	2.65	3.78	0.47	-2.69	3.89	3.44
t test: if < 2 then $\beta_0 = 0$	4.17	0.45	4.25	2.12	-4.42	4.21	3.22
Joint Test for efficiency	No	No	No	No	No	No	No
F statistic ($\beta_1 = 1$ & $\beta_0 = 0$)	10.5	52.7	9.8	6.3	43.2	11.1	6.5

Table 2 for the current year and table 3 for the first year give an overview of all the measures used to evaluate the accuracy of the Unified Survey projections for 1990-96. Tables 2 and 3 report the MAD, RMSE and Theil's inequality coefficient for the overall sample, as well as by region. Evaluating the results for the Mean Absolute Deviation, it is clear that Africa has a bigger MAD for all the indicators, except for GDP inflation, for the current year as well as for the first-year projections. The Latin American Region has the highest MAD for GDP inflation projections. Asia and the Pacific Region have the lowest MAD for GDP growth, GDP inflation, current account balance (CAB) to GDP ratio and import growth for the current year and the first-year projections. Eastern Europe and North Africa have the lowest MAD for the gross domestic investment (GDI) to GDP ratio for the current year, but are otherwise close to the MADs for each indicator of the overall sample.

Note that the MADs for the overall period are smaller for the current-year projections than for the first-year projections. Only for Eastern Europe and North Africa

did the MAD for GDP inflation and government deficit (GBB) to GDP ratio of the first-year projections improve compared to the current-year projections.

It is worrisome that the MAD current-year projections for government deficit (GBB) to GDP, export growth and import growth which are 90%, 86% and 83% respectively of their mean outcome and which percentages increase for the first-year projections to 117%, 89% and 99%.

Table 3. Accuracy of Unified Survey for 'First Year' Projections (full sample)

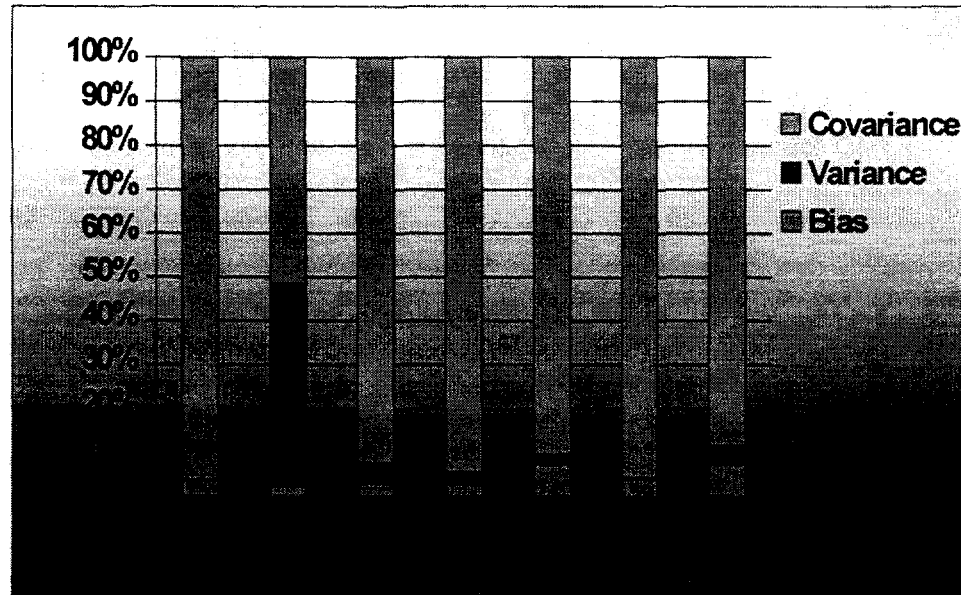
	GDP Growth US91-US96	GDP Inflation US91-US96	GDI/GDP ratio US91-US96	CAB/GDP ratio US91-US96	GBB/GDP ratio US94-US96	Export Growth US91-US96	Import Growth US91-US96
Mean Dependent Variable	3.5	63.8	22.0	-2.4	-3.5	7.6	9.9
Mean Absolute Deviation	2.4	35.4	3.1	2.4	4.1	6.8	9.8
AFR	2.7	14.0	3.5	3.2	7.6	10.2	8.0
SAS & EAP	1.9	2.6	3.0	1.3	3.2	7.0	6.5
ECA & MNA	2.9	8.8	3.1	3.0	2.8	5.0	8.9
LAC	2.2	88.4	3.0	2.1	2.8	5.3	13.6
Root Mean Squared Error	3.4	213.7	4.1	3.2	6.2	9.4	13.2
AFR	4.1	21.0	4.6	3.9	10.0	13.7	11.5
SAS & EAP	2.5	3.4	3.9	1.7	5.0	8.7	8.0
ECA & MNA	3.8	13.9	4.1	3.7	4.2	6.9	11.1
LAC	2.8	369.5	4.0	2.9	3.9	6.7	17.2
Decomposition of MSE	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Bias Proportion	0.2	2.1	0.4	3.1	10.7	3.0	11.4
Variance Proportion	15.0	90.2	0.0	0.1	2.5	25.2	36.7
Covariance Proportion	84.8	7.7	99.6	96.8	77.8	71.9	51.9
Naïve Theil	71.7	36.5	148.8	84.9	206.8	67.1	61.4
AFR	74.9	80.8	132.8	101.0	280.5	63.3	60.3
SAS & EAP	101.8	87.8	166.6	93.8	485.2	89.0	69.5
ECA & MNA	78.9	19.7	148.6	76.6	171.5	62.6	51.3
LAC	58.0	38.5	156.1	78.8	105.2	74.8	65.8
Outcome-Projection regression							
Adjusted R-Squared	38.7	82.2	62.5	52.7	73.4	13.1	39.1
β_1	0.90	3.55	0.79	0.71	1.00	0.72	1.28
t test: if < 2 then $\beta_1 = 1$	1.04	-17.30	3.80	4.88	0.03	1.76	-1.88
β_0	0.49	53.31	4.85	-0.28	-1.77	3.32	2.90
t test: if < 2 then $\beta_0 = 0$	1.12	-4.68	3.64	-0.86	-2.49	2.56	2.07
Joint Test for efficiency	Yes	Yes	Yes	Yes	Yes	Yes	Yes
F statistic ($\beta_1 = 1$ & $\beta_0 = 0$)	0.7	153.7	6.7	12.8	3.1	3.3	9.3

The *root mean square error* (RMSE), which gives more weight to large projection errors compared to the MAD, shows an almost identical result as the mean absolute deviation. The RMSE does not increase percentage wise as much as the MAD when we go from the current-year to the first-year, except for GDP inflation. Hence, one can conclude that the projection errors are not caused by large projection errors (outliers) (see also the paragraphs on the decomposition of the MSE).

The indicator most supportive of the accuracy of the Unified Survey projections is the *decomposition of the mean square error* (MSE). None of the indicators show any significant part of the MSE explained by the bias component, except maybe for the first-year projections for GBB/GDP ratio (10.7%) and import growth (11.4%). Having a small bias proportion of the MSE composition signals that the mean of the actual outcomes is not far from the mean of the projections. (see figure 1). For the current-year projections only GDP inflation has a significant proportion (45.7%) of the MSE explained the fact that the variation of the projections is different from the variation of the actual outcomes.

The first-year projections show a similar result for GDI/GDP, CAB/GDP and GBB/GDP ratios. A bigger part of the MSE for GDP growth, GDP inflation, export and import growth is caused by the variance component.

Figure 1. Decomposition of the Mean Square Error (full sample)



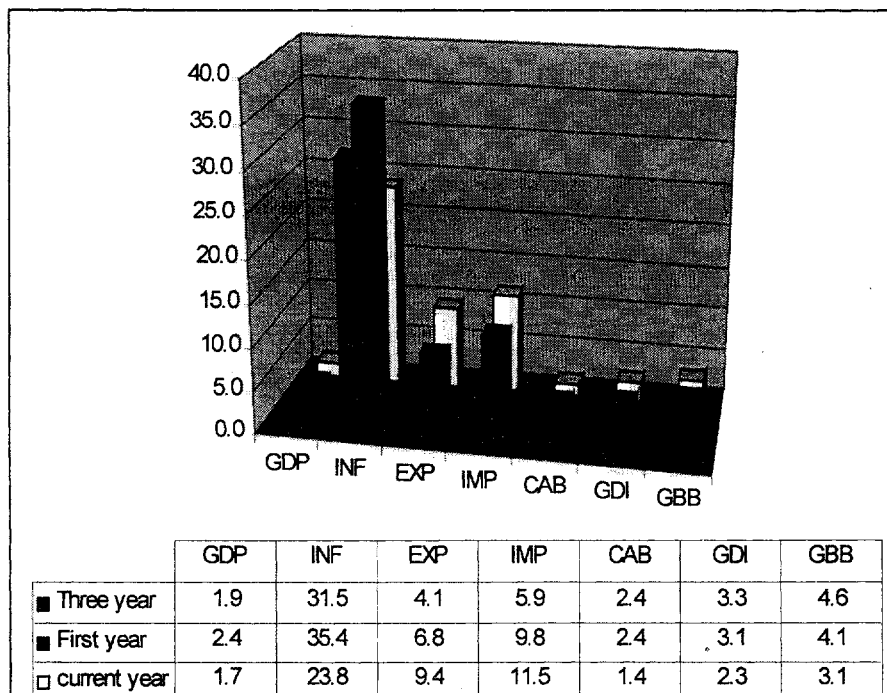
The *Theil's inequality coefficient* statistics are clearly above one for current-year projections for GDI/GDP and GBB/GDP ratios, indicating that the naïve projection, i.e., last year's outcome as this year's projection, would have done better. The Theil's inequality coefficient statistic worsens significantly for the first-year projections for all the indicators except export growth. However, for investment and government deficit does Theil's inequality coefficient exceed 1.

The results of the *outcome-projection regressions* are quite disastrous. None of the indicators evaluated passes the joint test for significance ($\alpha_0=0$ and $\alpha_1=1$) as measured by the F-statistic (Tables 2 and 3). The only indicator getting close to the 5% significant level is the current account balance as a ratio to GDP. If one takes a close look at the R^2 adjusted for each variable, then inflation jumps out on the positive side with a value for R^2 adjusted of 98.6. Government deficit as a ratio to GDP together with export and import growth stand out on the negative side with R^2 adjusted of 21.2, 21.8 and 48.8 respectively. The outcome-projection regression results for the first-year projections are not much better. Although the significance of GDP growth as measured by the F statistic for the joint test greatly improves, the R^2 adjusted drops from 68.2 to 38.7 leaving much to be desired. The R^2 adjusted for the first-year projection of the government deficit as ratio to GDP improves remarkably from a meager and unsatisfactory 21.2 to a comfortable 73.4. However, for all other first-year indicators the R^2 adjusted drops.

The mean absolute deviation (MAD) for the three-year least square growth rates for GDP and GDP inflation are in between the MAD for the current-year and the first-year projections, indicating that accuracy does not deteriorate when incorporating the third year of the projection period. This is not the case for export and import for which the

three-year least square growth projection is significantly more accurate than the first and current-year projection. The three average projection of the current account balance, gross domestic investment and the government balance all indicate a greater deviation from the outcome than for the first and current-year projection.

Figure 2. Trends in Mean Absolute Deviations



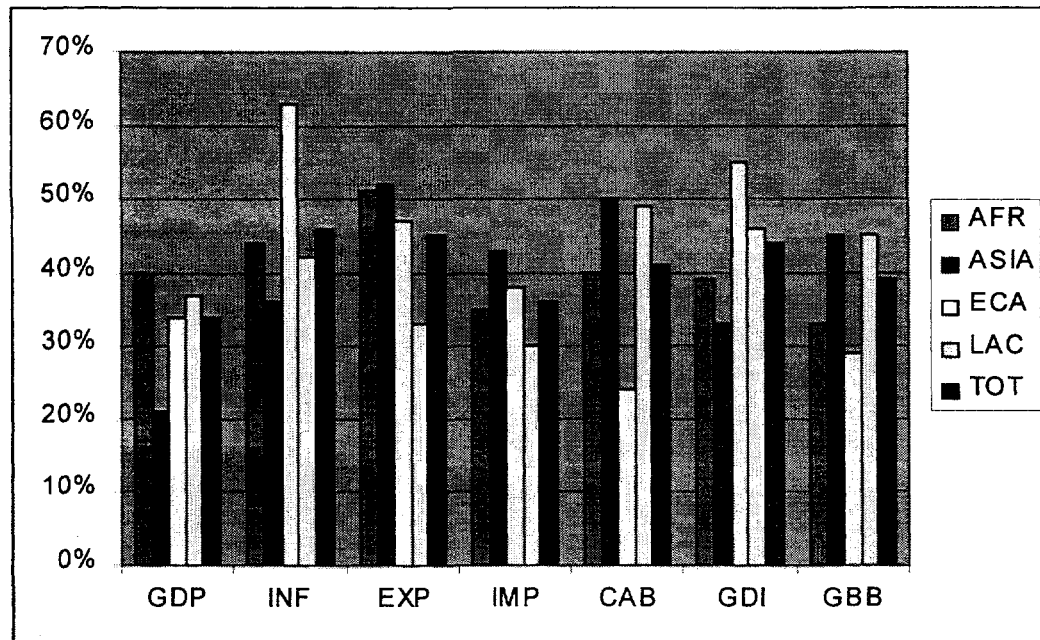
Optimistic Versus Pessimistic Projections. To assess whether projections are optimistic or pessimistic, the indicator chosen is the relative number of optimistic projections. A projection is optimistic if it is higher (lower for inflation) than the outcome. In this study, indicators will be considered pessimistic, neutral, or optimistic if the ratio of optimistic projections over the total number of projections is less than 45%, between 45 and 55% and more than 55%.

Generally speaking, the result shows that both current-year and three-year average projections, are slightly pessimistic (table 5). According to these criteria, all current-year projections, except for GDP inflation, are pessimistic. First-year projections are again all, except for the current account balance as a percentage of GDP, underestimated. The same holds for the three-year projections. Hence, in general the projections have been pessimistic during the period (1990-1996) under investigation. This is in sharp contrast with the conclusions drawn by Hicks and Vaugois (1990) in their evaluation of World Bank projections for the period 1983-1985. They conclude that the projections are often overly optimistic.

	Current Year	First Year	Three-year
GDP	34 %	40 %	43 %
Inflation	46 %	38 %	31 %
Exports	45 %	45 %	31 %
Imports	36 %	32 %	36 %
CAB	41 %	49 %	46 %
GDI	44 %	44 %	42 %
GBB	39 %	44 %	-

On a regional basis (figure 3), the current-year projections are overestimated only for GDP inflation in MNA & ECA. Note that Africa has no more optimistic projections than any of the other regions, while this was not the case in the earlier study by Hicks and Vaugeois.

Figure 3. Regional Percentage of Optimistic Projections for ‘Current’ Year



The following conclusions can be drawn:

- The MADs are quite large for GBB/GDP ratio, export and import growth.

- MAD & RMSE are bigger for the first-year projections than for the current-year projections.
- Africa has the largest MAD for current and first-year projections except for GDP inflation (LAC).
- The decomposition of the MSE suggests that most of the MSE can be contributed to covariance. However, a significant part of the MSE for GDP inflation is explained by the variance component.
- Using last year's outcome as estimate for the current-year and first-year projection can more accurately project investment as a ratio to GDP and the government deficit as a ratio to GDP.
- The outcome-projection regression shows that the projections are inefficient, especially for government deficit as ratio to GDP, export growth and import growth.
- The mean absolute deviation (MAD) of the three-year least square growth rate for export and import show an improvement with respect to MAD of these variables for the current and first-year projections. The opposite is true for the MAD of all other variables.
- The projections are in general pessimistic and there is no regional bias for the current-year projections.

5. Accuracy of the US Projections Over Time

It is interesting to look at the accuracy of the Unified Survey over time to see if the bleak picture sketched in the previous section is caused by inaccuracy of the projections done in the earlier years, equally distributed over time or caused by increased inaccuracy in later years. We evaluate the accuracy over time using the mean absolute deviation (MAD) measure, the root mean square error (RMSE) measure, and the outcome-projection regression. Tables 6 through 12 show the detailed results for each indicator of this exercise for the current-year projections and Figure 3 shows graphically the results of the RMSE evaluation over time for each indicator for the first-year projections.

Accuracy of current-year projections over time. The RMSE and the MAD have clearly improved for the latter years for all the variables. Whilst the RMSE was 5.3 for GDP growth for the current-year projections of the US91, it was only 0.6 for the US97. Even more striking is the improvement in the RMSE and MAD for GDP inflation. The RMSE and the MAD for GDP inflation plummeted from a high 210.8 and 97.0 respectively in the US91, to 3.8 and 2.3 respectively for the US97. Note that the decrease (see graphs in Tables 6 and 7) would be almost continuous were it not for the US96. The little bubble in the US96 seemed to have been caused by the Africa region, which probably miscalculated the impact of the January 1995 CFAF devaluation. The outcome-projection regression for GDP growth and GDP inflation show notable increases in

Table 6. Evaluation of Current-year Projections Over Time

	GDP Growth							
	US91-97	US97	US96	US95	US94	US93	US92	US91
Mean Dependent Variable	3.2	4.8	3.6	3.7	3.5	2.6	2.4	1.5
Mean Absolute Deviation	1.7	0.5	1.3	1.2	1.2	1.8	2.2	3.6
AFR	2.2	0.6	2.5	1.7	1.6	2.6	2.1	4.5
SAS & EAP	0.9	0.2	0.5	0.9	0.4	1.2	2.4	1.1
ECA & MNA	2.0	0.5	1.3	1.2	1.3	1.9	2.1	5.6
LAC	1.4	0.6	0.8	1.1	1.1	1.4	2.4	3.0
Root Mean Squared Error	2.7	0.6	2.5	1.6	1.6	2.3	2.6	5.3
AFR	3.5	0.8	4.6	2.1	2.5	3.5	2.3	6.3
SAS & EAP	1.3	0.3	0.6	1.0	0.5	1.4	2.5	1.4
ECA & MNA	3.2	0.6	1.5	1.3	1.4	2.3	2.8	7.2
LAC	2.1	0.7	1.2	1.5	1.2	1.6	2.7	4.3
Outcome-Projection regression								
Adjusted R-Squared	68.2	93.1	63.5	90.9	86.3	87.3	73.0	17.5
β_1	0.83	0.98	0.91	0.96	0.80	0.87	0.97	0.52
t test; if < 2 then $\beta_1 = 1$	3.76	0.35	0.61	0.68	2.93	1.84	0.19	2.16
β_0	0.98	0.15	0.28	0.98	0.98	1.50	0.75	0.96
t test; if < 2 then $\beta_0 = 0$	4.17	0.49	0.37	2.85	2.76	3.75	1.21	8.82
Joint Test for efficiency	No	Yes	Yes	No	No	No	No	No
F statistic ($\beta_1 = 1$ & $\beta_0 = 0$)	10.50	0.14	0.19	4.57	5.11	7.56	0.78	2.42

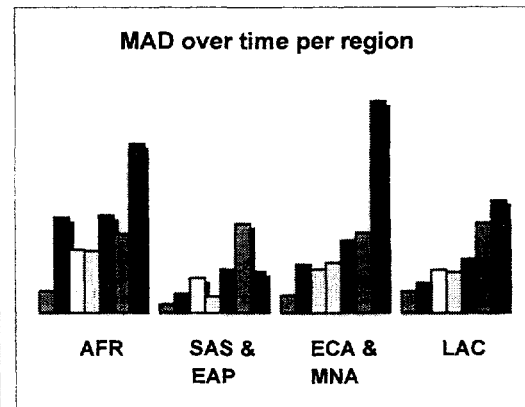
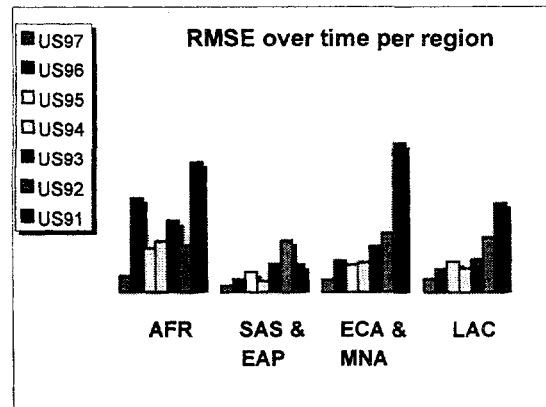
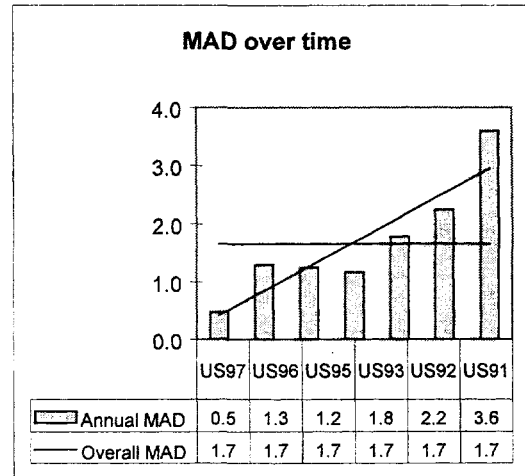
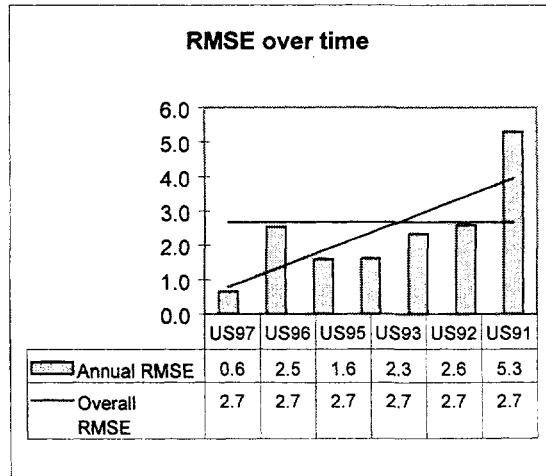


Table 7. Evaluation of Current Year Projections Over Time
GDP Inflation

	US91-97	US97	US96	US95	US94	US93	US92	US91
Mean Dependent Variable	124.8	22.0	26.7	125.0	116.0	73.3	48.4	412.8
Mean Absolute Deviation	23.8	2.3	8.1	10.8	31.4	14.6	19.4	97.0
AFR	11.2	3.5	24.7	7.1	13.2	10.7	2.5	13.1
SAS & EAP	2.3	1.1	1.6	3.0	1.5	1.0	2.4	5.6
ECA & MNA	16.7	2.5	2.2	3.9	5.0	2.9	6.9	93.8
LAC	50.3	1.9	2.6	21.4	74.2	31.7	79.8	223.6
Root Mean Squared Error	91.4	3.8	20.7	34.1	123.5	47.5	47.9	210.8
AFR	20.9	6.1	40.2	7.6	19.4	18.0	2.7	15.5
SAS & EAP	3.2	1.6	2.0	3.2	1.9	1.0	2.7	6.4
ECA & MNA	66.0	2.8	2.5	5.6	6.5	4.2	9.2	174.0
LAC	147.6	2.4	3.6	56.0	204.1	79.0	106.4	347.2
Outcome-Projection regression								
Adjusted R-Squared	98.6	97.7	61.0	100.0	99.9	99.9	94.0	99.1
β_1	1.11	1.01	0.52	1.07	1.39	0.81	1.85	1.10
t test; if < 2 then $\beta_1 = 1$	-9.95	-0.25	5.45	-23.72	-36.46	37.53	-6.83	-3.83
β_0	2.65	-0.68	11.49	-2.14	-12.48	4.03	-22.68	48.20
t test; if < 2 then $\beta_0 = 0$	0.45	-6.16	2.88	-1.49	-3.62	3.12	-2.84	1.32
Joint Test for efficiency	No	Yes	No	No	No	No	No	No
F statistic ($\beta_1 = 1$ & $\beta_0 = 0$)	52.7	0.22	15.20	294.23	693.48	751.65	26.50	10.76

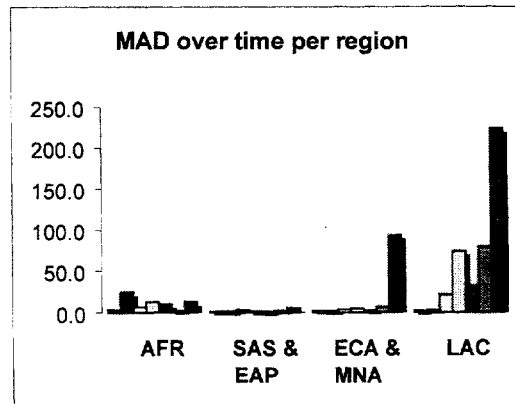
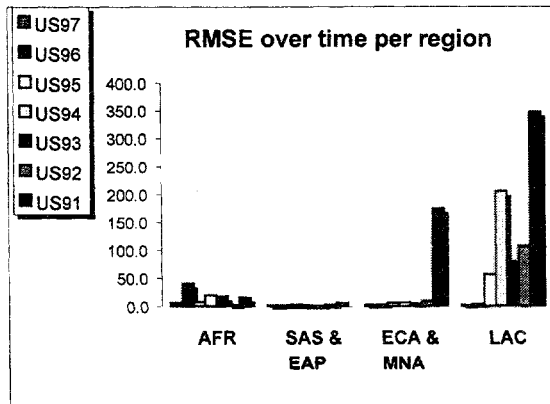
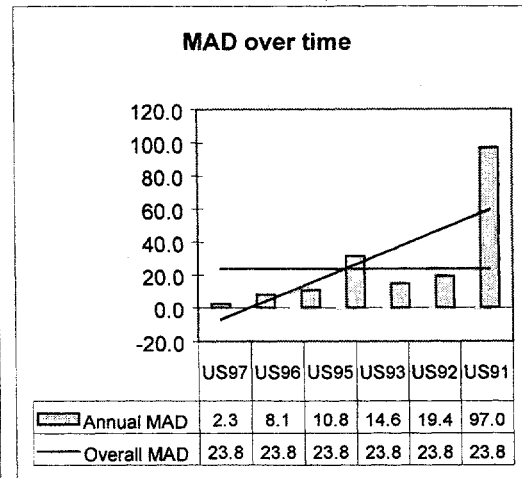
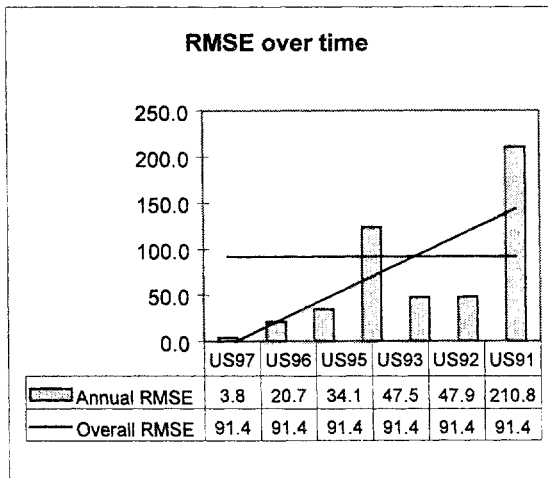


Table 8
Evaluation of current year projections over time
GDI/GDP ratio

	US91-97	US97	US96	US95	US94	US93	US92	US91
Mean Dependent Variable	21.9	22.0	21.6	21.4	21.3	21.0	21.2	21.2
Mean Absolute Deviation								
AFR	2.7	1.0	2.4	4.1	2.7	3.5	4.9	2.1
SAS & EAP	2.6	1.0	1.9	2.0	3.2	1.6	4.3	4.7
ECA & MNA	1.7	1.5	1.1	1.4	2.6	2.3	1.7	1.6
LAC	2.3	1.2	2.3	2.0	2.0	2.2	1.1	4.6
Root Mean Squared Error								
AFR	3.9	1.4	3.4	5.8	3.4	5.2	5.8	2.3
SAS & EAP	3.6	1.2	2.6	2.4	5.1	1.8	4.9	5.1
ECA & MNA	2.5	2.4	1.4	1.5	3.6	3.6	2.0	1.8
LAC	2.9	1.4	3.3	2.4	2.8	2.6	1.3	4.7
Outcome-Projection regression								
Adjusted R-Squared	77.7	92.9	80.7	88.5	71.0	71.4	84.3	68.0
β_1	0.85	0.98	0.89	0.78	1.07	1.01	0.59	0.89
t test; if < 2 then $\beta_1 = 1$	3.69	0.35	1.10	3.38	-0.42	-0.05	5.83	0.70
β_0	3.78	0.48	2.73	5.51	-0.60	0.53	10.56	3.89
t test; if < 2 then $\beta_0 = 0$	4.25	0.37	1.24	3.67	-0.17	0.17	6.13	1.29
Joint Test for efficiency	No	Yes	No	No	Yes	Yes	No	No
F statistic ($\beta_1 = 1$ & $\beta_0 = 0$)	9.8	0.07	0.83	6.71	0.51	0.33	18.00	2.46

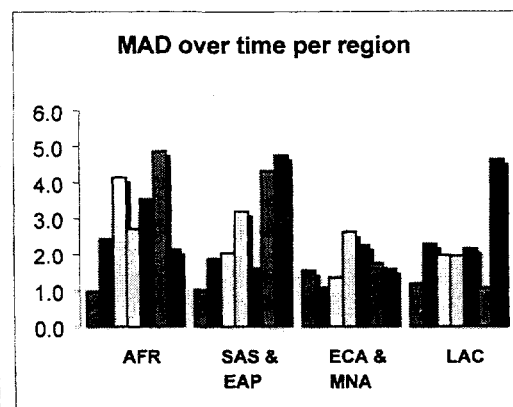
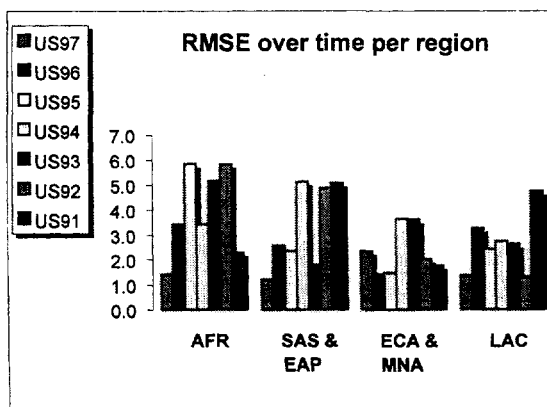
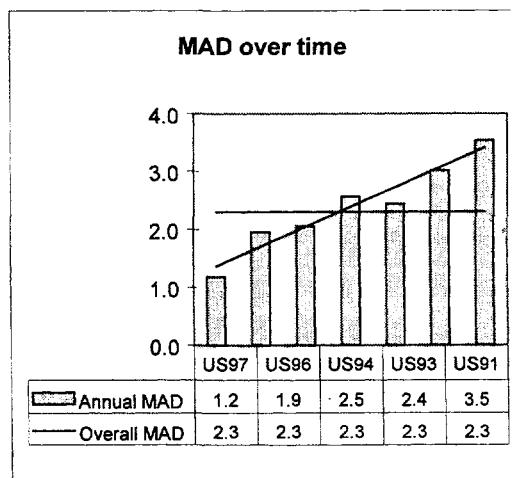
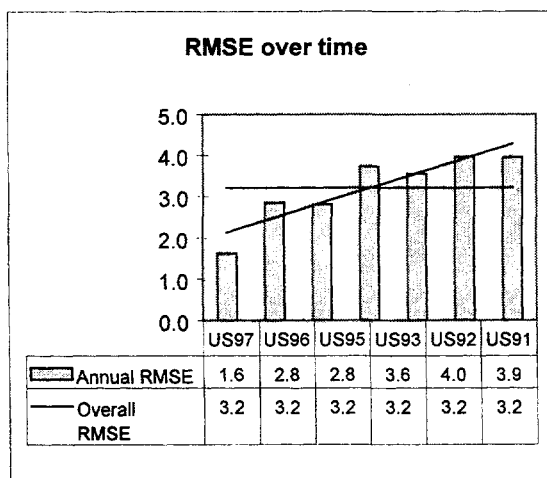


Table 9
 Evaluation of current year projections over time
 CAB/GDP ratio

	US91-97	US97	US96	US95	US94	US93	US92	US91
Mean Dependent Variable	-2.4	-1.9	-3.0	-3.2	-3.7	-3.1	-2.5	-1.4
Mean Absolute Deviation	1.4	1.1	1.3	0.9	1.8	1.6	1.7	1.9
AFR	2.2	2.0	2.4	1.3	2.2	2.9	2.1	2.9
SAS & EAP	0.7	0.2	0.7	0.5	0.4	0.8	1.3	0.8
ECA & MNA	1.8	1.0	2.1	0.7	2.8	1.4	1.8	2.7
LAC	1.0	0.9	0.5	0.9	1.5	1.1	2.3	1.2
Root Mean Squared Error	2.2	2.2	1.8	1.1	2.9	2.6	1.9	2.6
AFR	3.0	3.6	2.5	1.4	2.4	4.3	2.1	3.2
SAS & EAP	0.9	0.2	1.1	0.6	0.5	0.9	1.3	1.1
ECA & MNA	2.8	1.3	2.4	0.9	4.6	2.4	2.0	3.6
LAC	1.7	1.8	0.7	1.2	2.4	1.5	2.3	1.7
Outcome-Projection regression								
Adjusted R-Squared	77.9	76.1	64.4	91.1	63.2	81.0	88.6	85.7
β_1	0.95	0.96	0.90	0.94	0.88	0.88	0.89	1.18
<small>t test; if < 2 then $\beta_1 = 1$</small>	1.10	0.33	0.71	0.92	0.82	1.18	1.15	-1.64
β_0	0.47	0.54	-0.31	-0.51	0.48	0.87	1.05	1.07
<small>t test; if < 2 then $\beta_0 = 0$</small>	2.12	0.99	-0.58	-1.83	0.54	1.41	2.28	1.88
Joint Test for efficiency	No	No	Yes	No	No	No	No	No
F statistic ($\beta_1 = 1$ & $\beta_0 = 0$)	6.27	1.01	0.27	1.68	1.90	4.04	7.12	2.31

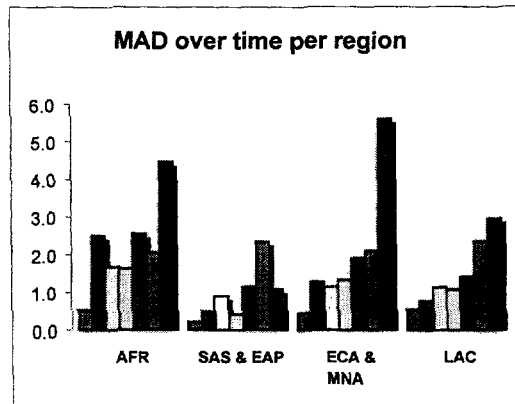
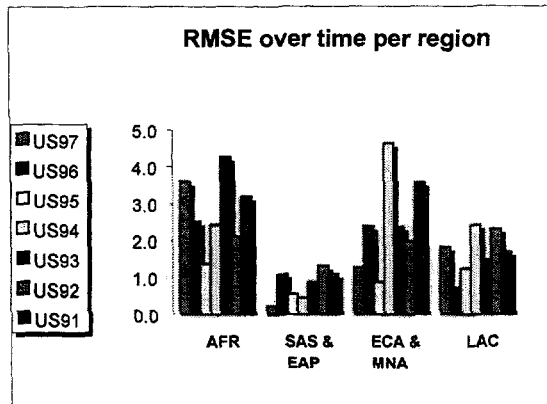
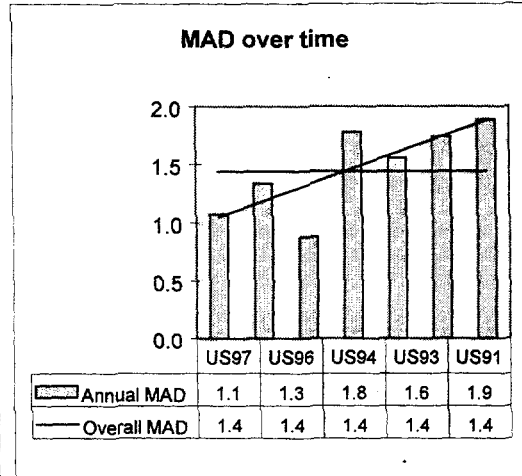
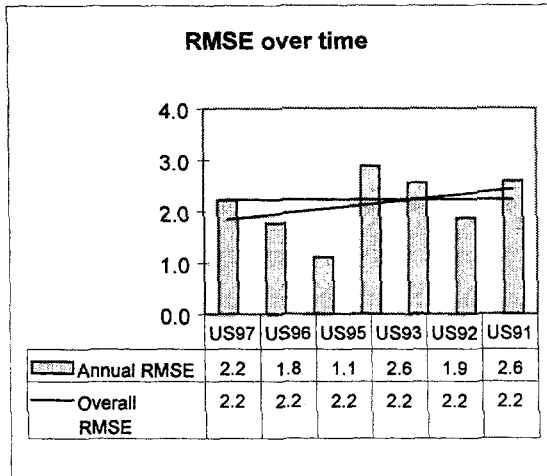


Table 10
Evaluation of current year projections over time
GBB/GDP ratio

	US93-97	US97	US96	US95	US94	US93
Mean Dependent Variable	-3.4	-2.3	-2.8	-3.5	-4.9	-4.4
Mean Absolute Deviation	3.1	1.1	1.4	1.5	7.1	7.1
AFR	5.2	1.8	1.6	2.1	10.0	11.4
SAS & EAP	3.0	1.0	0.3	2.3	4.6	6.6
ECA & MNA	2.9	1.0	1.6	1.1	9.2	4.9
LAC	1.8	0.8	1.6	1.1	4.9	2.5
Root Mean Squared Error	5.3	2.1	2.0	2.4	8.8	9.0
AFR	8.1	3.5	1.7	2.8	12.1	13.1
SAS & EAP	4.5	1.2	0.6	3.1	6.3	7.2
ECA & MNA	4.7	1.1	2.1	1.8	10.1	6.3
LAC	2.8	1.5	2.6	2.0	5.4	2.6
Outcome-Projection regression						
Adjusted R-Squared	21.2	74.4	61.8	69.1	6.7	-0.6
β_1	0.38	0.85	0.70	0.81	0.27	0.16
t test; if < 2 then $\beta_1=1$	8.52	1.40	2.53	1.57	3.78	5.03
β_0	-2.69	-0.11	-0.95	-0.51	-4.96	-4.87
t test; if < 2 then $\beta_0=0$	-6.42	-0.22	-1.86	-0.80	-3.43	-4.08
Joint Test for efficiency	No	No	No	No	No	No
F statistic ($\beta_1 = 1$ & $\beta_0 = 0$)	43.2	1.15	3.26	1.25	12.24	21.69

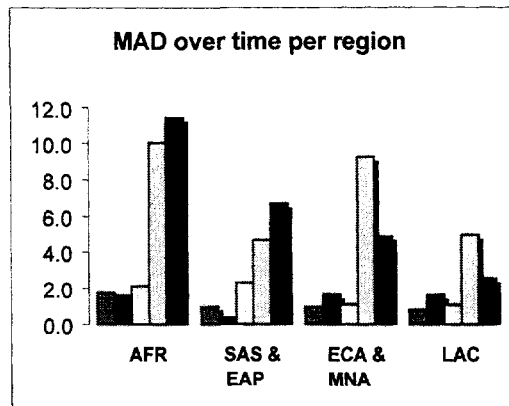
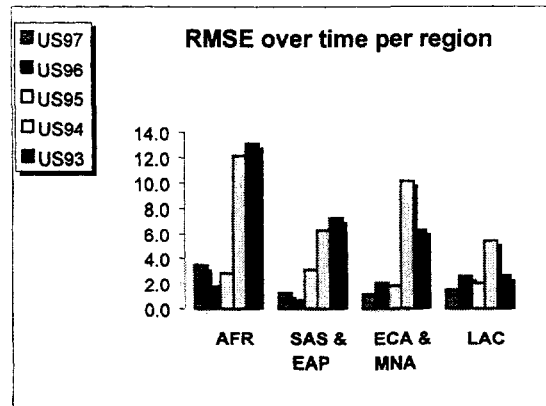
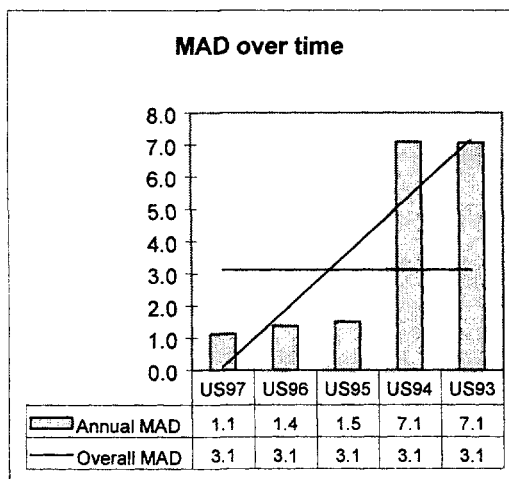
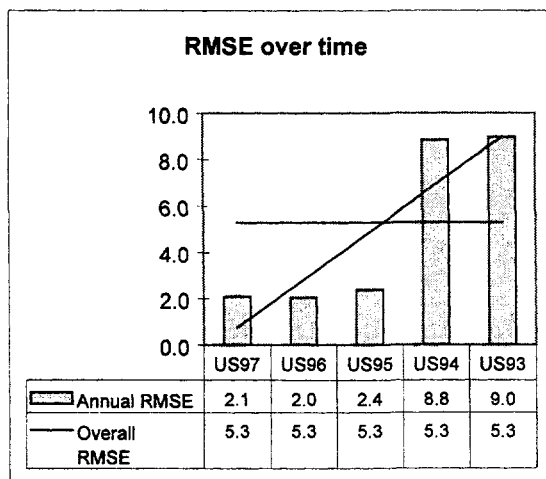


Table 11
Evaluation of current year projections over time
Export Growth

	US91-97	US97	US96	US95	US94	US93	US92	US91
Mean Dependent Variable	7.3	10.9	8.8	8.7	5.1	8.1	3.5	5.3
Mean Absolute Deviation	6.3	5.4	4.0	7.4	6.0	6.0	9.5	6.4
AFR	10.1	8.7	6.6	13.0	9.9	11.7	10.6	10.1
SAS & EAP	5.7	9.2	4.7	3.4	5.7	3.4	10.2	3.4
ECA & MNA	5.6	4.7	2.4	5.2	5.8	5.6	9.6	5.8
LAC	4.1	1.6	2.6	6.0	3.0	2.4	8.4	6.4
Root Mean Squared Error	9.4	8.2	5.5	10.2	8.4	12.2	11.7	7.6
AFR	14.4	11.3	8.4	15.9	13.3	21.5	13.8	10.8
SAS & EAP	7.2	11.9	5.0	3.8	6.4	4.1	10.3	4.1
ECA & MNA	7.3	6.3	2.7	7.1	6.4	6.6	11.8	6.9
LAC	5.8	1.7	3.7	7.2	3.7	3.0	10.7	7.3
Outcome-Projection regression								
Adjusted R-Squared	21.8	4.6	63.9	17.9	33.5	-5.2	6.7	20.4
β_1	0.60	0.55	1.02	0.67	0.84	-0.03	0.31	0.58
t test: if < 2 then $\beta_1 = 1$	4.18	1.14	-0.13	1.15	0.66	2.44	3.29	1.50
β_0	3.89	6.92	-1.05	3.40	1.93	7.77	3.09	2.24
t test: if < 2 then $\beta_0 = 0$	4.21	1.95	-0.51	1.15	0.92	2.71	1.38	0.87
Joint Test for efficiency	No	No	Yes	No	Yes	No	No	No
F statistic ($\beta_1 = 1$ & $\beta_0 = 0$)	43.2	2.68	0.23	0.80	0.47	4.17	5.92	1.12

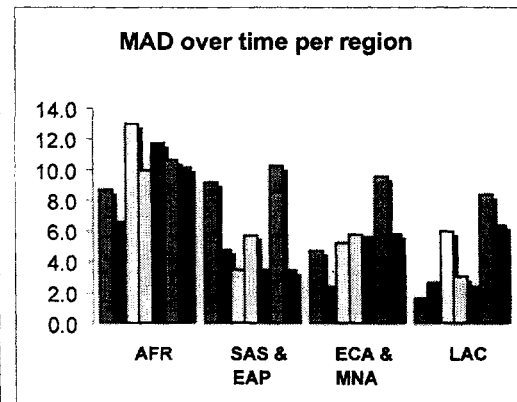
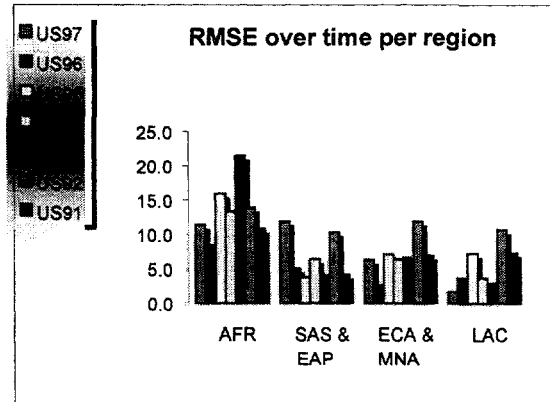
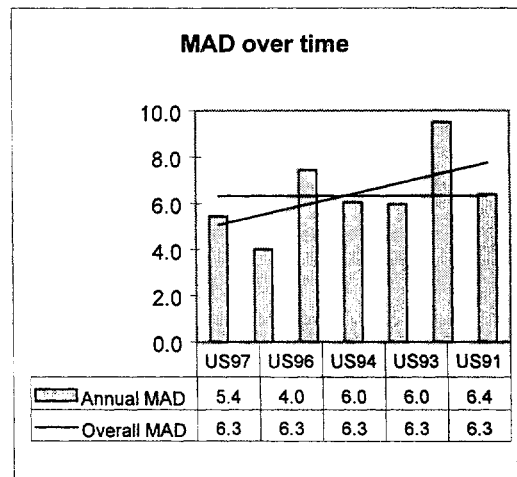
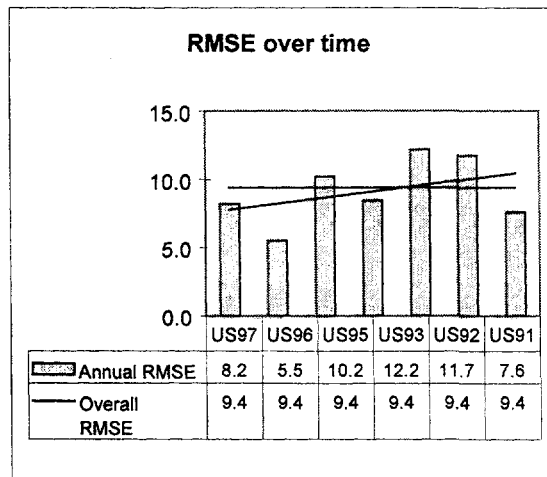
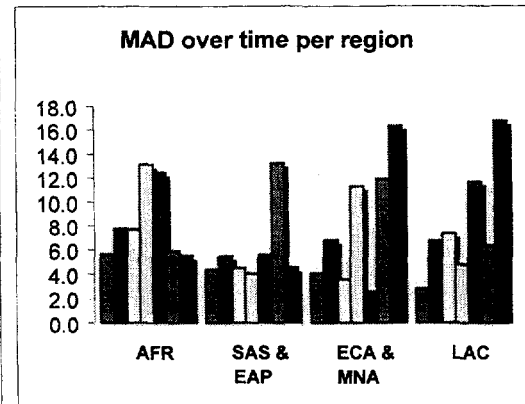
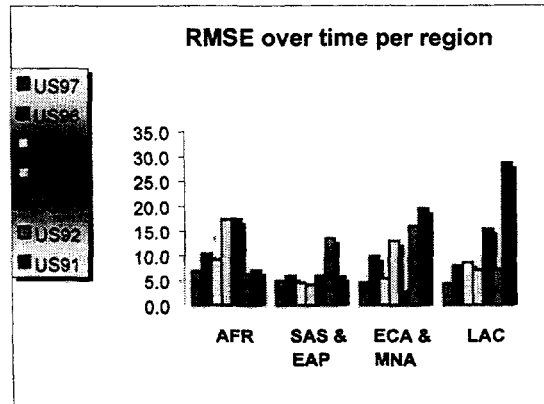
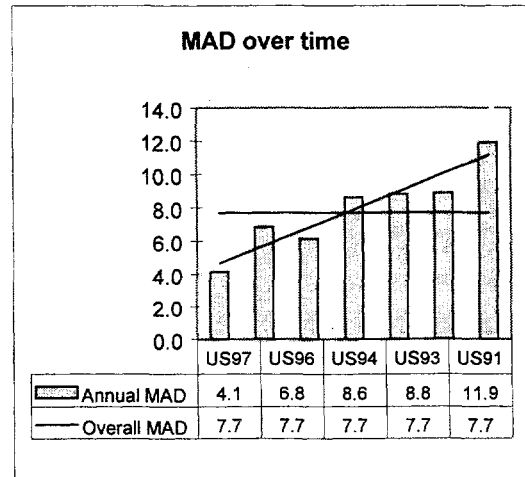
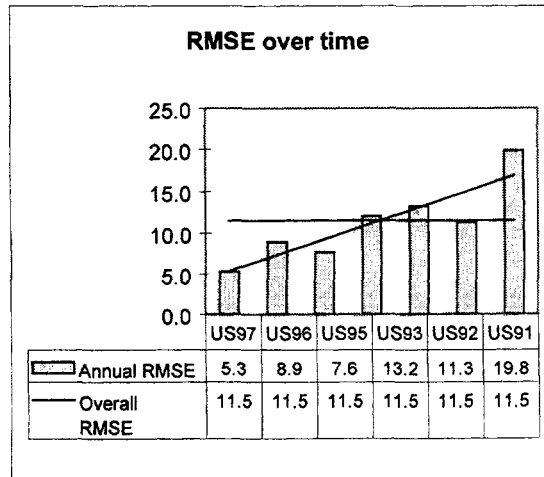


Table 12
Evaluation of current year projections over time
Import Growth

	US91-97	US97	US96	US95	US94	US93	US92	US91
Mean Dependent Variable	9.2	8.7	11.3	7.1	9.3	14.1	9.2	2.9
Mean Absolute Deviation	7.7	4.1	6.8	6.1	8.6	8.8	8.9	11.9
AFR	8.6	5.6	7.8	7.7	13.1	12.4	5.9	5.5
SAS & EAP	5.9	4.3	5.4	4.5	4.0	5.5	13.2	4.5
ECA & MNA	7.8	4.1	6.7	3.6	11.2	2.5	11.8	16.3
LAC	7.7	2.8	6.7	7.3	4.8	11.6	6.2	16.7
Root Mean Squared Error	11.5	5.3	8.9	7.6	12.0	13.2	11.3	19.8
AFR	12.1	6.9	10.4	9.2	17.3	17.5	6.4	7.1
SAS & EAP	7.0	4.9	5.9	4.5	4.2	5.9	13.3	5.8
ECA & MNA	11.4	4.6	9.8	5.4	12.8	2.8	16.0	19.5
LAC	12.8	4.3	7.9	8.5	7.1	15.4	7.2	28.6
Outcome-Projection regression								
Adjusted R-Squared	48.8	72.9	59.9	79.9	46.8	57.7	71.8	-5.6
β_1	0.80	0.78	0.80	1.00	1.01	1.22	0.92	-0.12
t test; if < 2 then $\beta_1 = 1$	2.93	2.16	1.38	-0.04	-0.06	-0.95	0.61	4.88
β_0	3.44	2.89	3.30	4.65	3.54	5.23	-0.01	5.82
t test; if < 2 then $\beta_0 = 0$	3.22	2.13	1.35	3.32	1.23	1.73	0.00	1.50
Joint Test for efficiency	No	No	No	No	No	No	Yes	No
F statistic ($\beta_1 = 1$ & $\beta_0 = 0$)	11.1	2.82	1.15	5.71	0.95	4.07	0.22	13.39



efficiency and accuracy through high values for R2-adjusted in the latter years and through better results for the joint test for parameter relevance. Both for GDP growth and GDP inflation, the joint test for efficiency comes out positive for the current-year projections of the US97.

The results for the accuracy of the GDI/GDP ratio projections are encouraging as the RMSE and the MAD are falling and its R2-adjusted is increasing over time. The joint test for efficiency of the outcome-projection regressions comes out positive for the current-year projections done for the US97, US94 and US93. Only the Eastern and Central European and Northern Africa group of countries show a small deterioration for the US97, but its RMSE and MAD are still below the average for the overall sample.

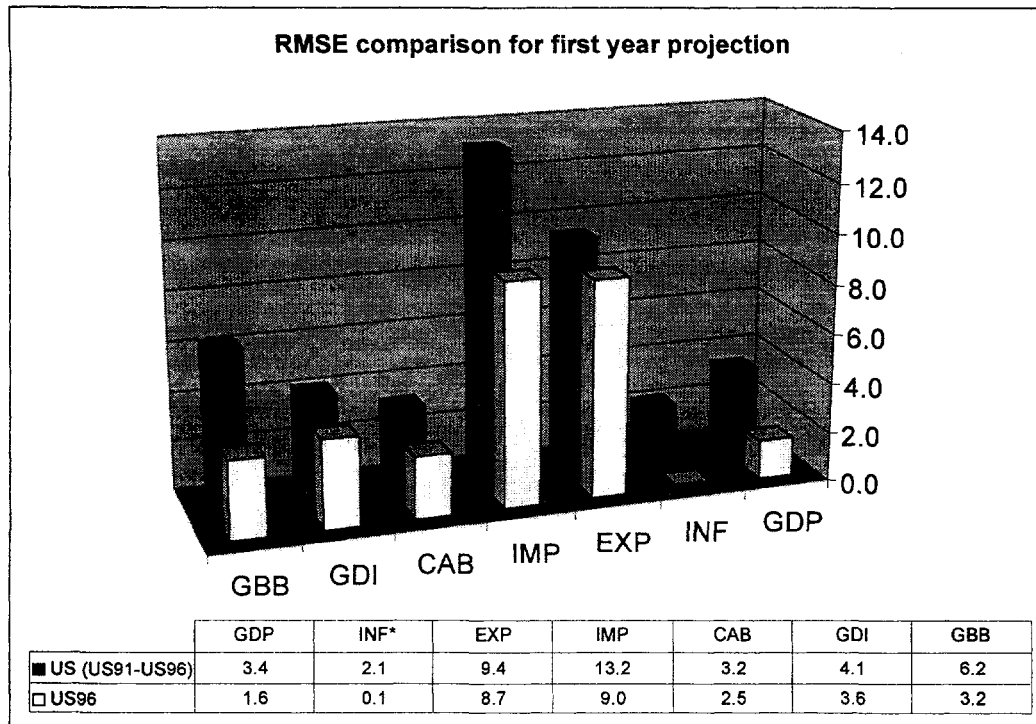
The current account balance as ratio to GDP shows a steady but small deterioration in the RMSE since the US95, while the MAD shows a deterioration from US95 to US96. As the RMSE puts more emphasis on large errors than the MAD, where every error is weighted equally, the difference in the path over time between the RMSE and the MAD most come from a few "large" errors in the CAB/GDP projection for the current year of the US97. Evaluating the regional trends in the RMSE and the MAD, it looks as if the divergence in trends must be caused by "large" errors in the CAB/GDP projections of the Africa countries and to a lesser extend by "large" errors of the Latin American countries. These are the only two groups of countries with increases in the RMSE from US96 to US97. The outcome-projection regressions show a balanced picture over time. The R2-adjusted hovers around 78 and the F-statistic for joint efficiency is low, but only passing the critical threshold for the current-year projections done for the US96.

The data for the evaluation of the current-year projections for the government deficit to GDP ratio over time show a clear break for all the regions between projections done for the US93 and US94 and the ones done for US95-US97. Are the projections for the US93 and US94 absolutely hopeless, with a R2-adjusted close to zero, the accuracy greatly improves for the US95-US97 period. An important contribution to the increased efficiency of the projections could come from the gradual replacement of the revised minimum standard model (RMSM), which did not contain an explicit government sector, with the flow-of-funds-based revised minimum standard model extended (RMSM-X), which does include a government sector.

The accuracy over time of the current-year export growth projections is a sad story. Although the trendlines in the graphs of the RMSE and MAD over time show improvement, the values for the R2-adjusted are far below acceptable levels, with its value for US96 as a positive exception.

The overall picture (US91-97) for the current-year projections for import growth is bleak with a MAD of 84 percent of the mean outcome and a value for the R2-adjusted of below 50. The outer years show moderate improvements, especially in the ECA & MNA and LAC countries.

Figure 4. Accuracy of First-year Projections



*The RMSE of inflation has been divided by 100.

Accuracy of first-year projections over time. Focusing on the RMSE to judge how the accuracy of the overall sample (US91-US96)⁷ compares with the RMSE for the US96, shows improvements across the board (Figure 4). However, the errors are still quite significant for GDP inflation and export and import growth. The largest improvements are in GDP growth (50 %), Inflation (95%) and government deficit to GDP ratio (48%). The improvements in export growth (10%) and gross domestic investment to GDP ratio (14%) are still significant but look bleak compared to the improvements in the other indicators.

The following conclusions can be drawn:

- Accuracy over time of the current-year projections has improved: all RMSE and MAD of US97 and US96 are below the those of the overall sample; The same is true for the accuracy of the first-year projections of each indicators as its RMSE of the US96 is smaller than its RMSE of the overall sample;
- The outcome projections regressions show positive results for the joint test of efficiency for the current-year projections done for the US97 for GDP growth; GDP inflation and the GDIGDP ratio and for the US96 for again GDP growth, CAB/GDP ratio and export growth. For the period US91-US95, the

⁷ Note that the sample for the evaluation of the first-year projections excludes US97 as outcomes for 1997 were not available at the time of this study.

joint test shows only significant results for GDI/GDP ratio (US94 & US93), export growth (US940 and import growth (US92).

6. Comparing the Unified Surveys and the IMF's World Economic Outlook Projections

To gain an understanding of how the quality of the Unified Survey projections compares with similar projections done by other institutions, the fall World Economic Outlook (WEO) of the IMF was chosen. The reason for using the WEO projections as a benchmark is that the WEO covers the same countries and indicators as those used in the first part of the study, and its country projections are prepared at the same time as the Unified Survey. It is interesting to note that many World Bank economists believe that the IMF projections are more accurate, and prefer to use the IMF data and projections as input in their own economic work.

Table 13a. US & WEO Comparison for US90-US97 (full sample)

Comparison of Accuracy of Unified Survey and WEO for current year projections								
	GDP Growth US91-US97		GDP Inflation US91-US97		GDI/GDP ratio US91-US97		CAB/GDP ratio US91-US97	
	US	WEO	US	WEO	US	WEO	US	WEO
Mean Absolute Deviation	<u>1.7</u>	2.0	<u>23.8</u>	34.5	<u>2.3</u>	3.0	<u>1.4</u>	2.3
Root Mean Squared Error	<u>2.7</u>	2.9	<u>91.4</u>	209.1	<u>3.2</u>	4.3	<u>2.2</u>	3.5
Outcome-Projection regression								
Adjusted R-Squared	68.2	62.3	98.6	94.8	77.7	64.8	77.9	41.4
β_1	0.83	0.96	1.11	1.39	0.85	0.83	0.95	0.70
t test; if < 2 then $\beta_1 = 1$	3.76	0.67	-9.95	-14.40	3.69	3.25	1.10	4.41
β_0	0.98	0.35	2.65	-7.64	3.78	3.15	0.47	0.32
t test; if < 2 then $\beta_0 = 0$	4.17	1.20	0.45	-0.67	4.25	2.56	2.12	0.96
Joint Test for efficiency	No	No	No	No	No	No	No	No
F statistic ($\beta_1 = 1$ & $\beta_0 = 0$)	10.5	0.72	52.7	107.3	9.8	7.03	6.27	20.7
	GDI/GDP ratio US94-US97		Export Growth US91-US97		Import Growth US91-US97			
	US	WEO	US	WEO	US	WEO		
	-3.4	-2.7	7.3	7.4	9.2	9.6		
Mean Absolute Deviation	3.1	<u>1.2</u>	<u>6.3</u>	7.5	<u>7.7</u>	10.7		
Root Mean Squared Error	5.3	<u>1.9</u>	<u>9.4</u>	10.6	<u>11.5</u>	15.1		
Outcome-Projection regression								
Adjusted R-Squared	21.2	65.2	21.8	13.3	48.8	23.1		
β_1	0.38	0.80	0.60	0.48	0.80	0.66		
t test; if < 2 then $\beta_1 = 1$	8.52	3.27	4.18	5.06	2.93	3.41		
β_0	-2.69	-0.56	3.89	4.25	3.44	4.76		
t test; if < 2 then $\beta_0 = 0$	-6.42	-2.26	4.21	3.96	3.22	3.30		
Joint Test for efficiency	No	No	No	No	No	No		
F statistic ($\beta_1 = 1$ & $\beta_0 = 0$)	43.2	5.37	11.1	13.3	6.45	0.97		

WEO and Unified Survey comparison: The results are quite astonishing for the current-year projections as well as for the first-year projections of the overall sample (Tables 13a and 13b). Using the MAD, RMSE and the outcome-projection regression to compare the Unified Survey with the WEO, the WEO projections are only more accurate than the Unified Survey projections for the government deficit to GDP ratio. The RMSE of the WEO GDP inflation

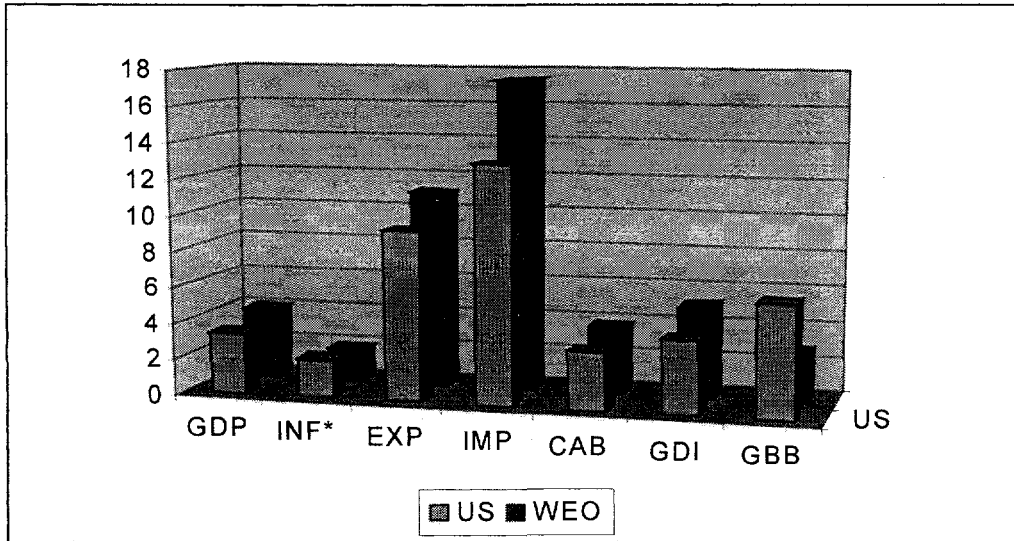
Table 13b. US & WEO Comparison for US90-US97 (full sample)

Comparison of Accuracy of Unified Survey and WEO for first year projections								
	GDP Growth US91-US96		GDP inflation US91-US96		GDI/GDP ratio US91-US96		CAB/GDP ratio US91-US96	
	US	WEO	US	WEO	US	WEO	US	WEO
Mean Absolute Deviation	<u>2.4</u>	2.9	<u>35.4</u>	37.7	<u>3.1</u>	3.6	<u>2.4</u>	2.7
Root Mean Squared Error	<u>3.4</u>	4.0	213.7	<u>181.3</u>	<u>4.1</u>	5.1	<u>3.2</u>	3.7
Outcome-Projection regression								
Adjusted R-Squared	38.7	20.9	82.2	78.6	62.5	51.3	52.7	20.6
β_1	0.90	0.91	3.55	2.22	0.79	0.77	0.71	0.52
t test; if < 2 then $\beta_1 = 1$	1.04	0.59	-17.30	11.80	3.60	3.20	4.66	5.16
β_0	0.49	-0.14	53.31	0.30	4.85	4.04	-0.28	-0.31
t test; if < 2 then $\beta_0 = 0$	1.12	0.21	-4.68	0.03	3.64	2.41	-0.86	-0.79
Joint Test for efficiency	Yes	No	No	No	No	No	No	No
F statistic ($\beta_1 = 1$ & $\beta_0 = 0$)	0.7	1.2	153.7	75.0	6.7	7.5	12.8	19.3
	GBB/GDP ratio US93-US96		Export Growth US91-US96		Import Growth US91-US96			
	US	WEO	US	WEO	US	WEO		
Mean Absolute Deviation	4.1	<u>2.0</u>	<u>6.8</u>	7.9	<u>9.8</u>	12.5		
Root Mean Squared Error	6.2	<u>2.8</u>	<u>9.4</u>	11.0	<u>13.2</u>	17.4		
Outcome-Projection regression								
Adjusted R-Squared	73.4	92.3	13.1	0.2	39.1	1.8		
β_1	1.00	1.18	0.72	0.14	1.28	0.40		
t test; if < 2 then $\beta_1 = 1$	0.03	4.61	1.76	5.36	-1.89	2.66		
β_0	-1.77	-0.10	3.32	6.82	2.90	7.95		
t test; if < 2 then $\beta_0 = 0$	-2.49	-0.28	2.56	5.23	2.07	3.76		
Joint Test for efficiency	No	No	No	No	No	No		
F statistic ($\beta_1 = 1$ & $\beta_0 = 0$)	3.1	10.2	3.3	16.2	9.3	7.0		

projections for the first-year is smaller than the RMSE of this indicator of the US (see figure 5), but not the MAD, indicating that the US projections for this particular indicator have a few more large errors than the sample of the WEO. Although section V concluded that the Unified Survey projections were especially inaccurate for government deficit to GDP and export and import growth, data shows that the WEO projections, although more accurate for the GBB/GDP ratio, are even less accurate for export and import growth. While the Unified Survey shows MADs for export and import growth close to its mean dependent outcome, in the case of the WEO, the MADs for these variables are larger than the mean dependent outcome. This is true for the current-year projections and for the first-year projections for export and import growth in the WEO. The outcome-projection

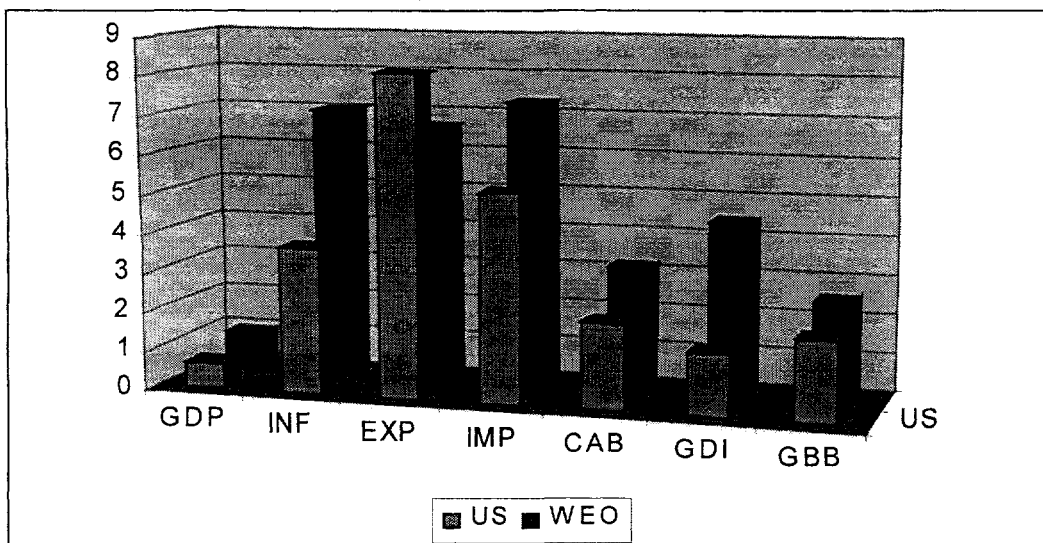
regressions show, not surprisingly, the same results: the adjusted R2 is larger only for the government deficit to GDP ratio. None of the indicators pass the joint indicator test for efficiency. It is quite remarkable that the Unified Survey projections are more accurate for the current account balance to GDP ratio and for GDP inflation as these are areas in which one generally expects the IMF to have a comparative advantage over the World Bank.

Figure 5. RMSE Comparison for Current-year Projections (full sample)



Accuracy of the WEO over time: Section 5 concluded that the bleak picture of the Unified Survey projections sketched in section 4 had greatly improved over time. The accuracy of the projections done for the US97 and US96 were significantly better than those for the overall sample. To see if the same is true for the WEO projections, the last WEO current and first-year projections in the sample are compared with its overall sample and for benchmarking and comparison reasons again with the Unified Survey current and first-year projections done for the same period. The comparison of the WEO and the US for the last year in the sample is shown in figure 6 and tables 14a and 14b.

Figure 6. RMSE Comparison for Current-year Projections (US97 only)



The WEO current-year projections show improvement for GDP growth, GDP inflation, CAB to GDP ratio and export and import growth (see figures 13 and 14). For the current-year projections there is no improvement for GDI/GDP ratio and a notable deterioration in the GBB/GDP ratio. The first-year projections show generally the same picture. The accuracy as measured by MAD and RMSE improves for the same indicators as mentioned above, joined this time by the GBB/GDP ratio. The results for the outcome-projection regression are less favorable: there is only improvement in the adjusted R2 for the CAB/GDP ratio. The CAB/GDP ratio and import growth have a positive joint indicator test, their adjusted R2, however is too low to assign any significance to this result.

Almost the same conclusions can be drawn for the WEO when evaluating its accuracy over time as was done for the Unified Survey. The accuracy of the projections has improved over time compared to the overall sample except for the GDI/GDP ratio. This raises the question as to whether the accuracy of the WEOs has improved to the extent that they have become more accurate than the Unified Survey projections. Tables 14 and figure 6 show the results of the Unified Survey and the WEO projections for current and first-year for 1996 side by side. The Unified survey projections for the current year are more accurate than the WEO projections except for export growth. The first-year projections show that the WEO is more accurate for GBB/GDP ratio, equally accurate—or equally inaccurate—for export growth and less accurate for all other indicators than the Unified Survey projections. Although import growth, CAB/GDP ratio and GDP growth show positive results for the joint indicator test for efficiency their adjusted R2 is so low that this result becomes basically meaningless. Again, the general conclusion that can be drawn is that the Unified Survey projections are more accurate than the WEO projections.

Table 14a. US and WEO comparison of US97

	Current Year							
	GDP Growth 1996		GDP Inflation 1996		GDI/GDP ratio 1996		CAB/GDP ratio 1996	
	US97	WEO	US97	WEO	US97	WEO	US97	WEO
Mean Absolute Error	<u>0.47</u>	0.74	<u>2.29</u>	4.45	<u>1.18</u>	2.83	<u>1.07</u>	1.91
Root Mean Squared Error	<u>0.65</u>	0.97	<u>3.75</u>	7.00	<u>1.62</u>	4.44	<u>2.21</u>	3.17
Outcome-Projection regression								
Adjusted R-Squared	93.1	85.0	97.7	94.1	92.9	55.5	76.1	40.9
β_1	0.98	1.00	1.01	1.09	0.98	0.75	0.96	0.83
t test; if < 2 then $\beta_1 = 1$	0.35	0.01	-0.25	-1.56	0.35	1.82	0.33	0.80
β_0	0.15	0.34	-0.68	0.98	0.48	4.78	0.54	0.81
t test; if < 2 then $\beta_0 = 0$	0.49	0.75	-0.62	0.56	0.37	1.44	0.99	0.99
Joint Test for efficiency	Yes	No	Yes	No	Yes	No	No	No
F statistic ($\beta_1 = 1$ & $\beta_0 = 0$)	0.14	1.46	0.22	3.36	0.07	2.36	1.01	2.20
	GBB/GDP ratio 1996		Export Growth 1996		Import Growth 1996			
	US97	WEO	US97	WEO	US97	WEO		
Mean Absolute Error	<u>1.12</u>	1.43	5.44	<u>4.86</u>	<u>4.12</u>	6.23		
Root Mean Squared Error	<u>2.09</u>	2.54	8.20	<u>6.63</u>	<u>5.31</u>	7.30		
Outcome-Projection regression								
Adjusted R-Squared	74.4	27.8	4.6	37.2	72.9	58.2		
β_1	0.85	0.62	0.55	0.53	0.78	0.81		
t test; if < 2 then $\beta_1 = 1$	1.40	1.91	1.13	3.24	2.15	1.27		
β_0	-0.11	-0.65	6.92	5.78	2.89	0.80		
t test; if < 2 then $\beta_0 = 0$	-0.22	-1.03	1.95	3.35	2.13	0.38		
Joint Test for efficiency	No	No	No	No	No	No		
F statistic ($\beta_1 = 1$ & $\beta_0 = 0$)	1.15	1.83	2.68	6.29	2.82	0.97		

Table 14b. US and WEO Comparison of US97

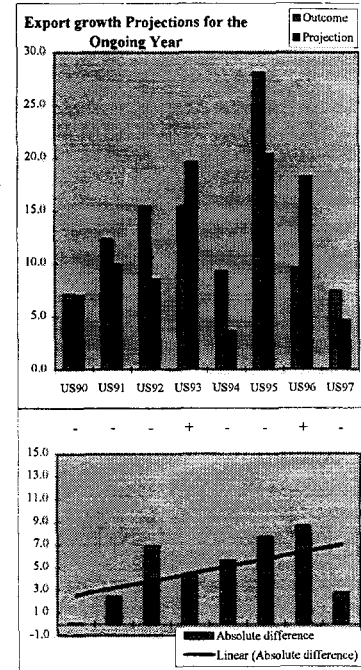
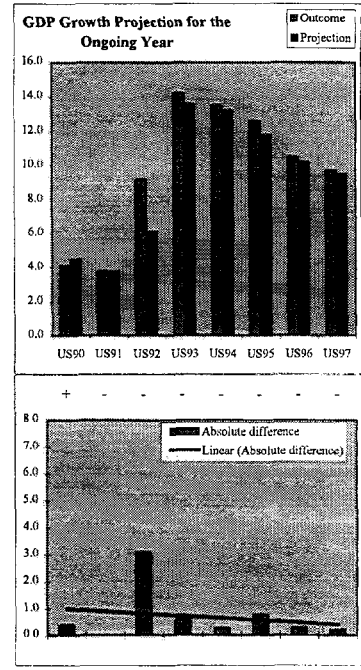
	First Year							
	GDP Growth		GDP Inflation		GDI/GDP ratio		CAB/GDP ratio	
	1996		1996		1996		1996	
	US96	WEO	US96	WEO	US96	WEO	US96	WEO
Mean Absolute Error	<u>1.30</u>	1.35	<u>7.45</u>	11.49	<u>2.79</u>	4.12	<u>1.75</u>	2.19
Root Mean Squared Error	<u>1.57</u>	1.65	<u>13.48</u>	20.95	<u>3.61</u>	6.21	<u>2.50</u>	3.14
Outcome-Projection regression								
Adjusted R-Squared	70.2	51.2	81.2	35.4	69.6	36.1	57.5	33.9
β_1	0.81	0.98	1.39	0.88	0.84	0.60	0.91	1.06
t test; if < 2 then $\beta_1 = 1$	1.74	0.15	2.74	0.51	1.30	2.35	0.56	0.09
β_0	1.45	0.27	-0.88	7.40	3.85	7.14	0.44	0.50
t test; if < 2 then $\beta_0 = 0$	2.65	0.26	-0.27	1.22	1.31	1.65	0.70	0.58
Joint Test for efficiency	No	Yes	No	No	No	No	No	Yes
F statistic ($\beta_1 = 1$ & $\beta_0 = 0$)	3.98	0.12	6.60	0.85	0.87	4.64	0.86	0.18
	GBB/GDP ratio		Export Growth		Import Growth			
	1996		1996		1996			
	US96	WEO	US96	WEO	US96	WEO		
Mean Absolute Error	2.03	<u>1.87</u>	<u>6.57</u>	6.51	<u>7.39</u>	9.26		
Root Mean Squared Error	3.19	<u>2.31</u>	8.75	<u>7.90</u>	<u>9.00</u>	10.89		
Outcome-Projection regression								
Adjusted R-Squared	31.5	26.0	2.9	-4.2	35.5	3.5		
β_1	0.87	0.61	0.48	0.17	0.62	0.58		
t test; if < 2 then $\beta_1 = 1$	0.47	1.87	1.36	2.09	2.13	0.93		
β_0	-0.63	-0.95	7.90	9.01	6.01	4.07		
t test; if < 2 then $\beta_0 = 0$	-0.77	-1.93	2.47	2.73	3.22	1.05		
Joint Test for efficiency	Yes	No	No	No	No	Yes		
F statistic ($\beta_1 = 1$ & $\beta_0 = 0$)	0.29	2.65	4.10	3.98	5.41	0.57		

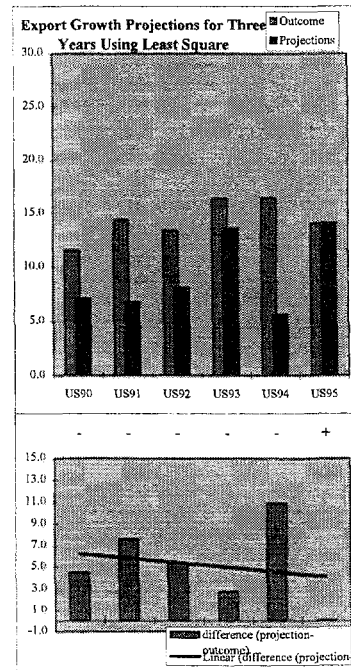
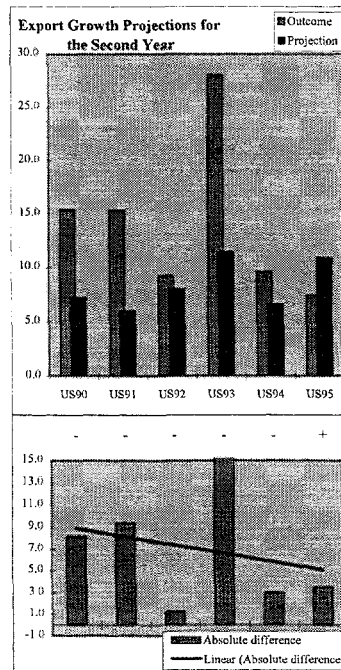
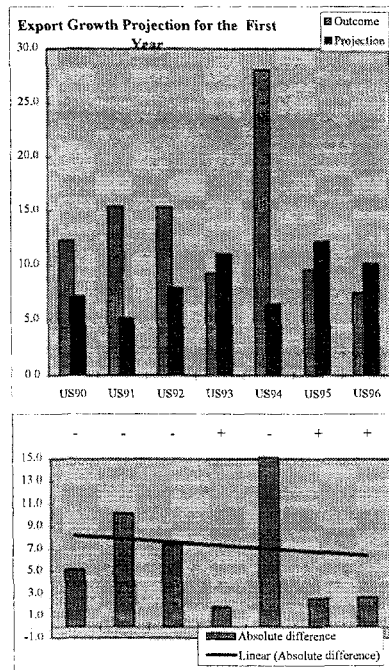
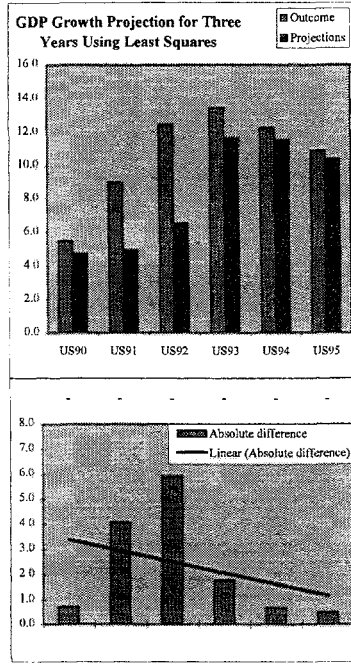
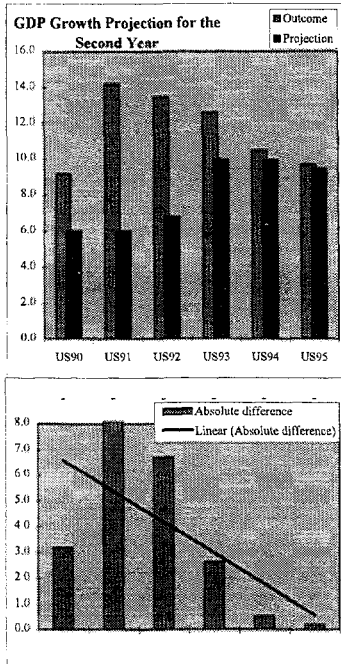
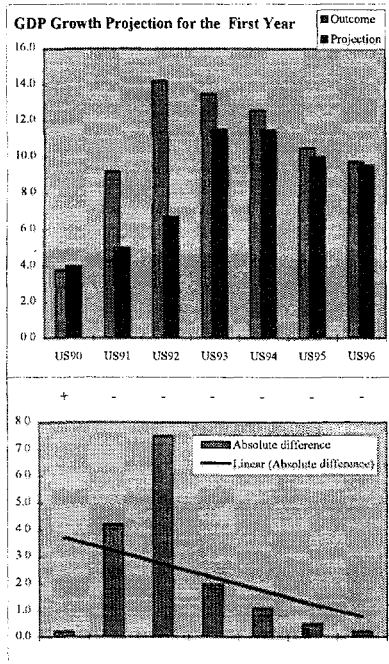
References

- Artis, M.J., 1996, *How accurate are the IMF's Short Term Forecasts? Another Examination of the World Economic Outlook*, IMF Working Paper no. WP/96/89.
- Aysoy, C., and H.H. Yilmaz, 1998, *The reliability of national accounts in the World Bank*, unpublished manuscript, Development Data Group, World Bank.
- Development Data Group, 1990-1997, *Selected Analytical Variables for Economic Management (Savem)*, Development Data Group, World Bank.
- Development Data Group, 1997, *Reference guide for the Revised Minimum Standard Model eXtended (RMSM-X)*, World Bank.
- Development Data Group, 1997, *The Unified Survey Instructions Guide*, Development Data Group, World Bank.
- Hicks, N., and Vaugois, M., 1990, *How Good (or Bad) are Country Projections*, World Bank Policy, Research and External Affairs Working Paper no. 415.
- International Monetary Fund, 1990-1997, *World Economic Outlook*, Statistical Department, International Monetary Fund.
- Lewis J., 1997, *Review of the Unified Survey*, World Bank Office Memorandum.
- Theil, H., 1966, *Applied Economic Forecasting*. Amsterdam: North Holland.
- Wallis, K., 1989, *Macroeconomic forecasting: A survey*, *The Economic Journal*, Vol. 99, 28-61.

Annex A: Country profile example: China

Country	[Redacted]							
Variable	[Redacted]							
GDP Growth								
Ongoing Year	US90	US91	US92	US93	US94	US95	US96	US97
Over or under estimation	+	-	-	-	-	-	-	-
Absolute difference	0.4	0.0	3.1	0.6	0.3	0.8	0.3	0.2
difference (projection-outcome)	0.4	0.0	-3.1	-0.6	-0.3	-0.8	-0.3	-0.2
Outcome	US90	US91	US92	US93	US94	US95	US96	US97
Projection	4.1	3.8	9.2	14.2	13.5	12.6	10.5	9.7
Persistence in over or under e	0	-1	-1	-1	-1	-1	-1	-1
First year Projection								
GDP Growth	US90	US91	US92	US93	US94	US95	US96	
Over or under estimation	+	-	-	-	-	-	-	
Absolute difference	0.2	4.2	7.5	2.0	1.1	0.5	0.2	
difference (projection-outcome)	0.2	-4.2	-7.5	-2.0	-1.1	-0.5	-0.2	
Outcome	US90	US91	US92	US93	US94	US95	US96	
Projection	3.8	9.2	14.2	13.5	12.6	10.5	9.7	
Second Year Projection								
GDP Growth	US90	US91	US92	US93	US94	US95		
Over or under estimation	-	-	-	-	-	-		
Absolute difference	3.2	8.2	6.7	2.6	0.5	0.2		
difference (projection-outcome)	-3.2	-8.2	-6.7	-2.6	-0.5	-0.2		
Outcome	US90	US91	US92	US93	US94	US95		
Projection	9.2	14.2	13.5	12.6	10.5	9.7		
Three year Least Square Growth rates								
GDP projection	US90	US91	US92	US93	US94	US95		
Ongoing Year	100	100	100	100	100	100		
First year	104.5	103.8	106.1	113.6	113.2	111.8		
Second Year	108.7	109.0	113.2	126.7	126.2	123.0		
GDP Outcomes	US90	US91	US92	US93	US94	US95		
Ongoing Year	100	100	100	100	100	100		
First year	104.1	103.8	109.2	114.2	113.5	112.6		
Second Year	108.1	113.3	124.7	129.6	127.8	124.4		
Least Square Growth rate	US90	US91	US92	US93	US94	US95		
Over or under estimation	-	-	-	-	-	-		
Absolute difference	0.7	4.1	5.9	1.8	0.7	0.5		
difference (projection-outcome)	-0.7	-4.1	-5.9	-1.8	-0.7	-0.5		
Outcome	US90	US91	US92	US93	US94	US95		
Projections	5.5	9.0	12.5	13.4	12.2	10.9		
Export of GNFS Growth rates (cons) [Redacted] country file								
Ongoing Year	US90	US91	US92	US93	US94	US95	US96	US97
Over or under estimation	-	-	-	+	-	-	+	-
Absolute difference	0.1	2.4	6.9	4.3	5.6	7.7	8.6	2.8
difference (projection-outcome)	-0.1	-2.4	-6.9	4.3	-5.6	-7.7	-8.6	-2.8
Outcome	US90	US91	US92	US93	US94	US95	US96	US97
Projection	7.1	12.3	15.4	15.3	9.2	28.1	9.8	7.4
Persistence in over or under e	-1	-1	-1	0	-1	0	-1	-1
First year Projection								
Export of GNFS Growth rates	US90	US91	US92	US93	US94	US95	US96	
Over or under estimation	-	-	-	+	-	+	+	
Absolute difference	5.2	10.2	7.4	1.8	21.6	2.6	2.7	
difference (projection-outcome)	-5.2	-10.2	-7.4	1.8	-21.6	-2.6	-2.7	
Outcome	US90	US91	US92	US93	US94	US95	US96	
Projection	12.3	15.4	15.3	9.2	28.1	9.6	7.4	
Second Year Projection								
Export of GNFS Growth rates	US90	US91	US92	US93	US94	US95		
Over or under estimation	-	-	-	-	-	+		
Absolute difference	8.2	9.4	1.2	16.6	3.0	3.5		
difference (projection-outcome)	-8.2	-9.4	-1.2	-16.6	-3.0	-3.5		
Outcome	US90	US91	US92	US93	US94	US95		
Projection	15.4	15.3	9.2	28.1	9.6	7.4		
Three year Least Square Growth rates								
Export of GNFS Growth rates	US90	US91	US92	US93	US94	US95		
Ongoing Year	100	100	100	100	100	100		
First year	107.0	109.9	108.5	119.6	103.7	120.4		
Second Year	114.6	115.5	117.1	132.8	110.3	135.1		
Outcome	US90	US91	US92	US93	US94	US95		
Ongoing Year	100	100	100	100	100	100		
First year	107.1	112.3	115.4	115.3	109.2	128.1		
Second Year	120.2	129.5	133.1	126.0	139.9	140.3		
Least Square Growth rate	US90	US91	US92	US93	US94	US95		
Over or under estimation	-	-	-	-	-	+		
difference (projection-outcome)	4.5	7.6	5.4	2.8	10.9	0.1		
difference (projection-outcome)	-4.5	-7.6	-5.4	-2.8	-10.9	-0.1		
Outcome	US90	US91	US92	US93	US94	US95		
Projections	11.6	14.4	13.5	16.4	16.5	14.1		





Import GNFS Growth rate (cons)

Country file

Ongoing Year	US90	US91	US92	US93	US94	US95	US96	US97
Over or under estimation	+	+	+	-	-	+	+	+
Absolute difference	0.5	7.6	2.2	6.4	8.3	4.6	5.9	0.2
difference (projection-outcome)	0.5	7.6	2.2	-6.4	-8.3	4.6	5.9	0.2
Outcome	7.5	12.9	15.9	28.3	30.5	9.3	5.0	8.8
Projection	8.0	-5.3	18.1	21.9	22.2	13.9	10.8	8.8
Persistence in over or under e	0	0	0	0	0	1		
First year Projection								
Import GNFS Growth rate (con	US90	US91	US92	US93	US94	US95	US96	
Over or under estimation	+	-	-	-	+	+	+	
Absolute difference	14.8	6.6	9.3	11.0	0.6	8.0	11.7	
difference (projection-outcome)	14.8	-6.6	-9.3	-11.0	-0.6	8.0	11.7	
Outcome	US90	US91	US92	US93	US94	US95	US96	
Projection	-12.9	15.9	28.3	30.5	9.3	5.0	8.6	
	1.9	9.3	19.0	19.5	8.7	13.0	20.3	

Second Year Projection	US90	US91	US92	US93	US94	US95	US96
Import GNFS Growth rate (con	US90	US91	US92	US93	US94	US95	US96
Over or under estimation	-	-	-	+	+	+	+
Absolute difference	10.0	16.4	15.0	6.1	3.1	4.2	
difference (projection-outcome)	-10.0	-16.4	-15.0	6.1	3.1	4.2	
Outcome	US90	US91	US92	US93	US94	US95	US96
Projection	15.9	28.3	30.5	9.3	5.0	8.6	
	5.9	11.9	15.5	15.4	9.0	12.9	

Three year Least Square Growth rates	US90	US91	US92	US93	US94	US95
Import GNFS Growth rate (con	US90	US91	US92	US93	US94	US95
Ongoing Year	100	100	100	100	100	100
First year	108.0	94.7	118.1	121.9	122.2	113.9
Second Year	110.1	103.5	140.5	145.7	132.9	128.6
Outcome	US90	US91	US92	US93	US94	US95
Ongoing Year	100	100	100	100	100	100
First year	107.5	87.1	115.9	128.3	130.5	109.3
Second Year	93.7	101.0	148.7	167.4	142.7	114.7
	108.6	129.6	194.1	183.0	149.7	124.6

Least Square Growth rate	US90	US91	US92	US93	US94	US95
Over or under estimation	+	-	-	-	-	+
difference (projection-outcome)	3.8	4.2	7.4	4.2	1.5	5.8
Outcome	US90	US91	US92	US93	US94	US95
Projections	4.9	5.5	17.7	19.0	12.4	13.2

GNS as % GDP (curr)

Country file

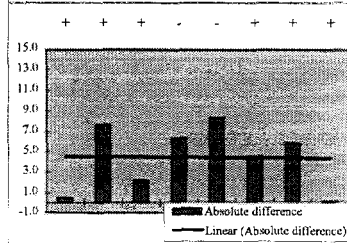
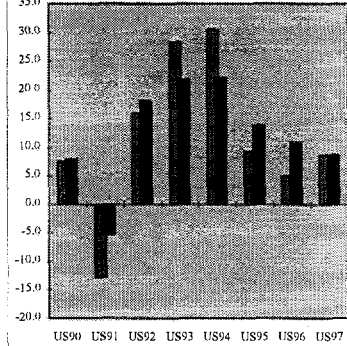
Ongoing Year	US90	US91	US92	US93	US94	US95	US96	US97
Over or under estimation			+	-	-	+	+	-
Absolute difference	#VALUE!	#VALUE!	4.5	1.7	9.6	2.4	2.3	2.3
difference (projection-outcome)	#VALUE!	#VALUE!	4.5	-1.7	-9.6	2.4	2.3	-2.3
Outcome	US90	US91	US92	US93	US94	US95	US96	US97
Projection	35.1	37.8	37.9	37.4	41.3	41.2	40.5	42.8
Persistence in over or under e			0	-1	-1	0		
First year Projection								
GNS as % GDP (curr)	US90	US91	US92	US93	US94	US95	US96	
Over or under estimation			+	-	-	+	+	
Absolute difference	#VALUE!	#VALUE!	3.9	7.5	10.6	2.3	1.1	
difference (projection-outcome)	#VALUE!	#VALUE!	3.9	-7.5	-10.6	2.3	-1.1	
Outcome	US90	US91	US92	US93	US94	US95	US96	
Projection	37.8	37.9	37.4	41.3	41.2	40.5	42.8	
			41.3	33.8	30.6	42.9	41.7	

Second Year Projection	US90	US91	US92	US93	US94	US95	US96
GNS as % GDP (curr)	US90	US91	US92	US93	US94	US95	US96
Over or under estimation			+	-	-	+	+
Absolute difference	#VALUE!	#VALUE!	1.2	8.4	10.5	0.8	
difference (projection-outcome)	#VALUE!	#VALUE!	-1.2	-8.4	-10.5	-0.8	
Outcome	US90	US91	US92	US93	US94	US95	US96
Projection	37.9	37.4	41.3	41.2	40.5	42.8	
			40.1	32.8	30.1	42.0	

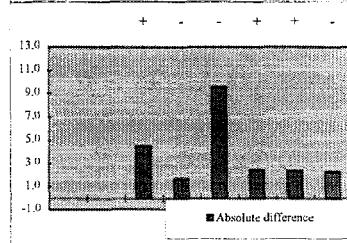
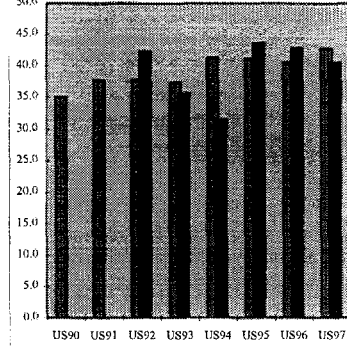
Three year Averages	US90	US91	US92	US93	US94	US95
GNS as % GDP (curr)	US90	US91	US92	US93	US94	US95
Ongoing Year	..	..	42.4	35.8	31.7	43.6
First year	..	..	41.3	33.8	30.6	42.9
Second Year	..	..	40.1	32.8	30.1	42.0
Outcome	US90	US91	US92	US93	US94	US95
Ongoing Year	35.1	37.8	37.9	37.4	41.3	41.2
First year	37.8	37.9	37.4	41.3	41.2	40.5
Second Year	37.9	37.4	41.3	41.2	40.5	42.8

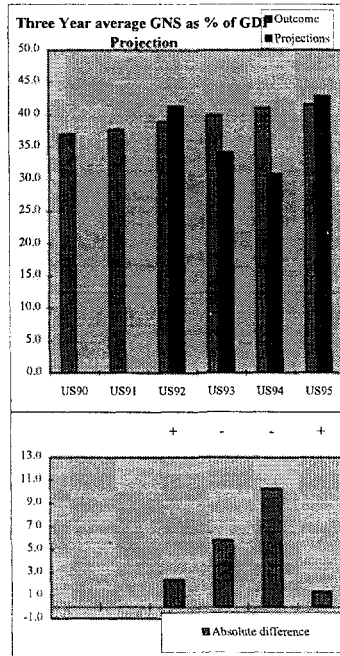
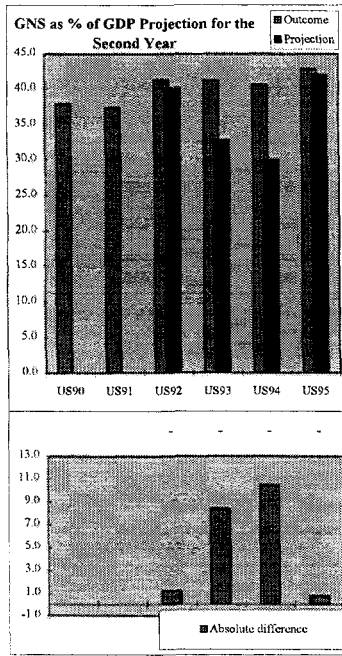
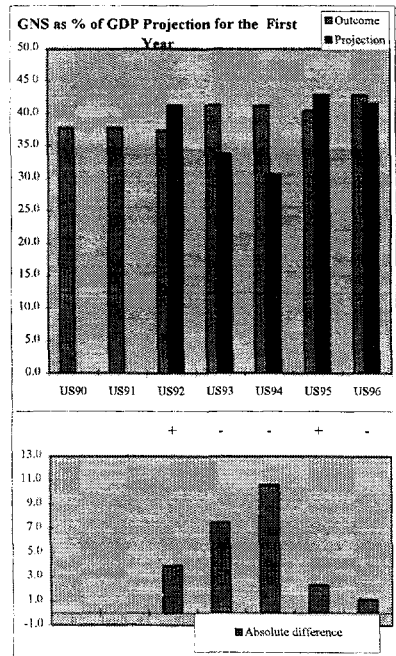
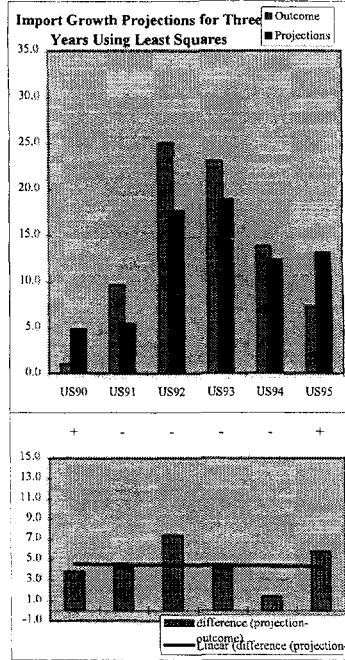
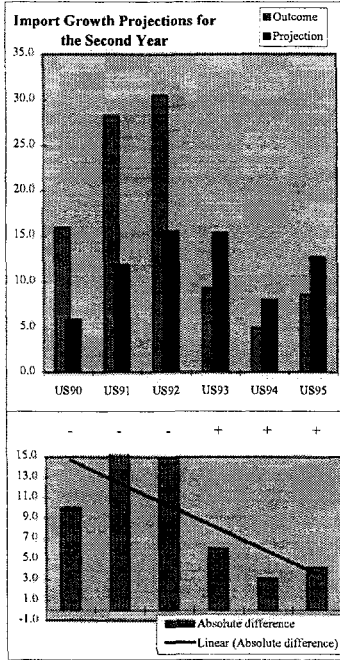
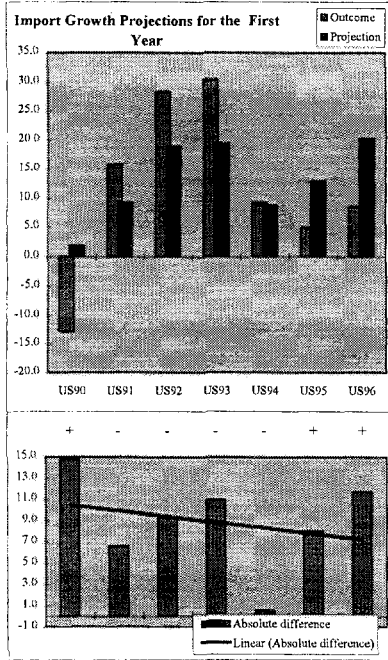
Three year averages	US90	US91	US92	US93	US94	US95
Over or under estimation			+	-	-	+
Absolute difference	#VALUE!	#VALUE!	2.4	5.8	10.2	1.3
difference (projection-outcome)	#VALUE!	#VALUE!	2.4	-5.8	-10.2	1.3
Outcome	US90	US91	US92	US93	US94	US95
	36.9	37.7	38.9	40.0	41.0	41.5

Import Growth Projections for the Ongoing Year



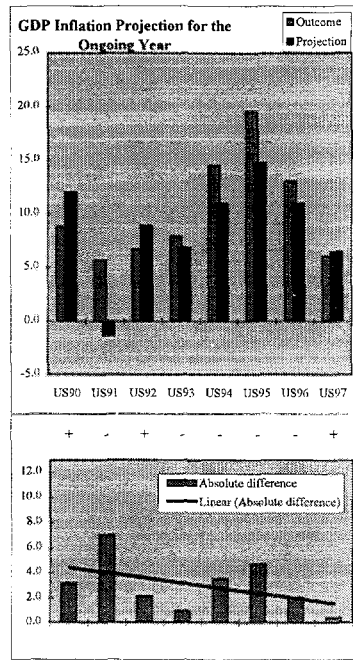
GNS as % of GDP Projection for the Ongoing Year



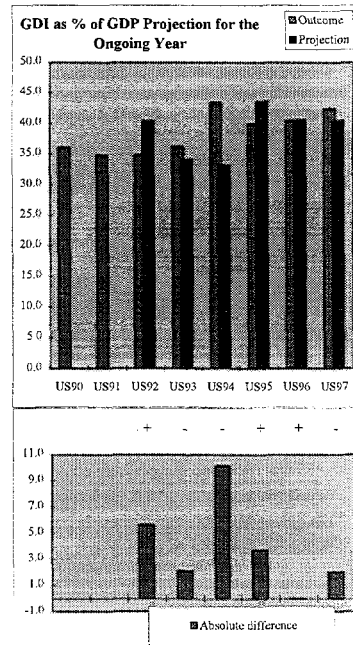


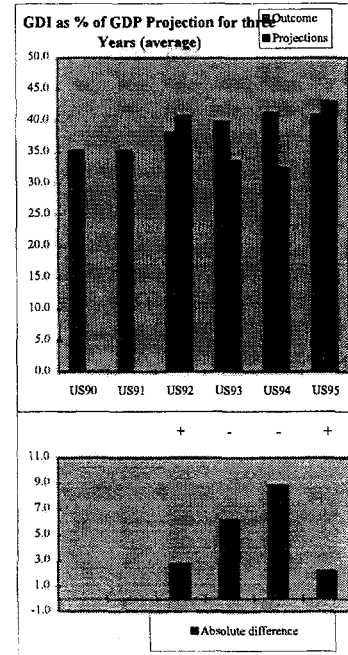
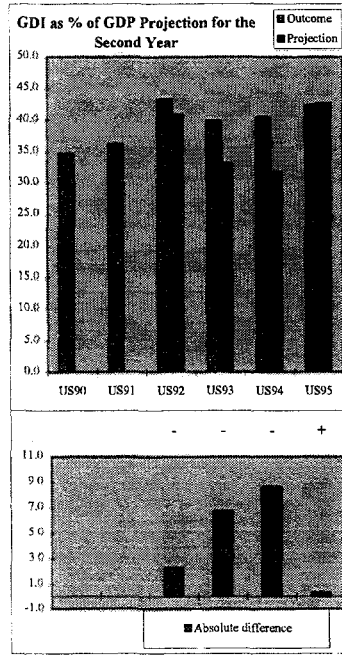
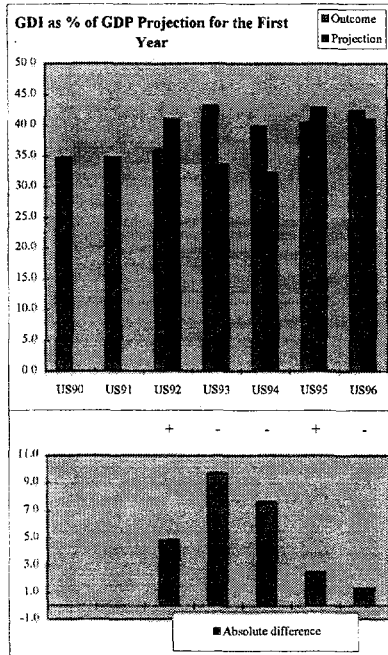
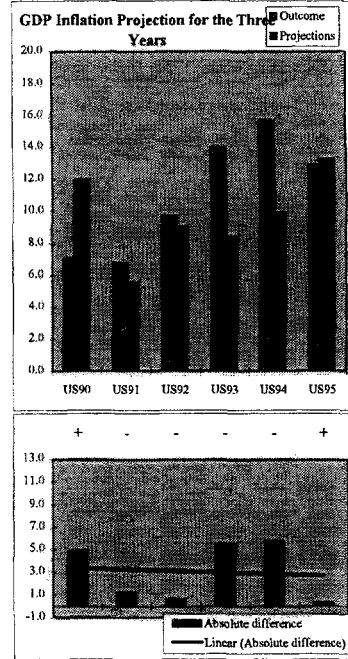
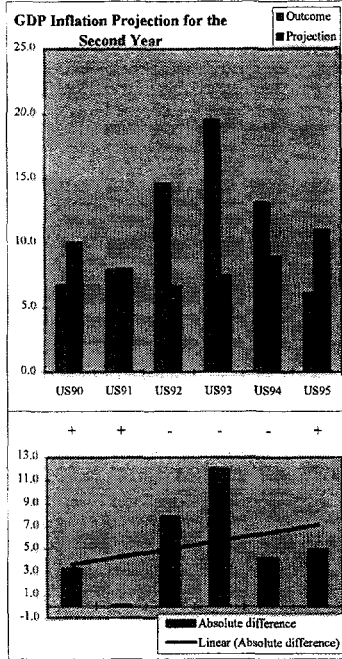
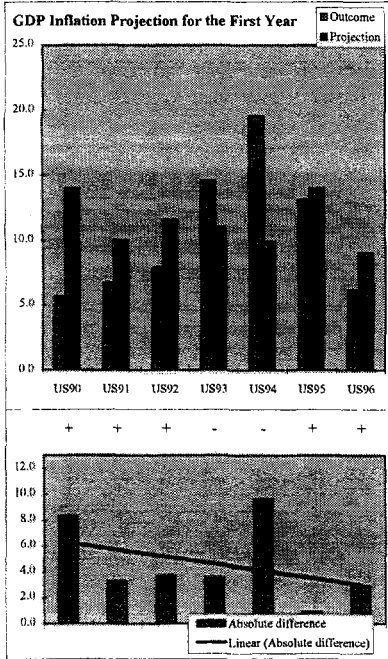
Projections 41.3 34.1 30.8 42.9

Country file		US90	US91	US92	US93	US94	US95	US96	US97
GDP Implicit Inflation									
Ongoing Year		11							
Over or under estimation		+	-	+	-	-	-	-	+
Absolute difference		3.2	7.0	2.2	1.0	3.6	4.7	2.1	0.4
difference (projection-outcome)		3.2	-7.0	2.2	-1.0	-3.6	-4.7	-2.1	0.4
Outcome		8.8	5.7	6.7	7.9	14.6	19.5	13.1	6.1
Projection		12.0	-1.4	8.9	8.9	11.0	14.8	11.0	8.5
Persistence in over or under e		1	0	0	-1	-1	0		
First year Projection									
GDP Implicit Inflation		US90	US91	US92	US93	US94	US95	US96	
Over or under estimation		+	+	+	-	-	+	+	
Absolute difference		8.3	3.3	3.7	3.6	9.6	0.9	2.9	
difference (projection-outcome)		8.3	3.3	3.7	-3.6	-9.6	0.9	2.9	
Outcome		US90	US91	US92	US93	US94	US95	US96	
Projection		5.7	6.7	7.9	14.6	19.5	13.1	6.1	
Projection		14.0	10.0	11.6	11.0	8.9	14.0	9.0	
Second Year Projection									
GDP Implicit Inflation		US90	US91	US92	US93	US94	US95		
Over or under estimation		+	+	-	-	-	+		
Absolute difference		3.3	0.1	7.9	12.0	4.2	4.9		
difference (projection-outcome)		3.3	0.1	-7.9	-12.0	-4.2	4.9		
Outcome		US90	US91	US92	US93	US94	US95		
Projection		6.7	7.9	14.6	19.5	13.1	6.1		
Projection		10.0	8.0	6.7	7.5	8.9	11.0		
Three year Averages									
GDP Implicit Inflation		US90	US91	US92	US93	US94	US95		
Ongoing Year		12.0	-1.4	8.9	6.9	11.0	14.8		
First year		14.0	10.0	11.6	11.0	9.9	14.0		
Second Year		10.0	8.0	6.7	7.5	8.9	11.0		
Outcome		8.8	5.7	6.7	7.9	14.6	19.5		
Ongoing Year		5.7	6.7	7.9	14.6	19.5	13.1		
First year		6.7	7.9	14.6	19.5	13.1	6.1		
Second Year		6.7	7.9	14.6	19.5	13.1	6.1		
Three year averages									
Over or under estimation		+	-	-	-	-	+		
Absolute difference		4.9	1.2	0.7	5.5	5.8	0.4		
difference (projection-outcome)		4.9	-1.2	-0.7	-5.5	-5.8	0.4		
Outcome		US90	US91	US92	US93	US94	US95		
Projections		7.1	6.8	9.7	14.0	15.7	12.9		
Projections		12.0	5.5	9.1	8.5	9.9	13.3		



Country file		US90	US91	US92	US93	US94	US95	US96	US97
GDI as % of GDP (curr)									
Ongoing Year		13							
Over or under estimation		+	-	+	-	-	+	0	-
Absolute difference		#VALUE!	#VALUE!	5.6	2.1	10.2	3.7	0.0	2.0
difference (projection-outcome)		#VALUE!	#VALUE!	5.6	-2.1	-10.2	3.7	0.0	-2.0
Outcome		36.0	34.7	34.8	36.2	43.3	39.9	40.5	42.4
Projection		40.4	34.1	33.1	33.1	32.2	43.0	40.5	40.4
Persistence in over or under e				0	-1	-1	1		
First year Projection									
GDI as % of GDP (curr)		US90	US91	US92	US93	US94	US95	US96	
Over or under estimation		+	-	-	-	-	+	-	
Absolute difference		#VALUE!	..	4.8	9.7	7.6	2.5	1.3	
difference (projection-outcome)		#VALUE!	-34.8	4.8	-9.7	-7.6	2.5	-1.3	
Outcome		US90	US91	US92	US93	US94	US95	US96	
Projection		34.7	34.8	36.2	43.3	39.9	40.5	42.4	
Projection		0.0	41.0	33.6	32.2	43.0	41.1		
Second Year Projection									
GDI as % of GDP (curr)		US90	US91	US92	US93	US94	US95		
Over or under estimation		+	-	-	-	-	+		
Absolute difference		#VALUE!	..	2.3	6.8	8.6	0.3		
difference (projection-outcome)		#VALUE!	-36.2	-2.3	-6.8	-8.6	0.3		
Outcome		US90	US91	US92	US93	US94	US95		
Projection		34.8	36.2	43.3	39.9	40.5	42.4		
Projection		0.0	41.0	33.1	31.8	42.7			
Three year Averages									
GDI as % of GDP (curr)		US90	US91	US92	US93	US94	US95		
Ongoing Year		..	..	40.4	34.1	33.1	43.6		
First year		..	0.0	41.0	33.6	32.2	43.0		
Second Year		..	0.0	41.0	33.1	31.8	42.7		
Outcome		36.0	34.7	34.8	36.2	43.3	39.9		
Ongoing Year		34.7	34.8	36.2	43.3	39.9	40.5		
First year		34.8	36.2	43.3	39.9	40.5	42.4		
Second Year		34.8	36.2	43.3	39.9	40.5	42.4		
Three year averages									
Over or under estimation		+	-	-	-	-	+		
Absolute difference		#VALUE!	#VALUE!	2.7	6.2	8.8	2.2		
difference (projection-outcome)		#VALUE!	#VALUE!	2.7	-6.2	-8.8	2.2		





	US90	US91	US92	US93	US94	US95
Outcome	35.2	35.2	38.1	39.8	41.2	40.9
Projections	..	..	40.8	33.6	32.4	43.1

ICOR

		country file						
Ongoing Year		15						
	US90	US91	US92	US93	US94	US95	US96	US97
Absolute difference	0.6	0.1	2.7	0.2	0.1	0.1	0.2	0.1
Outcome	9.0	9.5	3.8	2.4	2.5	3.0	3.5	4.1
Projection	8.4	9.6	6.5	2.6	2.6	2.9	3.7	4.2
Persistence in over or under e	0	1	1	1	0	0		

		First year Projection						
ICOR	US90	US91	US92	US93	US94	US95	US96	
Absolute difference	0.5	3.3	3.3	0.4	0.1	0.1	0.2	
Outcome	9.5	3.8	2.4	2.5	3.0	3.5	4.1	
Projection	9.0	7.1	5.7	3.0	2.9	3.7	3.9	

		Second Year Projection						
ICOR	US90	US91	US92	US93	US94	US95		
Absolute difference	2.1	3.4	3.5	0.4	0.3	0.3		
Outcome	3.8	2.4	2.5	3.0	3.5	4.1		
Projection	5.9	5.8	6.0	3.4	3.2	3.8		

Investment GDI (in common b	1989	1990	1991	1992	1993	1994	1995	1996
	644092	644400	704288	790371	986104	1090080	1298460	0
US90	644092	652631	675543					
US91	644400	#DIV/0!	#DIV/0!					
US92		704288						
US93			767823	843523				
US94			790371	869065	942703			
US95				986104	1166721	1265812		
GDP (in common base year)	1786890	1854790	2025430	2313040	2625300	2956090	3266480	3.5E+07
US90	1786890	1854785	1947333	2064248				
US91		1854790	1967932	2099784	2242569			
US92			2025430	2300369	2565637	2821233		
US93				2313040	2618610	2919637	3210338	
US94					2625300	2935093	3228601	3535309
US95								
Absolute difference		US91	US92	US93	US94	US95		
		3.3	#DIV/0!	0.2	0.1	3.7		
Outcome		US91	US92	US93	US94	US95		
Projections		3.8	2.8	2.7	3.0	0.1		
		7.1	#DIV/0!	2.9	2.9	3.8		

CAB as % of GDP (curr)

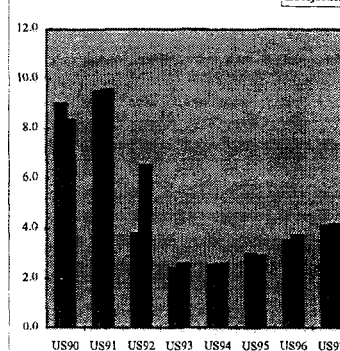
		country file					the graph	
Ongoing Year		17						
Over or under estimation	US90	US91	US92	US93	US94	US95	US96	US97
Absolute difference	0.2	1.9	1.3	0.4	0.6	0.9	2.1	0.4
difference (projection-outcome)	0.2	-1.9	-1.3	0.4	0.6	-0.9	2.1	-0.4
Outcome	US90	US91	US92	US93	US94	US95	US96	US97
Projection	-1.3	3.4	3.2	1.3	-2.0	1.3	0.2	0.5
Persistence in over or under e	0	-1	0	0	0	-1		
		First year Projection						
CAB as % of GDP (curr)	US90	US91	US92	US93	US94	US95	US96	
Over or under estimation	-	-	-	+	-	-	+	
Absolute difference	4.1	2.3	1.0	2.2	3.0	0.8	0.1	
difference (projection-outcome)	-4.1	-2.3	-1.0	2.2	-3.0	-0.8	0.1	
Outcome	US90	US91	US92	US93	US94	US95	US96	
Projection	3.4	3.2	1.3	-2.0	1.3	0.2	0.5	
	-0.7	0.8	0.3	0.2	-1.7	0.5	0.6	

		Second Year Projection						
CAB as % of GDP (curr)	US90	US91	US92	US93	US94	US95		
Over or under estimation	-	-	+	-	-	-		
Absolute difference	3.8	1.3	0.7	1.6	2.0	1.6		
difference (projection-outcome)	-3.8	-1.3	0.7	-1.6	-2.0	-1.6		
Outcome	US90	US91	US92	US93	US94	US95		
Projection	3.2	1.3	-2.0	1.3	0.2	0.5		
	-0.6	0.0	-1.3	-0.3	-1.8	-1.1		

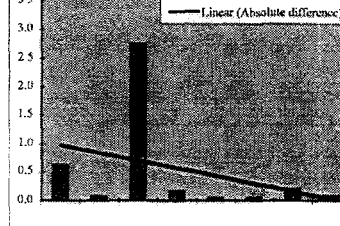
		Three year Averages						
CAB as % of GDP (curr)	US90	US91	US92	US93	US94	US95		
Ongoing Year	-1.1	1.5	1.9	1.7	-1.4	0.4		
First year	-0.7	0.8	0.3	0.2	-1.7	-0.5		
Second Year	-0.6	0.0	-1.3	-0.3	-1.8	-1.1		
Outcome	US90	US91	US92	US93	US94	US95		
Ongoing Year	-1.3	3.4	3.2	1.3	-2.0	1.3		
First year	3.4	3.2	1.3	-2.0	1.3	0.2		
Second Year	3.2	1.3	-2.0	1.3	0.2	0.5		

		Three year averages						
Over or under estimation	US90	US91	US92	US93	US94	US95		
	-	-	-	+	-	-		

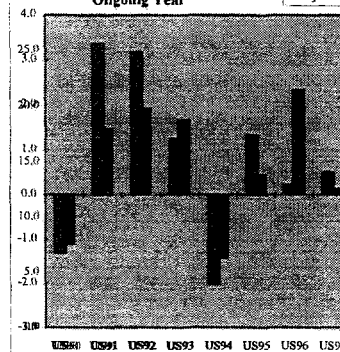
ICOR Projection for the Ongoing Year



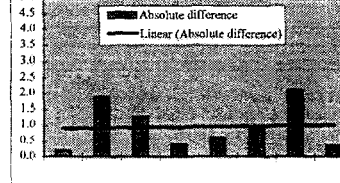
Absolute difference and Linear (Absolute difference)

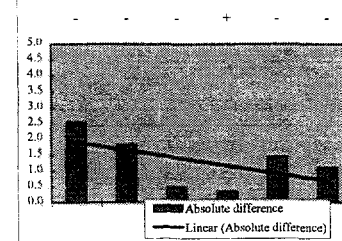
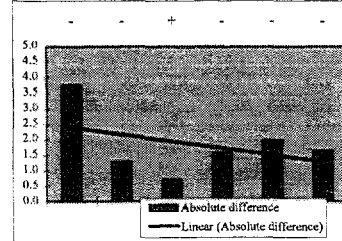
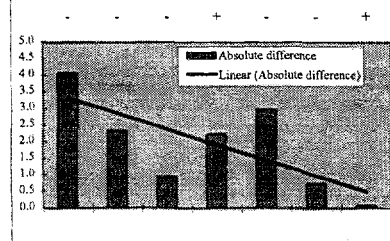
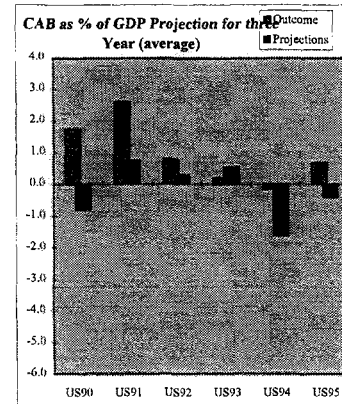
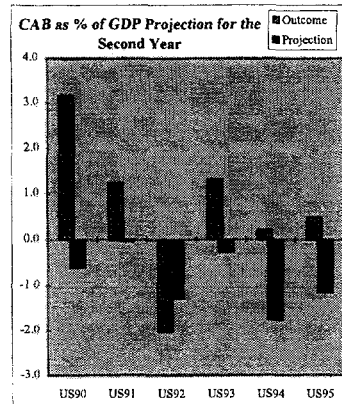
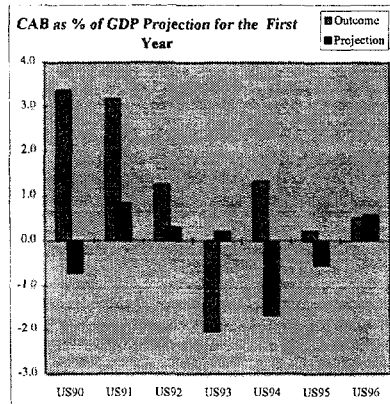
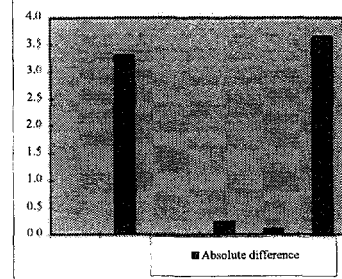
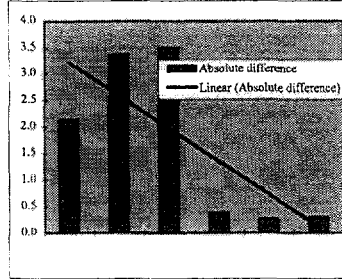
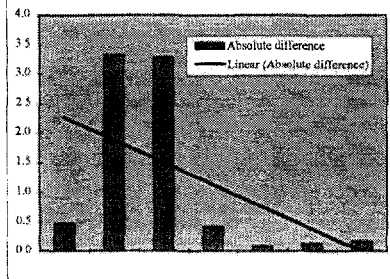
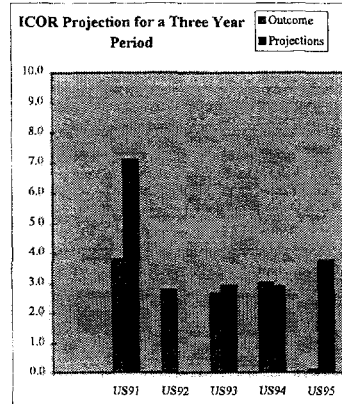
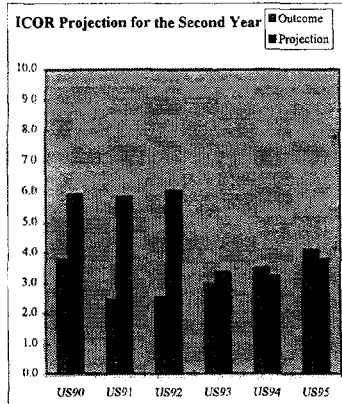
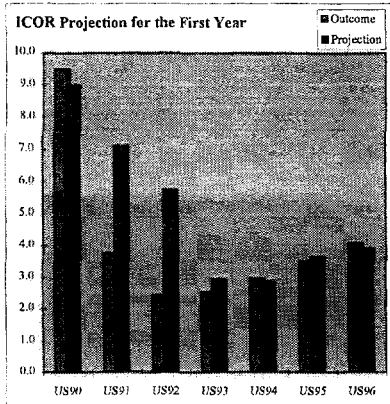


CAB as % of GDP Projection for the Ongoing Year



Absolute difference and Linear (Absolute difference)





Absolute difference	2.5	1.8	0.5	0.4	1.5	1.1
difference (projection-outcome)	-2.5	-1.8	-0.5	0.4	-1.5	-1.1
	US90	US91	US92	US93	US94	US95
Outcome	1.7	2.6	0.8	0.2	-0.2	0.7
Projections	-0.8	0.8	0.3	0.5	-1.6	-0.4

EDT/GDP		country file							
Ongoing Year		19							
		US90	US91	US92	US93	US94	US95	US96	US97
Over or under estimation					+	+	+	-	+
Absolute difference		#VALUE!	#VALUE!	#VALUE!	0.7	0.5	0.4	1.8	1.2
difference (projection-outcome)		#VALUE!	#VALUE!	#VALUE!	0.7	0.5	0.4	-1.8	1.2
		US90	US91	US92	US93	US94	US95	US96	US97
Outcome		13.1	15.6	14.3	15.0	14.3	18.6	16.9	14.2
Projection					15.7	14.8	19.0	15.1	15.4
Persistence in over or under e					0	0	0		
First year Projection									
EDT/GDP		US90	US91	US92	US93	US94	US95	US96	
Over or under estimation					+	-	-	-	
Absolute difference		#VALUE!	#VALUE!	#VALUE!	0.3	4.1	0.6	1.0	
difference (projection-outcome)		#VALUE!	#VALUE!	#VALUE!	0.3	-4.1	-0.6	-1.0	
		US90	US91	US92	US93	US94	US95	US96	
Outcome		15.6	14.8	15.0	14.3	18.6	16.9	14.2	
Projection					14.6	14.5	16.3	13.2	

Second Year Projection								
EDT/GDP		US90	US91	US92	US93	US94	US95	
Over or under estimation					-	-	+	
Absolute difference		#VALUE!	#VALUE!	#VALUE!	4.7	3.3	1.3	
difference (projection-outcome)		#VALUE!	#VALUE!	#VALUE!	-4.7	-3.3	1.3	
		US90	US91	US92	US93	US94	US95	
Outcome		14.8	15.0	14.3	18.6	16.9	14.2	
Projection					13.9	13.7	15.5	

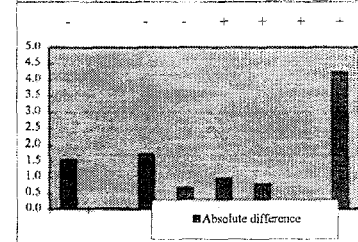
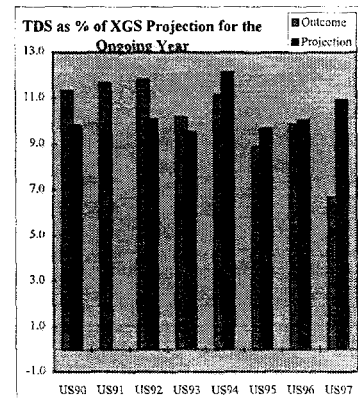
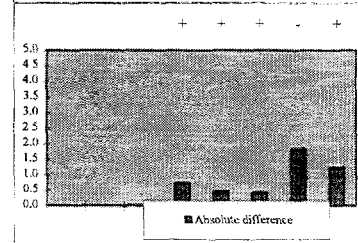
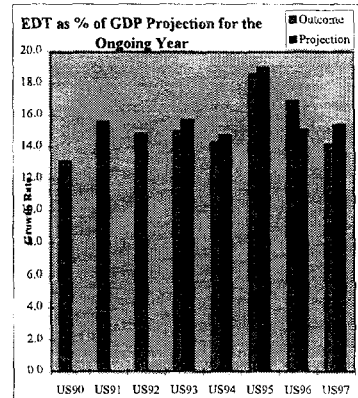
Three year Averages								
EDT/GDP		US90	US91	US92	US93	US94	US95	
Ongoing Year		..	..	..	15.7	14.8	19.0	
First year		..	..	..	14.6	14.5	16.3	
Second Year		..	..	..	13.9	13.7	15.5	
Outcome		13.1	15.6	14.8	15.0	14.3	18.6	
Ongoing Year		15.6	14.8	15.0	14.3	18.6	16.9	
First year		14.8	15.0	14.3	18.6	16.9	14.2	
Second Year								

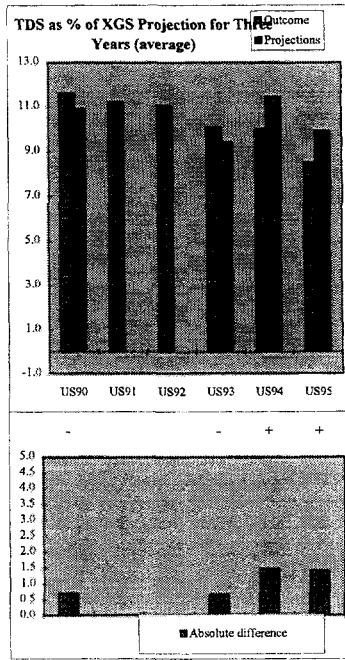
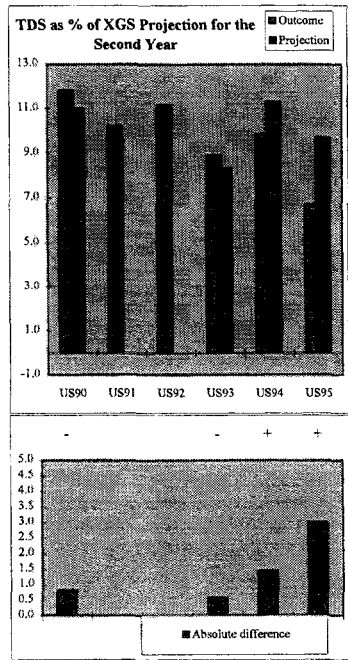
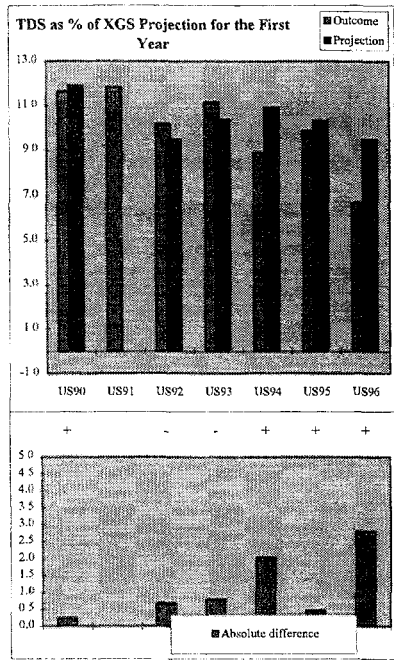
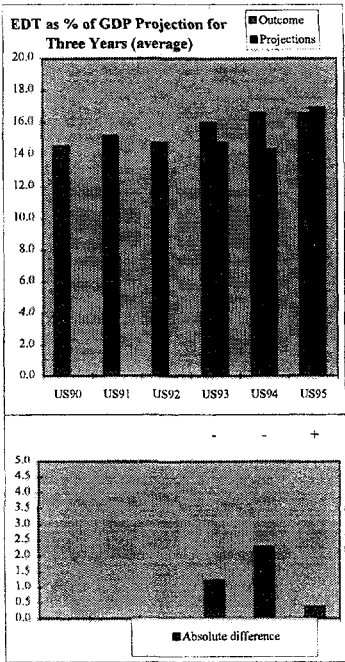
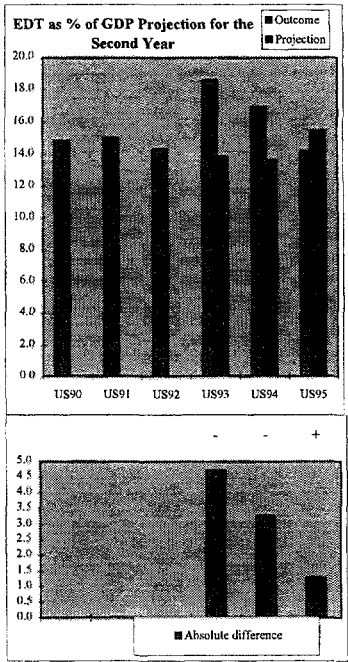
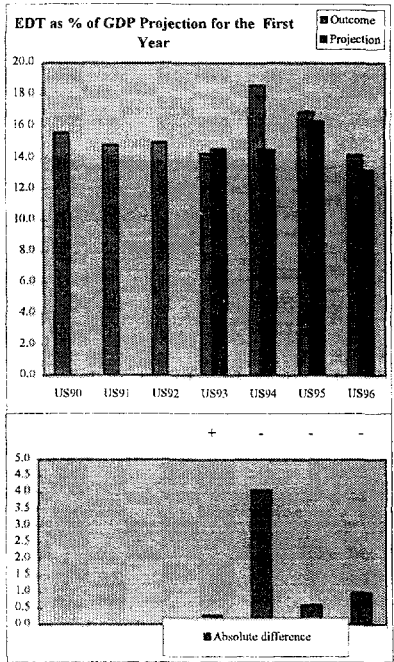
Three year averages								
EDT/GDP		US90	US91	US92	US93	US94	US95	
Over or under estimation					-	-	+	
Absolute difference		#VALUE!	#VALUE!	#VALUE!	1.2	2.3	0.4	
difference (projection-outcome)		#VALUE!	#VALUE!	#VALUE!	-1.2	-2.3	0.4	
		US90	US91	US92	US93	US94	US95	
Outcome		14.5	15.1	14.7	16.0	16.6	16.6	
Projections		..	..	..	14.7	14.3	16.9	

TDS/XGS		country file							
Ongoing Year		21							
		US90	US91	US92	US93	US94	US95	US96	US97
Over or under estimation					-	+	+	+	+
Absolute difference		1.5	#VALUE!	1.7	0.7	1.0	0.8	0.2	4.2
difference (projection-outcome)		-1.5	#VALUE!	-1.7	-0.7	1.0	0.8	0.2	4.2
		US90	US91	US92	US93	US94	US95	US96	US97
Outcome		11.3	11.7	11.8	10.2	11.2	8.9	6.9	6.7
Projection		9.8		10.1	9.5	12.1	9.7	10.0	10.9
Persistence in over or under e		0			-1	1	1		
First year Projection									
TDS/XGS		US90	US91	US92	US93	US94	US95	US96	
Over or under estimation					-	+	+	+	
Absolute difference		0.2	#VALUE!	0.7	0.8	2.0	0.5	2.8	
difference (projection-outcome)		0.2	#VALUE!	-0.7	-0.8	2.0	0.5	2.8	
		US90	US91	US92	US93	US94	US95	US96	
Outcome		11.7	11.8	10.2	11.2	8.9	9.9	6.7	
Projection		11.9		9.5	10.4	10.9	10.3	9.5	

Second Year Projection								
TDS/XGS		US90	US91	US92	US93	US94	US95	
Over or under estimation					-	+	+	
Absolute difference		0.8	#VALUE!	#VALUE!	0.6	1.4	3.0	
difference (projection-outcome)		-0.8	#VALUE!	#VALUE!	-0.6	1.4	3.0	
		US90	US91	US92	US93	US94	US95	
Outcome		11.8	10.2	11.2	8.9	9.9	6.7	
Projection		11.0			8.3	11.3	9.7	

Three year Averages								
TDS/XGS		US90	US91	US92	US93	US94	US95	
Ongoing Year		9.8	..	10.1	9.5	12.1	9.7	
First year		11.9	..	9.5	10.4	10.9	10.3	
Second Year		11.0	..	..	8.3	11.3	9.7	
Outcome		11.3	11.7	11.8	10.2	11.2	8.9	
Ongoing Year		11.7	11.8	10.2	11.2	8.9	9.9	
First year		11.8	10.2	11.2	8.9	9.9	6.7	
Second Year								





Three year averages	US90	US91	US92	US93	US94	US95
Over or under estimation	-			-	+	+
Absolute difference	0.7	#VALUE!	#VALUE!	0.7	1.5	1.4
difference (projection-outcome)	-0.7	#VALUE!	#VALUE!	-0.7	1.5	1.4
Outcome	US90	US91	US92	US93	US94	US95
Projections	11.6	11.2	11.1	10.1	10.0	8.5
	10.9	..	..	9.4	11.5	9.9

GBB as % of GDP (curr)	Country file							
Ongoing Year	23							
	US90	US91	US92	US93	US94	US95	US96	US97
Over or under estimation				+	+	-	-	+
Absolute difference	#VALUE!	#VALUE!	#VALUE!	3.8	2.0	0.5	0.1	0.1
difference (projection-outcome)	#VALUE!	#VALUE!	#VALUE!	3.8	2.0	-0.5	-0.1	0.1
Outcome	US90	US91	US92	US93	US94	US95	US96	US97
Projection	-2.2	-2.0	-2.2	-2.3	-2.0	-1.6	-1.8	-1.6
Persistence in over or under e				1	1	-1		
First year Projection								
GBB as % of GDP (curr)	US90	US91	US92	US93	US94	US95	US96	US97
Over or under estimation				+	+	-	-	+
Absolute difference	#VALUE!	#VALUE!	#VALUE!	1.8	1.5	0.3	0.1	0.1
difference (projection-outcome)	#VALUE!	#VALUE!	#VALUE!	1.8	1.5	-0.3	0.1	0.1
Outcome	US90	US91	US92	US93	US94	US95	US96	US97
Projection	-2.0	-2.2	-2.3	-2.0	-1.6	-1.6	-1.6	-1.6
				-0.3	-0.1	-1.9	-1.5	

Second Year Projection	Country file					
Ongoing Year	23					
	US90	US91	US92	US93	US94	US95
Over or under estimation				+	+	-
Absolute difference	#VALUE!	#VALUE!	#VALUE!	1.3	1.6	0.1
difference (projection-outcome)	#VALUE!	#VALUE!	#VALUE!	1.3	1.6	-0.1
Outcome	US90	US91	US92	US93	US94	US95
Projection	-2.2	-2.3	-2.0	-1.6	-1.6	-1.6
				-0.3	-0.1	-1.7

Three year Averages	Country file					
Ongoing Year	23					
	US90	US91	US92	US93	US94	US95
Over or under estimation				+	+	-
Absolute difference	#VALUE!	#VALUE!	#VALUE!	2.3	1.7	0.3
difference (projection-outcome)	#VALUE!	#VALUE!	#VALUE!	2.3	1.7	-0.3
Outcome	US90	US91	US92	US93	US94	US95
Projections	-2.1	-2.2	-2.2	-2.0	-1.8	-1.6
				0.3	-0.1	-1.9

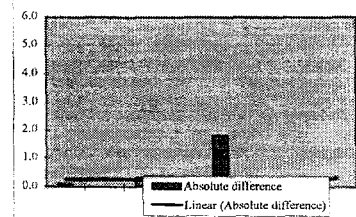
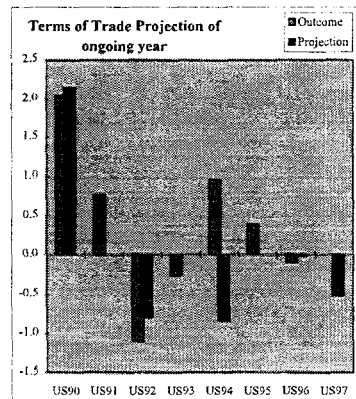
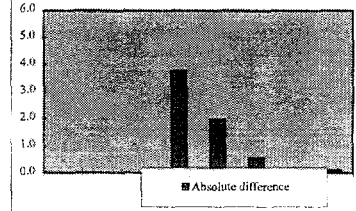
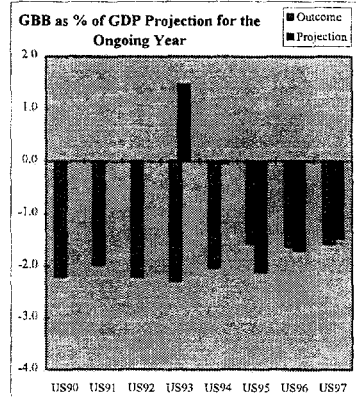
Three year averages	Country file					
Ongoing Year	23					
	US90	US91	US92	US93	US94	US95
Over or under estimation				+	+	-
Absolute difference	#VALUE!	#VALUE!	#VALUE!	2.3	1.7	0.3
difference (projection-outcome)	#VALUE!	#VALUE!	#VALUE!	2.3	1.7	-0.3
Outcome	US90	US91	US92	US93	US94	US95
Projections	-2.1	-2.2	-2.2	-2.0	-1.8	-1.6
				0.3	-0.1	-1.9

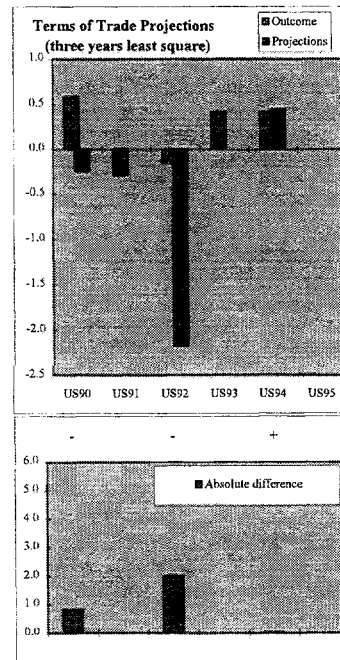
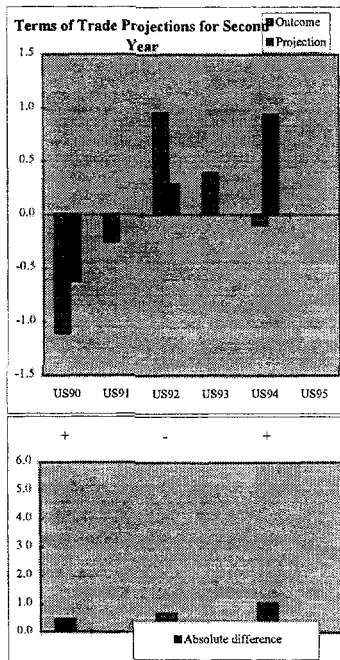
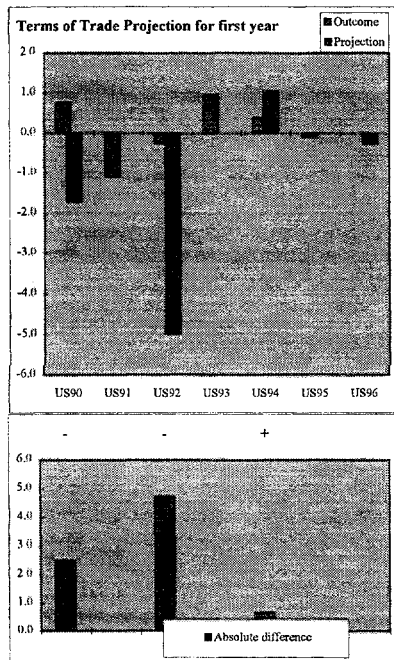
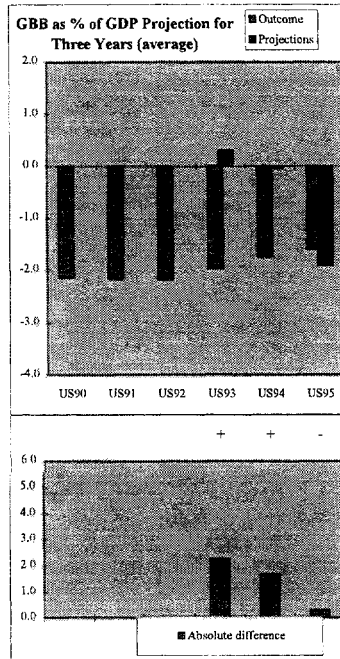
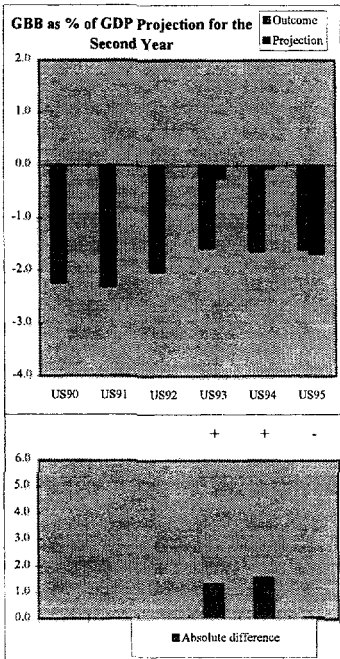
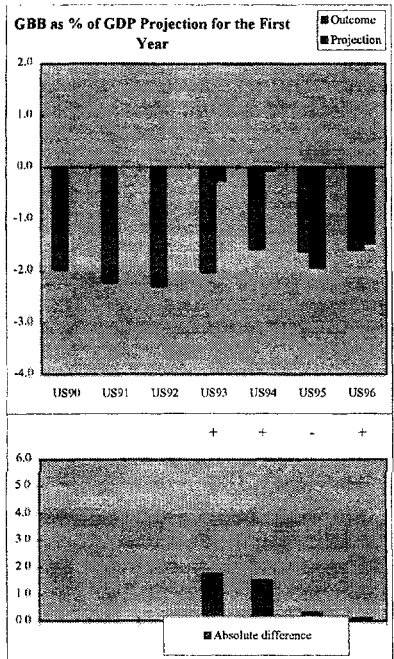
Terms Of Trade	Country file							
Ongoing Year	25							
	US90	US91	US92	US93	US94	US95	US96	US97
Over or under estimation				+	-		+	
Absolute difference	0.1	#VALUE!	0.3	#VALUE!	1.8	#VALUE!	0.1	#VALUE!
difference (projection-outcome)	0.1	#VALUE!	0.3	#VALUE!	-1.8	#VALUE!	0.1	#VALUE!
Outcome	US90	US91	US92	US93	US94	US95	US96	US97
Projection	2.0	0.8	-1.1	-0.3	1.0	0.4	-0.1	-0.5
Persistence in over or under e	0		0		0			
First year Projection								
Terms Of Trade	US90	US91	US92	US93	US94	US95	US96	US97
Over or under estimation				+	+	-	-	+
Absolute difference	2.5	#VALUE!	4.7	#VALUE!	0.7	#VALUE!	#VALUE!	#VALUE!
difference (projection-outcome)	-2.5	#VALUE!	-4.7	#VALUE!	0.7	#VALUE!	#VALUE!	#VALUE!
Outcome	US90	US91	US92	US93	US94	US95	US96	US97
Projection	0.8	-1.1	-0.3	1.0	0.4	-0.1		
				-1.7			-5.0	
							1.1	
								-0.3

Second Year Projection	Country file					
Ongoing Year	25					
	US90	US91	US92	US93	US94	US95
Over or under estimation				+	+	-
Absolute difference	0.5	#VALUE!	0.7	#VALUE!	1.0	#VALUE!
difference (projection-outcome)	0.5	#VALUE!	-0.7	#VALUE!	1.0	#VALUE!
Outcome	US90	US91	US92	US93	US94	US95
Projection	-1.1	-0.3	1.0	0.4	-0.1	
				0.6		0.3
						0.9

Three year Least Square Growth rates	Country file					
Ongoing Year	25					
	US90	US91	US92	US93	US94	US95
TOT	100	100	100	100	100	100
Ongoing Year	102.1	#VALUE!	99.2	#VALUE!	99.2	#VALUE!
First year	100.4	#VALUE!	94.3	#VALUE!	100.2	#VALUE!
Second Year	99.7	#VALUE!	94.5	#VALUE!	101.1	#VALUE!

TOT Outcomes	Country file					
Ongoing Year	25					
	US90	US91	US92	US93	US94	US95
Ongoing Year	102.0	100.8	98.9	99.7	101.0	100.4
First year	102.8	99.7	98.6	100.7	101.3	100.3





Annex B: Regional Profile: Latin America

Country Variable	Ongoing Year							
	US90	US91	US92	US93	US94	US95	US96	US97
GDP Growth	2.0	2.0	2.0	2.0	1.0	1.0	0.0	0.0
Over or under estimation	1.7	3.0	2.6	1.4	1.1	1.1	0.8	0.8
Average Difference for LAC								
Summation of absolute errors	11.7	20.8	15.6	11.4	8.7	9.2	8.3	4.4
Count of observations	7.0	7.0	8.0	8.0	8.0	8.0	8.0	8.0

	First year Projection						
	US90	US91	US92	US93	US94	US95	US96
GDP Growth	5.0	2.0	1.0	1.0	1.0	4.0	8.0
Over or under estimation	3.3	2.6	2.2	1.8	2.9	2.0	1.6
Average Difference for LAC							
Summation of absolute errors	23.1	21.2	13.3	14.7	23.3	15.8	13.1
Count of observations	7.0	8.0	8.0	8.0	8.0	8.0	8.0

	Least Square Growth rate					
	US90	US91	US92	US93	US94	US95
GDP Growth	3.0	3.0	1.0	1.0	4.0	4.0
Over or under estimation	3.5	3.0	2.1	3.4	4.6	2.6
Average Difference for LAC						
Summation of absolute errors	24.7	24.0	14.8	27.3	36.5	20.8
Count of observations	7.0	8.0	7.0	8.0	8.0	8.0

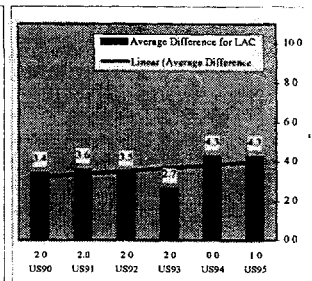
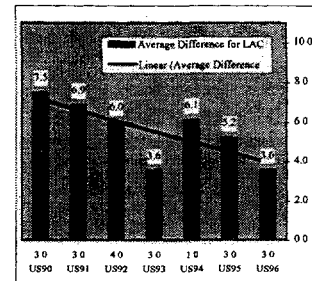
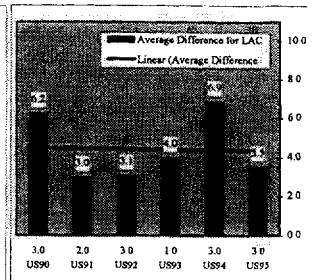
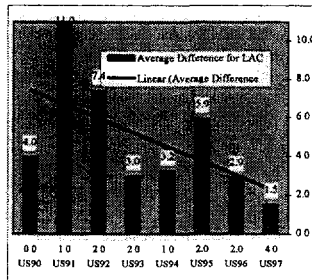
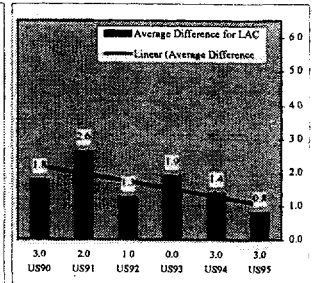
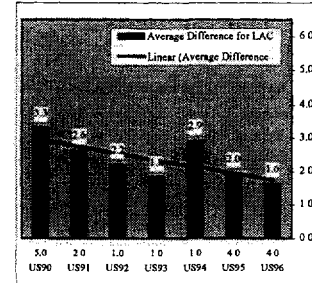
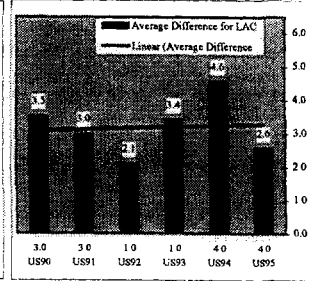
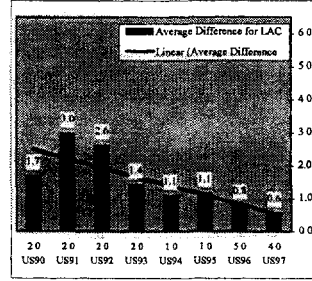
	Outcome Projections					
	US90	US91	US92	US93	US94	US95
Least Square Growth rate	3.0	2.0	1.0	0.0	3.0	3.0
Over or under estimation	1.8	2.6	1.3	1.9	1.4	0.8
Average Difference for LAC						
Summation of absolute errors	14.2	18.4	8.8	15.2	11.1	8.5
Count of observations	8.0	7.0	7.0	8.0	8.0	8.0

Export of GNFS Growth rates (cons)								
	Ongoing Year							
	US90	US91	US92	US93	US94	US95	US96	US97
Export of GNFS Growth rates	0.0	1.0	2.0	2.0	1.0	2.0	2.0	8.0
Over or under estimation	4.0	11.0	7.4	3.0	3.2	5.9	2.9	1.5
Average Difference for LAC								
Summation of absolute errors	27.7	77.0	51.8	23.8	28.0	47.5	28.4	22.2
Count of observations	7.0	7.0	7.0	8.0	8.0	8.0	8.0	8.0

	First year Projection						
	US90	US91	US92	US93	US94	US95	US96
Export of GNFS Growth rates	3.0	3.0	4.0	3.0	1.0	3.0	3.0
Over or under estimation	7.5	6.9	6.0	3.6	6.1	5.2	3.6
Average Difference for LAC							
Summation of absolute errors	52.5	46.1	42.1	28.5	43.1	41.9	28.6
Count of observations	7.0	7.0	7.0	8.0	8.0	8.0	8.0

	Least Square Growth rate					
	US90	US91	US92	US93	US94	US95
Export of GNFS Growth rates	3.0	2.0	3.0	1.0	3.0	3.0
Over or under estimation	6.2	3.0	3.1	4.0	6.9	3.5
Average Difference for LAC						
Summation of absolute errors	43.4	23.6	21.4	31.7	54.8	28.1
Count of observations	7.0	8.0	7.0	8.0	8.0	8.0

	Outcome Projections					
	US90	US91	US92	US93	US94	US95
Least Square Growth rate	2.0	2.0	2.0	2.0	0.0	1.0
Over or under estimation	3.4	3.6	3.5	2.7	4.3	4.3
Average Difference for LAC						
Summation of absolute errors	24.0	25.2	24.5	21.2	34.4	34.3
Count of observations	7.0	7.0	7.0	8.0	8.0	8.0



Import GNFS Growth rate (cons)

Ongoing Year								
	US90	US91	US92	US93	US94	US95	US96	US97
Over or under estimation	5.0	4.0	2.0	1.0	2.0	0.0	4.0	3.0
Average Difference for LAC	5.2	13.8	7.1	10.4	4.4	6.5	6.4	2.5
Summation of absolute errors	31.0	36.9	30.0	35.5	35.4	31.3	51.5	18.0
Count of observations	6.0	7.0	7.0	8.0	8.0	8.0	9.0	8.0

First year Projection							
	US90	US91	US92	US93	US94	US95	US96
Import GNFS Growth rate (co)	5.0	2.0	2.0	3.0	2.0	2.0	2.0
Over or under estimation	5.0	2.0	2.0	3.0	2.0	2.0	2.0
Average Difference for LAC	11.8	15.8	18.2	11.2	14.3	10.5	13.4
Summation of absolute errors	82.3	126.7	127.5	89.3	114.7	84.1	107.5
Count of observations	7.0	8.0	7.0	8.0	8.0	8.0	8.0

Import GNFS Growth rate (co)						
	US90	US91	US92	US93	US94	US95
Over or under estimation	0.0	2.0	3.0	2.0	2.0	5.0
Average Difference for LAC	17.2	21.9	10.8	13.6	14.9	5.8
Summation of absolute errors	120.5	175.3	75.9	110.4	119.5	46.8
Count of observations	7.0	8.0	7.0	8.0	8.0	8.0

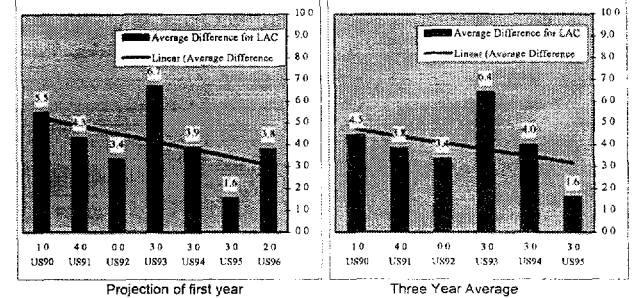
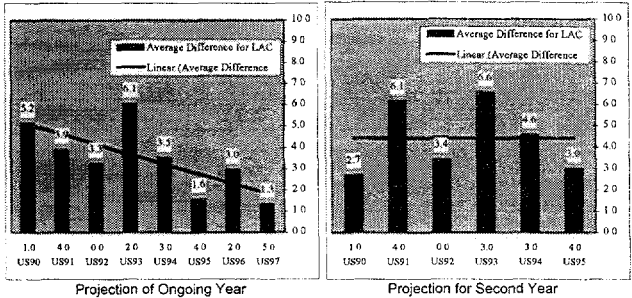
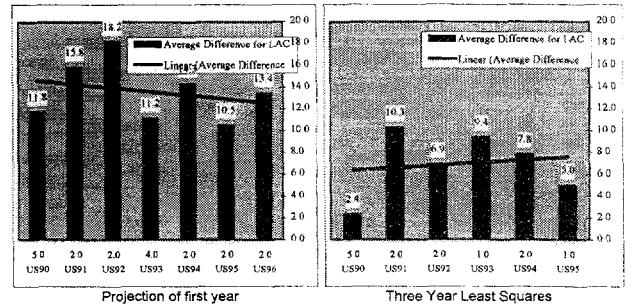
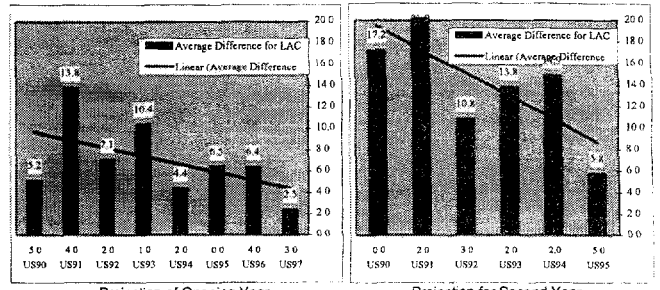
Least Square Growth rate						
	US90	US91	US92	US93	US94	US95
Over or under estimation	5.0	2.0	2.0	1.0	2.0	1.0
Average Difference for LAC	2.4	10.3	6.9	9.4	7.8	5.0
Outcome	16.6	72.2	48.5	76.3	82.7	40.4
Projections	7.0	7.0	7.0	8.0	8.0	8.0

GNS as % GDP (curr)								
Ongoing Year								
	US90	US91	US92	US93	US94	US95	US96	US97
Over or under estimation	1.0	4.0	0.0	2.0	3.0	4.0	2.0	5.0
Average Difference for LAC	5.2	3.9	3.3	6.1	3.5	1.6	3.0	1.3
Summation of absolute errors	10.3	27.3	9.8	39.3	21.2	12.8	23.8	10.8
Count of observations	2.0	7.0	3.0	8.0	6.0	8.0	8.0	8.0

First year Projection						
	US90	US91	US92	US93	US94	US95
Over or under estimation	1.0	3.0	0.0	3.0	3.0	2.0
Average Difference for LAC	5.5	4.3	3.4	6.7	3.9	1.6
Summation of absolute errors	11.0	30.4	10.1	40.5	23.3	12.8
Count of observations	2.0	7.0	3.0	8.0	6.0	8.0

GNS as % GDP (curr)						
	US90	US91	US92	US93	US94	US95
Over or under estimation	1.0	4.0	0.0	3.0	3.0	4.0
Average Difference for LAC	2.7	6.1	3.4	6.6	4.6	3.0
Summation of absolute errors	5.4	42.9	10.9	39.4	27.5	24.2
Count of observations	2.0	7.0	3.0	8.0	6.0	8.0

Least Square Growth rate						
	US90	US91	US92	US93	US94	US95
Over or under estimation	1.0	3.0	0.0	3.0	3.0	3.0
Average Difference for LAC	4.5	3.8	3.4	6.4	4.0	1.6
Outcome	8.9	26.3	10.1	38.6	24.0	13.0
Projections	2.0	7.0	3.0	8.0	8.0	8.0



GDP Implicit Inflation

Ongoing Year	US90	US91	US92	US93	US94	US95	US96	US97
Over or under estimation	5.0	3.0	0.0	4.0	5.0	3.0	3.0	4.0
Average Difference for LAC	232.7	223.6	79.8	31.7	74.2	21.4	2.6	1.9

	US90	US91	US92	US93	US94	US95	US96	US97
Summation of absolute errors	1386.4	1118.2	238.3	253.8	583.9	171.4	20.7	15.0
Count of observations	6.0	5.0	3.0	3.0	3.0	3.0	3.0	3.0

First year Projection	US90	US91	US92	US93	US94	US95	US96
GDP Implicit Inflation	3.0	4.0	3.0	2.0	3.0	2.0	3.0
Average Difference for LAC	402.8	8.5	20.6	200.5	229.1	8.7	10.6

	US90	US91	US92	US93	US94	US95	US96
Summation of absolute errors	2415.7	59.7	61.8	1804.0	1832.8	69.8	64.7
Count of observations	6.0	7.0	3.0	3.0	3.0	3.0	3.0

GDP Implicit Inflation	US90	US91	US92	US93	US94	US95
Over or under estimation	3.0	3.0	0.0	4.0	1.0	3.0
Average Difference for LAC	63.4	17.7	15.1	269.3	37.3	7.8

	US90	US91	US92	US93	US94	US95
Summation of absolute errors	380.8	124.1	45.4	2154.3	239.1	62.3
Count of observations	3.0	7.0	3.0	3.0	3.0	3.0

Least Square Growth rate	US90	US91	US92	US93	US94	US95
Over or under estimation	1.0	2.0	0.0	4.0	3.0	2.8
Average Difference for LAC	108.0	55.1	38.5	146.9	94.4	9.2

Outcome Projections	US90	US91	US92	US93	US94	US95
	647.8	385.5	115.5	1175.0	753.4	78.4
	6.0	7.0	3.0	3.0	3.0	3.0

GDI as % of GDP (curr)

Ongoing Year	US90	US91	US92	US93	US94	US95	US96	US97
Over or under estimation	0.0	3.0	2.0	2.0	3.0	3.0	2.0	5.0
Average Difference for LAC	4.3	4.6	1.1	2.2	2.0	2.0	2.3	1.3

	US90	US91	US92	US93	US94	US95	US96	US97
Summation of absolute errors	12.9	32.4	3.2	13.0	11.8	15.7	18.3	8.9
Count of observations	3.0	7.0	3.0	3.0	3.0	3.0	3.0	7.0

First year Projection	US90	US91	US92	US93	US94	US95	US96
GDI as % of GDP (curr)	0.0	3.0	2.0	2.0	4.0	2.0	3.0
Average Difference for LAC	3.5	3.3	1.4	3.6	3.7	2.1	3.2

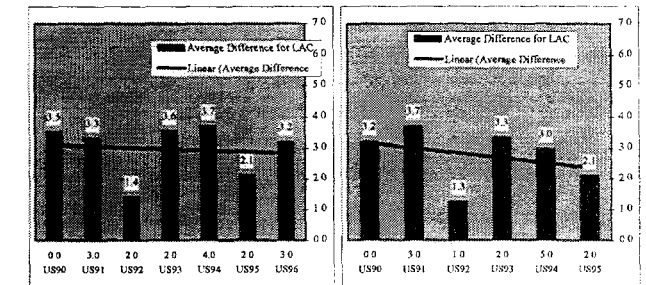
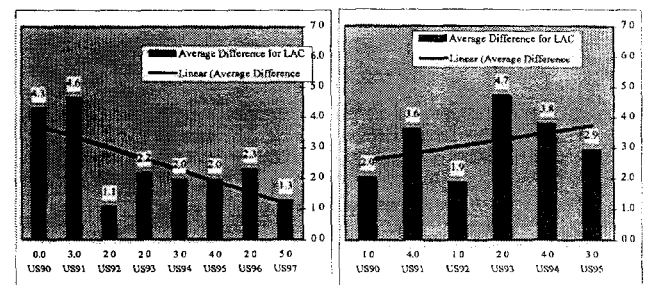
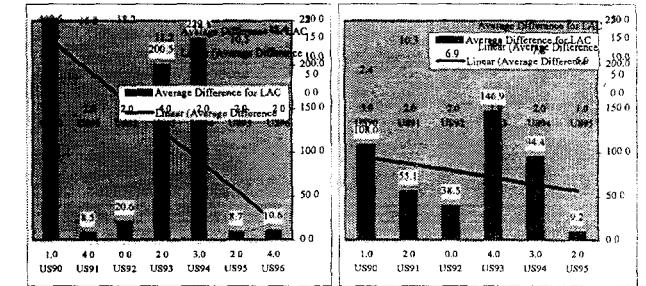
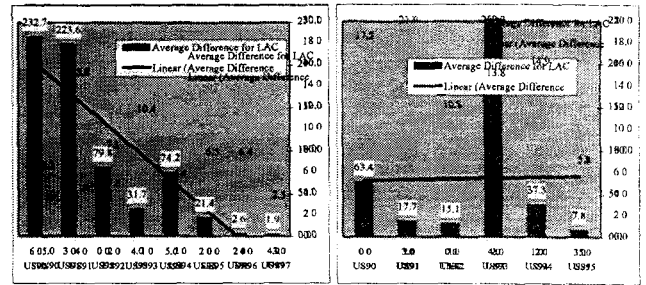
	US90	US91	US92	US93	US94	US95	US96
Summation of absolute errors	16.8	23.2	4.3	21.4	22.2	17.0	22.3
Count of observations	3.0	7.0	3.0	3.0	3.0	3.0	7.0

GDI as % of GDP (curr)	US90	US91	US92	US93	US94	US95
Over or under estimation	1.0	4.0	1.0	2.0	4.0	3.0
Average Difference for LAC	2.0	3.6	1.9	4.7	3.8	2.8

	US90	US91	US92	US93	US94	US95
Summation of absolute errors	6.1	26.2	5.8	28.3	22.7	20.5
Count of observations	3.0	7.0	3.0	3.0	3.0	7.0

Least Square Growth rate	US90	US91	US92	US93	US94	US95
Over or under estimation	0.0	3.0	1.0	2.0	5.0	2.0
Average Difference for LAC	3.2	3.7	1.3	3.3	3.0	2.1

Outcome Projections	US90	US91	US92	US93	US94	US95
	6.8	25.0	3.8	20.0	17.6	14.7
	3.0	7.0	3.0	3.0	3.0	7.0



ICOR

Ongoing Year		US90	US91	US92	US93	US94	US95	US96	US97
Over or under estimation		3.0	4.0	4.0	5.0	6.0	5.0	3.0	3.0
Average Difference for LAC		6.0	42.1	1.9	15.1	58.6	0.9	1.4	3.8
Summation of absolute errors		34.3	294.5	11.6	120.8	486.7	7.4	11.3	30.7
Count of observations		6.0	7.0	6.0	6.0	6.0	6.0	6.0	6.0

First year Projection		US90	US91	US92	US93	US94	US95	US96
Over or under estimation		4.0	5.0	5.0	5.0	6.0	3.0	3.0
Average Difference for LAC		41.5	5.6	5.6	11.0	3.4	4.9	4.3
Summation of absolute errors		290.6	44.4	33.9	67.9	27.6	38.5	34.5
Count of observations		7.0	6.0	6.0	6.0	6.0	6.0	6.0

ICOR		US90	US91	US92	US93	US94	US95
Over or under estimation		4.0	6.0	3.0	6.0	5.0	3.0
Average Difference for LAC		2.4	7.4	12.6	3.7	4.8	7.1
Summation of absolute errors		16.5	59.6	66.0	29.8	36.7	56.8
Count of observations		7.0	6.0	7.0	6.0	6.0	6.0

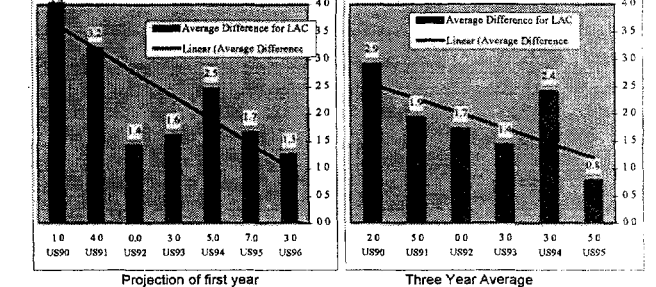
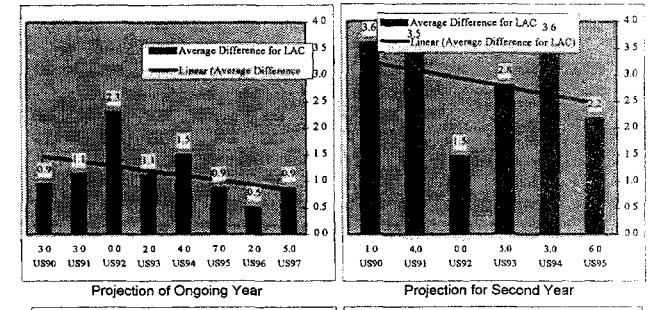
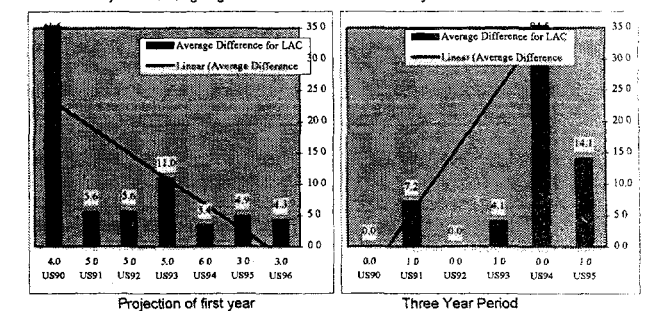
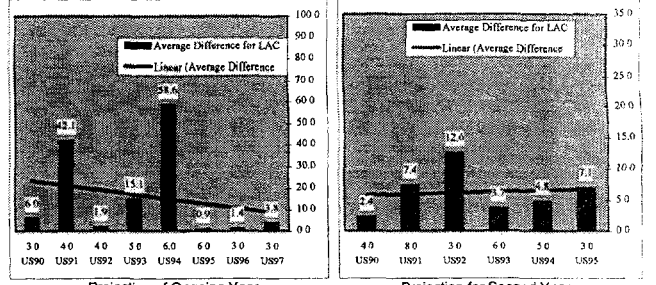
Least Square Growth rate		US90	US91	US92	US93	US94	US95
Over or under estimation		0.0	1.0	0.0	1.0	0.0	1.0
Average Difference for LAC		#DIV/0!	7.2	#DIV/0!	4.1	94.5	14.1
Outcome Projections		0.0	42.9	0.0	32.8	766.3	112.6
		0.0	6.0	0.0	6.0	6.0	6.0

CAB as % of GDP (curr) Ongoing Year		US90	US91	US92	US93	US94	US95	US96	US97
Over or under estimation		3.0	3.0	0.0	2.0	4.0	7.0	2.0	5.0
Average Difference for LAC		0.9	1.1	2.3	1.1	1.5	0.9	0.5	0.9
Summation of absolute errors		6.8	9.2	2.3	7.9	12.0	7.0	4.1	7.0
Count of observations		7.0	6.0	1.0	7.0	6.0	6.0	6.0	6.0

First year Projection CAB as % of GDP (curr)		US90	US91	US92	US93	US94	US95	US96
Over or under estimation		1.0	4.0	0.0	3.0	5.0	7.0	3.0
Average Difference for LAC		4.7	3.2	1.4	1.6	2.5	1.7	1.3
Summation of absolute errors		32.7	25.7	1.4	11.3	16.8	13.3	10.2
Count of observations		7.0	6.0	1.0	7.0	6.0	6.0	6.0

CAB as % of GDP (curr)		US90	US91	US92	US93	US94	US95
Over or under estimation		1.0	4.0	0.0	5.0	3.0	6.0
Average Difference for LAC		3.6	3.5	1.5	2.8	3.6	2.2
Summation of absolute errors		25.2	27.9	1.5	19.6	28.6	17.5
Count of observations		7.0	6.0	1.0	7.0	6.0	6.0

Least Square Growth rate		US90	US91	US92	US93	US94	US95
Over or under estimation		2.0	5.0	0.0	3.0	3.0	6.0
Average Difference for LAC		2.9	1.9	1.7	1.4	2.4	0.8
Outcome Projections		20.4	15.5	1.7	10.1	19.4	2.3
		7.0	6.0	1.0	7.0	6.0	6.0



EDT/GDP

Ongoing Year		US90	US91	US92	US93	US94	US95	US96	US97
Over or under estimation	#DIV/0!	0.0	3.0	0.0	2.0	4.0	3.0	7.0	3.0
Average Difference for LAC	#DIV/0!	20.6	#DIV/0!	6.5	7.3	4.1	2.0	3.8	
Summation of absolute errors	US90	US91	US92	US93	US94	US95	US96	US97	
Count of observations	0.0	144.0	0.0	48.0	58.3	33.1	15.8	30.4	

First year Projection		US90	US91	US92	US93	US94	US95	US96	US97
Over or under estimation	#DIV/0!	0.0	4.0	0.0	3.0	4.0	5.0	8.0	
Average Difference for LAC	#DIV/0!	16.8	#DIV/0!	8.9	8.3	5.1	7.0		
Summation of absolute errors	US90	US91	US92	US93	US94	US95	US96		
Count of observations	0.0	117.6	0.0	62.3	66.7	40.7	58.1		

EDT/GDP		US90	US91	US92	US93	US94	US95
Over or under estimation	#DIV/0!	0.0	5.0	0.0	3.0	5.0	3.0
Average Difference for LAC	#DIV/0!	18.4	#DIV/0!	10.2	11.1	6.5	
Summation of absolute errors	US90	US91	US92	US93	US94	US95	
Count of observations	0.0	128.8	0.0	71.8	86.7	52.2	

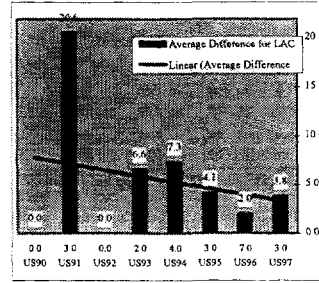
Least Square Growth rate		US90	US91	US92	US93	US94	US95
Over or under estimation	#DIV/0!	0.0	3.0	0.0	3.0	4.0	3.0
Average Difference for LAC	#DIV/0!	16.7	#DIV/0!	8.5	7.6	4.5	
Outcome Projections	US90	US91	US92	US93	US94	US95	
	0.0	116.7	0.0	59.3	60.4	35.6	

TDS/XGS		US90	US91	US92	US93	US94	US95	US96	US97
Over or under estimation	#DIV/0!	5.0	1.0	1.0	5.0	8.0	7.0	5.0	5.0
Average Difference for LAC	#DIV/0!	5.1	8.3	4.4	17.3	34.7	12.6	10.6	5.8
Summation of absolute errors	US90	US91	US92	US93	US94	US95	US96	US97	
Count of observations	7.0	46.5	17.5	121.4	243.2	100.8	84.4	46.6	

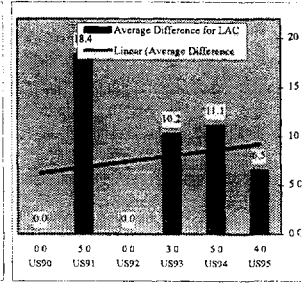
First year Projection		US90	US91	US92	US93	US94	US95	US96	US97
Over or under estimation	#DIV/0!	5.0	5.0	3.0	6.0	5.0	5.0	4.0	
Average Difference for LAC	#DIV/0!	20.4	8.4	9.3	41.6	12.6	5.2	7.2	
Summation of absolute errors	US90	US91	US92	US93	US94	US95	US96		
Count of observations	7.0	50.3	37.3	241.1	89.2	41.2	57.9		

TDS/XGS		US90	US91	US92	US93	US94	US95
Over or under estimation	#DIV/0!	8.0	4.0	0.0	8.0	3.0	3.0
Average Difference for LAC	#DIV/0!	18.0	7.5	#DIV/0!	13.2	7.8	4.3
Summation of absolute errors	US90	US91	US92 <td>US93</td> <td>US94</td> <td>US95</td> <td></td>	US93	US94	US95	
Count of observations	7.0	44.9	0.0	82.3	54.4	34.8	

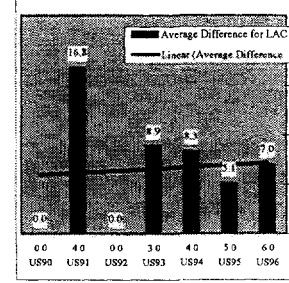
Least Square Growth rate		US90	US91	US92	US93	US94	US95
Over or under estimation	#DIV/0!	5.0	3.0	0.0	8.0	3.0	8.0
Average Difference for LAC	#DIV/0!	12.8	5.1	#DIV/0!	23.9	16.8	4.9
Outcome Projections	US90	US91	US92	US93	US94	US95	
	7.0	6.0	0.0	7.0	7.0	8.0	



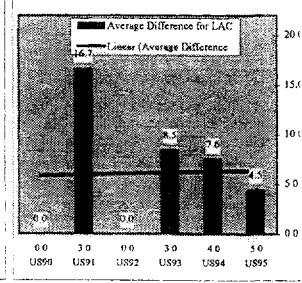
Projection of Ongoing Year



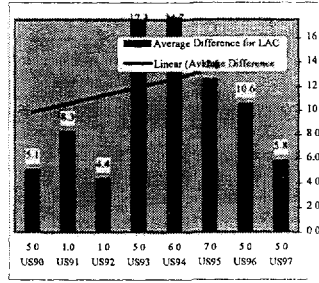
Projection for Second Year



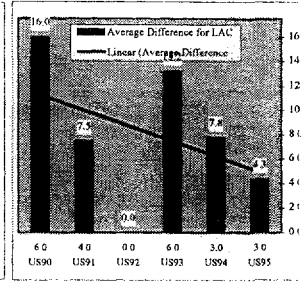
Projection of first year



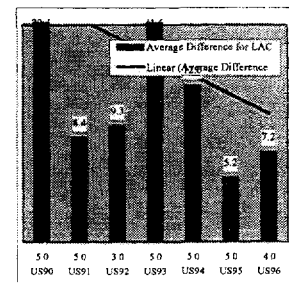
Three Year Average



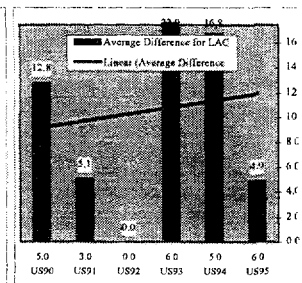
Projection of Ongoing Year



Projection for Second Year



Projection of first year



Three Year Average

GBB as % of GDP (curr)

Ongoing Year								
	US90	US91	US92	US93	US94	US95	US96	US97
Over or under estimation	0.0	0.0	0.0	2.0	2.0	2.0	3.0	2.0
Average Difference for LAC	6.3	#DIV/0!	#DIV/0!	2.5	4.9	1.3	1.6	0.8
Summation of absolute errors	6.3	0.0	0.0	7.5	19.8	7.3	32.4	6.8
Count of observations	1.0	0.0	0.0	3.0	4.0	6.0	3.0	4.0

First year Projection

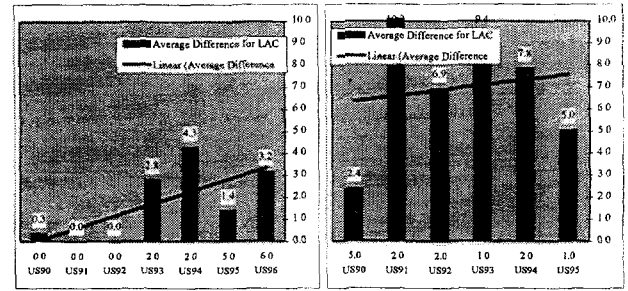
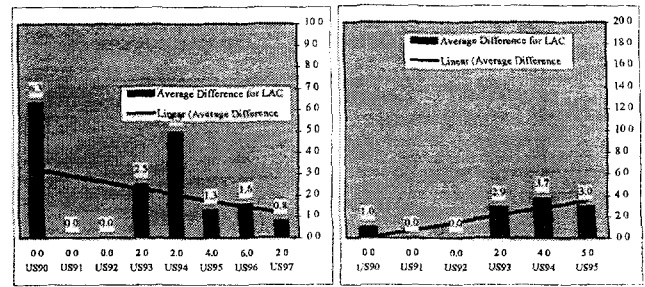
GBB as % of GDP (curr)							
	US90	US91	US92	US93	US94	US95	US96
Over or under estimation	0.0	0.0	0.0	2.0	2.0	0.0	0.0
Average Difference for LAC	0.3	#DIV/0!	#DIV/0!	2.8	4.3	1.4	3.2
Summation of absolute errors	0.3	0.0	0.0	8.4	17.1	2.8	25.4
Count of observations	1.0	0.0	0.0	3.0	4.0	7.0	6.0

GBB as % of GDP (curr)

Average Difference for LAC						
	US90	US91	US92	US93	US94	US95
Over or under estimation	0.0	0.0	0.0	2.0	4.0	0.0
Average Difference for LAC	1.0	#DIV/0!	#DIV/0!	2.9	3.7	3.0
Summation of absolute errors	1.0	0.0	0.0	8.7	15.0	21.0
Count of observations	1.0	0.0	0.0	3.0	4.0	7.0

Least Square Growth rate

Average Difference for LAC						
	US90	US91	US92	US93	US94	US95
Over or under estimation	0.0	0.0	0.0	2.0	2.0	4.0
Average Difference for LAC	2.6	#DIV/0!	#DIV/0!	2.7	4.3	1.6
Outcome	2.8	0.0	0.0	3.2	17.2	3.8
Projections	1.0	0.0	0.0	3.0	4.0	6.0



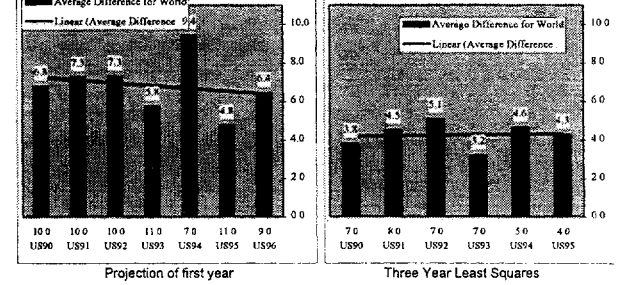
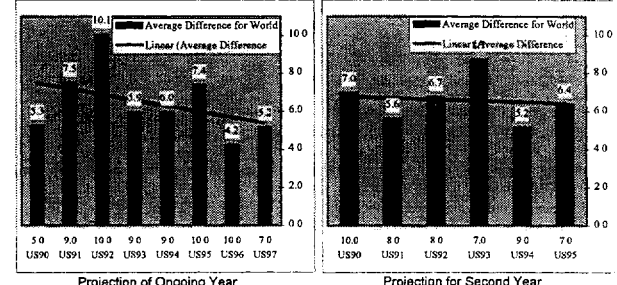
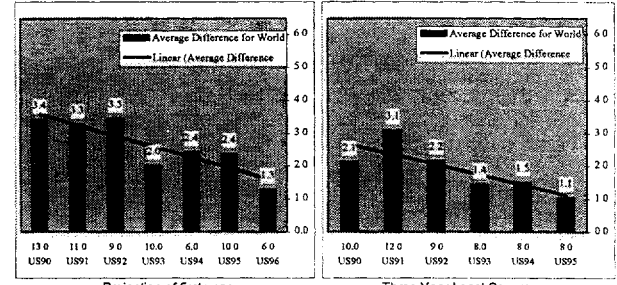
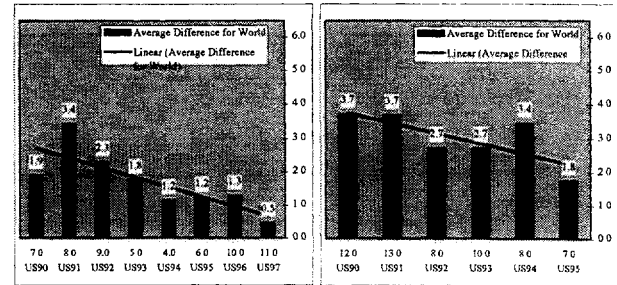
Annex C: World Profile (full sample)

Unified Survey World Tables

Ongoing Year		US90	US91	US92	US93	US94	US95	US96	US97
GDP Growth									
Over estimation		7.0	8.0	9.0	5.0	4.0	6.0	10.0	11.0
Average Difference for World		1.9	3.4	2.3	1.8	1.2	1.2	1.3	0.5
Summation of absolute errors		38.2	75.5	45.9	40.9	28.7	28.5	23.8	10.9
Count of observations		20.0	22.0	20.0	23.0	23.0	23.0	23.0	23.0
First year Projection		US90	US91	US92	US93	US94	US95	US96	
GDP Growth									
Over estimation		13.0	11.0	9.0	10.0	9.0	10.0	9.0	
Average Difference for World		3.4	3.3	3.5	2.0	2.4	2.4	1.3	
Summation of absolute errors		64.9	75.1	85.6	46.8	56.0	54.0	20.9	
Count of observations		19.0	23.0	19.0	23.0	23.0	23.0	23.0	
Least Square Growth rate		US90	US91	US92	US93	US94	US95		
GDP Growth									
Over estimation		12.0	13.0	9.0	10.0	9.0	7.0		
Average Difference for World		3.7	3.7	2.7	2.7	3.4	1.8		
Summation of absolute errors		74.4	94.7	54.4	82.7	79.3	60.4		
Count of observations		20.0	23.0	20.0	23.0	23.0	23.0		
Outcome Projections		US90	US91	US92	US93	US94	US95		
Least Square Growth rate									
Over estimation		10.0	12.0	9.0	9.0	9.0	8.0		
Average Difference for World		2.1	3.1	2.2	1.4	1.5	1.1		
Summation of absolute errors		48.8	65.1	43.2	33.3	34.8	24.8		
Count of observations		23.0	22.0	20.0	23.0	23.0	23.0		
Export of GNFS Growth rates (cons)		US90	US91	US92	US93	US94	US95	US96	US97
Over estimation		5.0	5.0	10.0	9.0	9.0	10.0	10.0	7.0
Average Difference for World		5.3	7.5	10.1	5.9	6.0	7.4	4.2	5.2
Summation of absolute errors		109.1	149.6	211.3	186.7	187.2	186.4	87.0	119.3
Count of observations		20.0	20.0	21.0	23.0	23.0	23.0	23.0	23.0
First year Projection		US90	US91	US92	US93	US94	US95	US96	
Export of GNFS Growth rates (c)									
Over estimation		10.0	10.0	10.0	11.0	7.0	11.0	9.0	
Average Difference for World		6.8	7.3	7.3	5.8	9.4	4.6	6.4	
Summation of absolute errors		135.2	152.0	153.3	132.3	217.0	110.1	148.3	
Count of observations		20.0	21.0	21.0	23.0	23.0	22.0	23.0	
Least Square Growth rate		US90	US91	US92	US93	US94	US95		
Export of GNFS Growth rates (c)									
Over estimation		10.0	8.0	8.0	7.0	9.0	7.0		
Average Difference for World		7.0	5.6	6.7	8.7	5.2	6.4		
Summation of absolute errors		139.3	123.5	124.7	200.8	118.9	146.9		
Count of observations		20.0	22.0	20.0	23.0	23.0	23.0		
Outcome Projections		US90	US91	US92	US93	US94	US95		
Least Square Growth rate									
Over estimation		7.0	8.0	7.0	7.0	5.0	4.0		
Average Difference for World		3.8	4.5	5.1	3.2	4.6	4.3		
Summation of absolute errors		76.1	90.3	101.6	74.0	106.8	98.4		
Count of observations		20.0	20.0	20.0	23.0	23.0	23.0		

1.67

1.69



Unified Survey World Tables

Import GNFS Growth rate (cons)

Ongoing Year	US90	US91	US92	US93	US94	US95	US96	US97
Over estimation	13.0	13.0	12.0	11.0	10.0	10.0	11.0	9.0
Average Difference for World	8.7	10.1	8.7	8.4	8.3	5.8	6.7	3.8

	US90	US91	US92	US93	US94	US95	US96	US97
Summation of absolute errors	165.2	201.8	182.8	193.7	190.5	133.7	154.1	87.7
Count of observations	19.0	20.0	21.0	23.0	23.0	23.0	23.0	23.0

First year Projection	US90	US91	US92	US93	US94	US95	US96
Over estimation	13.0	13.0	12.0	11.0	10.0	10.0	10.0
Average Difference for World	10.4	11.8	11.8	10.7	8.9	7.8	9.4

	US90	US91	US92	US93	US94	US95	US96
Summation of absolute errors	206.3	280.2	247.5	246.7	203.1	179.5	217.0
Count of observations	20.0	22.0	21.0	23.0	23.0	23.0	23.0

Ongoing Year	US90	US91	US92	US93	US94	US95
Over estimation	3.0	3.0	3.0	3.0	7.0	3.0
Average Difference for World	14.3	12.8	11.7	10.4	11.2	7.3

	US90	US91	US92	US93	US94	US95
Summation of absolute errors	285.2	281.6	234.6	239.7	257.1	167.4
Count of observations	20.0	22.0	20.0	23.0	23.0	23.0

Ongoing Year	US90	US91	US92	US93	US94	US95
Over estimation	12.0	3.0	3.0	3.0	7.0	4.0
Average Difference for World	4.3	7.3	5.6	6.5	6.3	5.5

	US90	US91	US92	US93	US94	US95
Outcome	85.2	146.2	112.8	149.3	144.2	125.8
Projections	20.0	20.0	20.0	23.0	23.0	23.0

Ongoing Year	US90	US91	US92	US93	US94	US95	US96	US97
Over estimation	3.0	3.0	2.0	5.0	3.0	7.0	9.0	9.0
Average Difference for World	4.6	3.6	3.6	4.6	3.8	2.5	2.9	1.8

	US90	US91	US92	US93	US94	US95	US96	US97
Summation of absolute errors	23.2	87.9	43.7	83.5	66.8	48.0	55.8	42.1
Count of observations	5.0	16.0	12.0	16.0	16.0	16.0	21.0	23.0

First year Projection	US90	US91	US92	US93	US94	US95	US96
Over estimation	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Average Difference for World	6.2	3.4	4.8	5.5	4.1	2.6	3.2

	US90	US91	US92	US93	US94	US95	US96
Summation of absolute errors	30.8	55.0	55.0	36.1	73.9	51.3	67.0
Count of observations	5.0	16.0	12.0	16.0	16.0	20.0	21.0

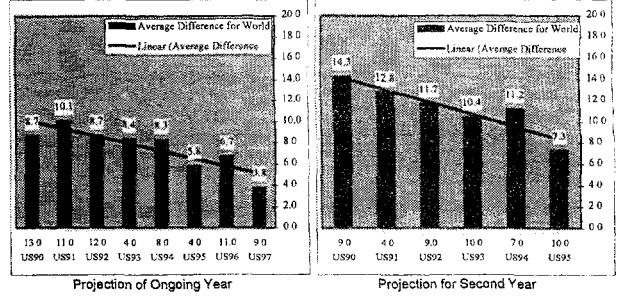
Ongoing Year	US90	US91	US92	US93	US94	US95
Over estimation	3.0	7.0	4.0	9.0	7.0	9.0
Average Difference for World	3.5	5.4	2.6	5.0	4.7	3.2

	US90	US91	US92	US93	US94	US95
Summation of absolute errors	17.5	88.3	31.4	89.6	88.5	23.9
Count of observations	5.0	16.0	12.0	16.0	16.0	20.0

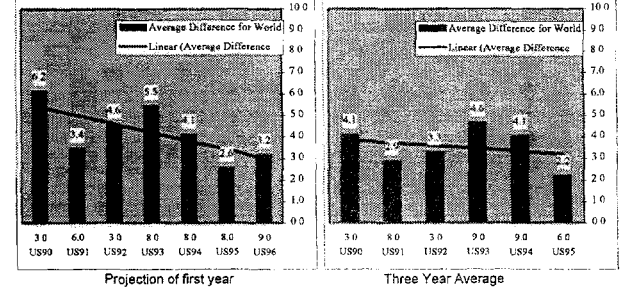
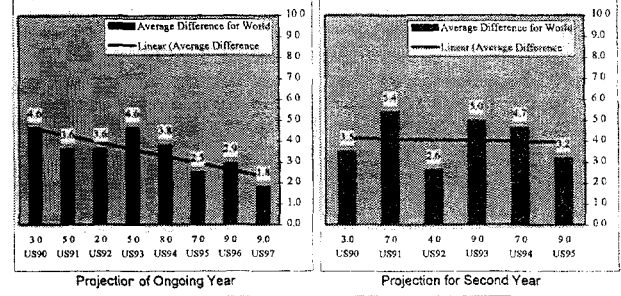
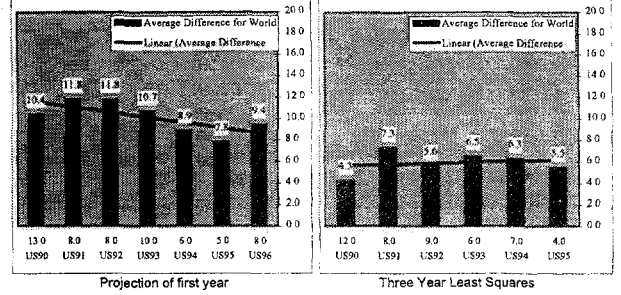
Three year average	US90	US91	US92	US93	US94	US95
Over estimation	3.0	3.0	3.0	3.0	3.0	3.0
Average Difference for World	4.1	2.9	3.3	4.6	4.1	2.2

	US90	US91	US92	US93	US94	US95
Outcome	20.5	43.3	39.5	83.8	73.1	43.9
Projections	3.0	16.0	12.0	16.0	16.0	19.0

7.48

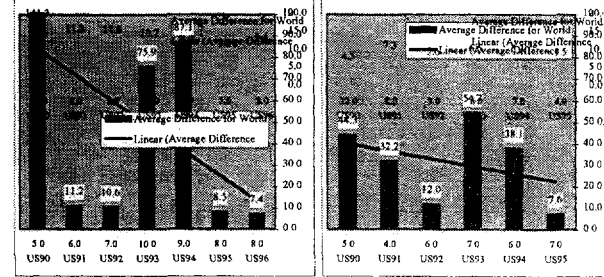
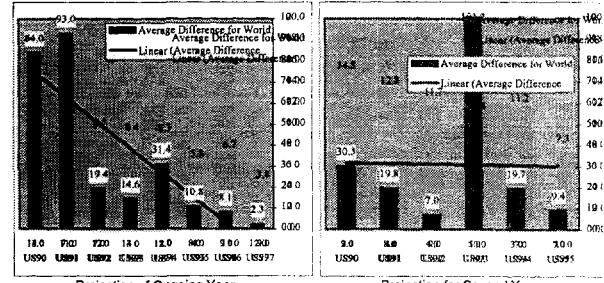


5.92

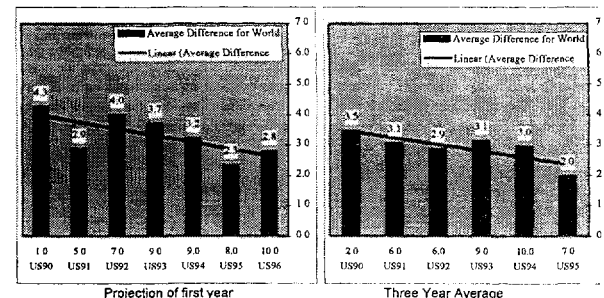
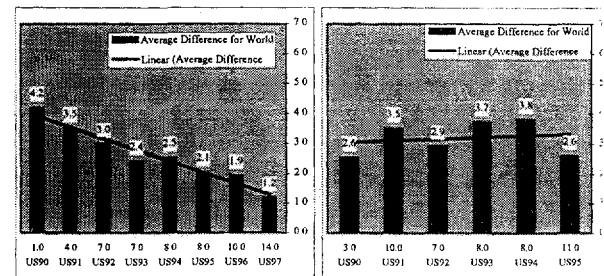


Unified Survey World Tables

		GDP Implicit Inflation							
Ongoing Year		US90	US91	US92	US93	US94	US95	US96	US97
Over estimation		14.0	7.0	7.0	33.0	12.0	9.0	9.0	32.0
Average Difference for World		84.0	93.0	19.4	14.6	31.4	10.8	8.1	2.3
Summation of absolute errors		1596.2	1673.8	201.1	338.3	890.9	238.3	188.8	32.8
Count of observations		19.0	19.0	19.0	23.0	22.0	22.0	23.0	23.0
First year Projection		US90	US91	US92	US93	US94	US95	US96	US97
GDP Implicit Inflation		8.0	8.0	7.0	30.0	9.0	9.0	9.0	9.0
Average Difference for World		141.3	11.2	10.6	75.9	87.1	8.5	7.4	
Summation of absolute errors		2684.2	235.2	199.2	1746.3	2004.1	187.4	171.3	
Count of observations		19.0	21.0	35.0	23.0	23.0	22.0	23.0	
GDP Implicit Inflation		US90	US91	US92	US93	US94	US95		
Over estimation		2.0	3.0	4.0	9.0	3.0	3.0		
Average Difference for World		30.3	19.8	7.0	101.2	19.7	9.4		
Summation of absolute errors		575.0	415.6	97.5	2328.5	492.2	297.8		
Count of observations		19.0	21.0	14.0	23.0	23.0	23.0		
Three year average		US90	US91	US92	US93	US94	US95		
Over estimation		8.0	4.0	8.0	7.0	9.0	7.0		
Average Difference for World		44.3	32.2	12.0	54.7	38.1	7.6		
Outcome Projections		US90	US91	US92	US93	US94	US95		
Over estimation		18.0	21.0	35.0	23.0	23.0	22.0		



		GDI as % of GDP (curr)							
Ongoing Year		US90	US91	US92	US93	US94	US95	US96	US97
Over estimation		1.0	4.0	7.0	7.0	10.0	9.0	10.0	14.0
Average Difference for World		4.2	3.5	3.0	2.4	2.5	2.1	1.9	1.2
Summation of absolute errors		37.8	80.0	42.1	44.1	48.4	36.0	40.9	26.5
Count of observations		9.0	17.0	14.0	19.0	19.0	19.0	21.0	22.0
First year Projection		US90	US91	US92	US93	US94	US95	US96	US97
GDI as % of GDP (curr)		1.0	5.0	7.0	9.0	9.0	9.0	10.0	10.0
Average Difference for World		4.3	2.9	4.0	3.7	3.2	2.3	2.8	
Summation of absolute errors		36.4	48.8	56.1	70.7	81.2	66.9	83.3	
Count of observations		9.0	17.0	14.0	19.0	19.0	20.0	20.0	
GDI as % of GDP (curr)		US90	US91	US92	US93	US94	US95		
Over estimation		3.0	10.0	7.0	5.0	8.0	11.0		
Average Difference for World		2.6	3.5	2.9	3.7	3.8	2.6		
Summation of absolute errors		23.0	59.9	36.1	71.0	72.7	46.6		
Count of observations		9.0	17.0	13.0	19.0	19.0	19.0		
Three year average		US90	US91	US92	US93	US94	US95		
Over estimation		2.0	6.0	6.0	9.0	10.0	7.0		
Average Difference for World		3.5	3.1	2.9	3.1	3.0	2.0		
Outcome Projections		US90	US91	US92	US93	US94	US95		
Over estimation		9.0	17.0	13.0	19.0	19.0	19.0		



Unified Survey World Tables

ICOR

Ongoing Year	US90	US91	US92	US93	US94	US95	US96	US97
Over estimation	7.0	16.0	10.0	15.0	16.0	17.0	13.0	12.0
Average Difference for World	26.7	18.4	41.3	12.2	24.4	4.7	3.1	6.9
Summation of absolute errors	459.1	405.1	744.2	287.4	365.3	107.8	70.8	131.4
Count of observations	16.0	22.0	18.0	22.0	23.0	23.0	23.0	22.0

First year Projection

ICOR	US90	US91	US92	US93	US94	US95	US96
Over estimation	9.0	13.0	14.0	14.0	16.0	12.0	13.0
Average Difference for World	21.0	42.4	10.6	10.1	5.4	6.5	2.7
Summation of absolute errors	338.2	974.4	191.2	234.1	125.2	150.1	36.3
Count of observations	16.0	23.0	18.0	23.0	23.0	23.0	22.0

ICOR	US90	US91	US92	US93	US94	US95
Over estimation	9.0	16.0	11.0	13.0	16.0	12.0
Average Difference for World	16.7	11.5	11.5	5.8	4.4	3.7
Summation of absolute errors	283.3	264.1	213.1	132.4	161.5	61.7
Count of observations	17.0	23.0	19.0	23.0	23.0	22.0

ICOR (three years)	US90	US91	US92	US93	US94	US95
Over estimation	0.0	1.0	0.0	1.0	3.0	3.0
Average Difference for World	#DIV/0!	12.3	#DIV/0!	16.9	73.2	12.4
Outcome Projections	0.0	245.8	0.0	385.8	165.4	285.4
Projections	0.0	20.0	0.0	23.0	23.0	23.0

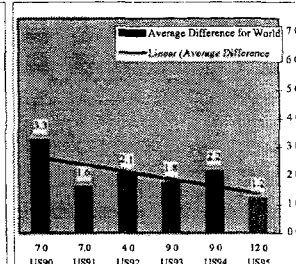
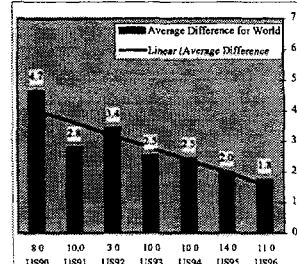
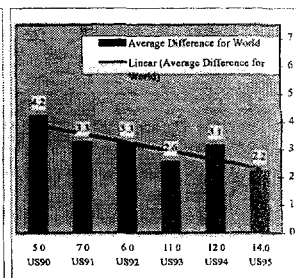
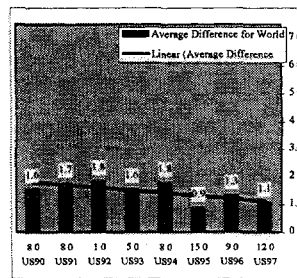
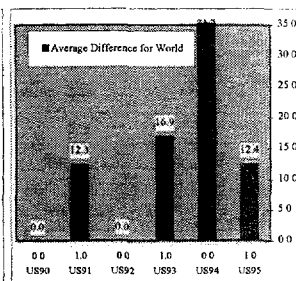
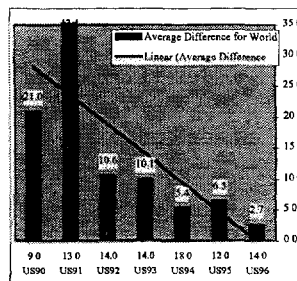
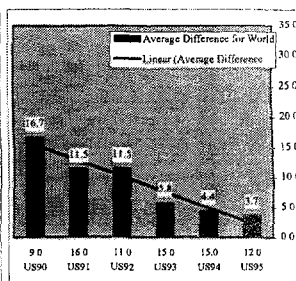
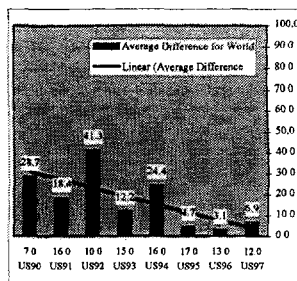
CAB as % of GDP (curr) Ongoing Year	US90	US91	US92	US93	US94	US95	US96	US97
Over estimation	3.0	6.0	1.0	3.0	4.0	16.0	3.0	12.0
Average Difference for World	1.5	1.7	1.8	1.6	1.8	0.9	1.3	1.1
Summation of absolute errors	31.1	36.7	23.2	31.1	40.8	18.2	10.4	24.7
Count of observations	20.0	21.0	11.0	20.0	23.0	22.0	22.0	23.0

First year Projection

CAB as % of GDP (curr)	US90	US91	US92	US93	US94	US95	US96
Over estimation	8.0	10.0	3.0	10.0	19.0	14.0	11.0
Average Difference for World	4.7	2.8	3.4	2.5	2.5	2.0	1.8
Summation of absolute errors	93.2	61.7	37.8	50.6	34.4	33.3	38.8
Count of observations	20.0	22.0	11.0	20.0	23.0	22.0	22.0

CAB as % of GDP (curr)	US90	US91	US92	US93	US94	US95
Over estimation	3.0	7.0	6.0	11.0	12.0	14.0
Average Difference for World	4.2	3.3	3.3	2.6	3.1	2.2
Summation of absolute errors	64.3	72.0	35.3	31.0	72.3	30.2
Count of observations	20.0	22.0	11.0	20.0	23.0	22.0

Three year average	US90	US91	US92	US93	US94	US95
Over estimation	7.0	7.0	4.0	9.0	9.0	12.0
Average Difference for World	3.3	1.6	2.1	1.8	2.2	1.2
Outcome Projections	65.5	33.8	22.3	35.4	48.9	27.0
Projections	20.0	21.0	11.0	20.0	23.0	22.0



Unified Survey World Tables

EDT/GDP								
Ongoing Year								
	US90	US91	US92	US93	US94	US95	US96	US97
Over estimation	0.0	7.0	0.0	10.0	12.0	9.0	17.0	11.0
Average Difference for World	#DIV/0!	28.8	#DIV/0!	6.9	11.4	7.0	8.7	6.1

	US90	US91	US92	US93	US94	US95	US96	US97
Summation of absolute errors	0.0	575.1	0.0	137.1	251.2	153.1	191.0	139.3
Count of observations	0.0	20.0	0.0	20.0	23.0	22.0	22.0	23.0

First year Projection							
	US90	US91	US92	US93	US94	US95	US96
EDT/GDP	US90	US91	US92	US93	US94	US95	US96
Over estimation	0.0	6.0	0.0	0.0	10.0	14.0	14.0
Average Difference for World	#DIV/0!	26.1	#DIV/0!	10.5	15.8	14.2	12.7

	US90	US91	US92	US93	US94	US95	US96
Summation of absolute errors	0.0	522.9	0.0	209.9	364.2	312.1	280.3
Count of observations	0.0	20.0	0.0	20.0	23.0	22.0	22.0

EDT/GDP						
	US90	US91	US92	US93	US94	US95
Over estimation	0.0	8.0	0.0	7.0	13.0	12.0
Average Difference for World	#DIV/0!	23.1	#DIV/0!	16.2	15.7	14.8

	US90	US91	US92	US93	US94	US95
Summation of absolute errors	0.0	482.9	0.0	324.7	382.1	328.0
Count of observations	0.0	20.0	0.0	20.0	23.0	22.0

Three year average						
	US90	US91	US92	US93	US94	US95
Over estimation	0.0	5.0	0.0	8.0	11.0	14.0
Average Difference for World	#DIV/0!	25.1	#DIV/0!	10.6	12.9	10.0

Outcome Projections						
	US90	US91	US92	US93	US94	US95
Over estimation	0.0	501.8	0.0	211.1	285.6	220.1
Projections	0.0	20.0	0.0	20.0	23.0	22.0

TDS/XGS								
Ongoing Year								
	US90	US91	US92	US93	US94	US95	US96	US97
Over estimation	11.0	3.0	5.0	14.0	13.0	13.0	12.0	14.0
Average Difference for World	5.1	10.5	3.4	11.0	17.1	8.8	7.1	6.0

	US90	US91	US92	US93	US94	US95	US96	US97
Summation of absolute errors	91.5	178.5	51.4	200.0	341.2	188.8	156.3	138.2
Count of observations	18.0	17.0	15.0	21.0	20.0	21.0	22.0	23.0

First year Projection							
	US90	US91	US92	US93	US94	US95	US96
Over estimation	13.0	15.0	7.0	13.0	13.0	13.0	13.0
Average Difference for World	12.8	13.7	7.2	18.4	9.0	6.1	7.1

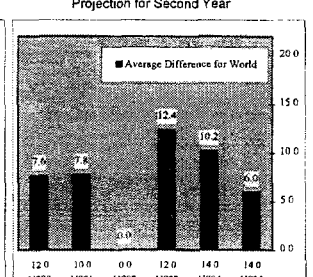
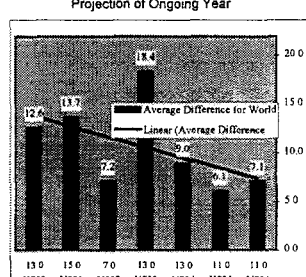
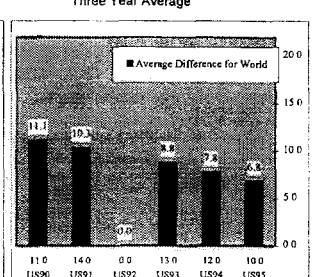
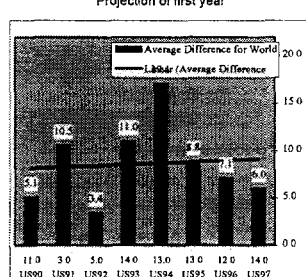
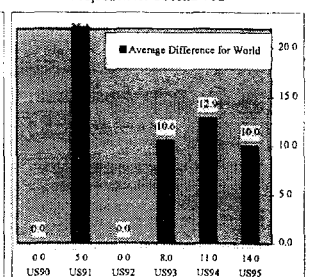
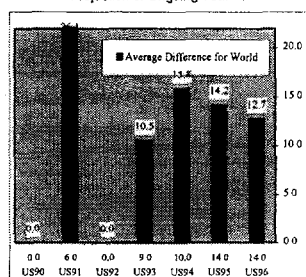
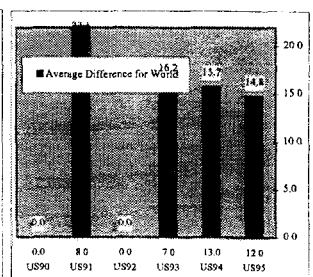
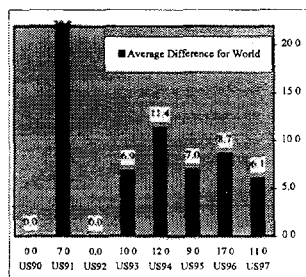
	US90	US91	US92	US93	US94	US95	US96
Summation of absolute errors	226.5	246.1	93.3	385.0	178.7	123.8	157.2
Count of observations	18.0	18.0	13.0	21.0	20.0	21.0	22.0

TDS/XGS						
	US90	US91	US92	US93	US94	US95
Over estimation	11.0	14.0	0.0	13.0	12.0	10.0
Average Difference for World	11.1	10.3	#DIV/0!	8.8	7.8	6.8

	US90	US91	US92	US93	US94	US95
Summation of absolute errors	200.0	185.6	0.0	184.1	155.7	143.0
Count of observations	18.0	18.0	0.0	21.0	20.0	21.0

Three year average						
	US90	US91	US92	US93	US94	US95
Over estimation	12.0	10.0	0.0	12.0	14.0	14.0
Average Difference for World	7.6	7.8	#DIV/0!	12.4	10.2	6.0

Outcome Projections						
	US90	US91	US92	US93	US94	US95
Over estimation	137.6	132.0	0.0	258.9	204.1	125.3
Projections	18.0	17.0	0.0	21.0	20.0	21.0



Unified Survey World Tables

GBB as % of GDP (curr)

Ongoing Year	US90	US91	US92	US93	US94	US95	US96	US97
Over estimation	0.0	0.0	0.0	32.0	11.0	8.0	0.0	0.0
Average Difference for World	4.8	#DIV/0!	#DIV/0!	7.1	7.1	1.6	1.4	1.1

	US90	US91	US92	US93	US94	US95	US96	US97
Summation of absolute errors	23.8	0.0	0.0	105.9	198.2	30.8	30.1	25.7
Count of observations	5.0	0.0	0.0	15.0	15.0	19.0	22.0	23.0

First year Projection	US90	US91	US92	US93	US94	US95	US96
Over estimation	2.0	0.0	0.0	12.0	11.0	7.0	13.0
Average Difference for World	1.8	#DIV/0!	#DIV/0!	6.5	7.1	1.8	2.0

	US90	US91	US92	US93	US94	US95	US96
Summation of absolute errors	10.0	0.0	0.0	91.0	107.0	38.3	44.7
Count of observations	6.0	0.0	0.0	14.0	15.0	20.0	22.0

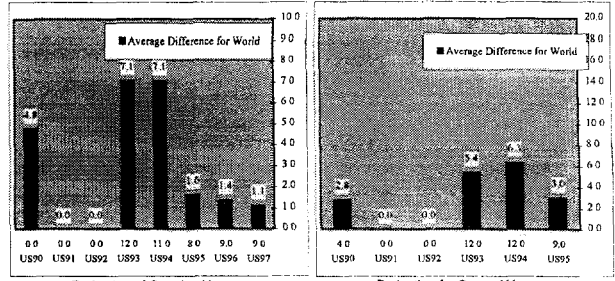
GBB as % of GDP (curr)	US90	US91	US92	US93	US94	US95
Over estimation	4.0	0.0	0.0	12.0	12.0	9.0
Average Difference for World	2.8	#DIV/0!	#DIV/0!	5.4	6.3	3.0

	US90	US91	US92	US93	US94	US95
Summation of absolute errors	14.0	0.0	0.0	81.0	94.7	60.0
Count of observations	5.0	0.0	0.0	15.0	15.0	20.0

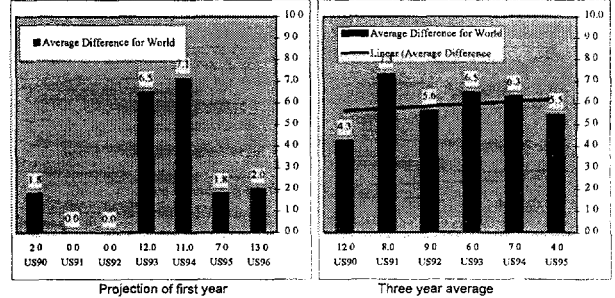
Three year average	US90	US91	US92	US93	US94	US95
Over estimation	1.0	0.0	0.0	12.0	11.0	7.0
Average Difference for World	2.2	#DIV/0!	#DIV/0!	6.2	6.8	1.7

Outcome Projections	US90	US91	US92	US93	US94	US95
Over estimation	6.7	0.0	0.0	33.4	122.3	32.1
Average Difference for World	4.0	0.0	0.0	15.0	15.0	19.0

3.26



4.46



Policy Research Working Paper Series

Title	Author	Date	Contact for paper
WPS2046 Restructuring of Insider-Dominated Firms	Simeon Djankov	January 1999	R. Vo 33722
WPS2047 Ownership Structure and Enterprise Restructuring in Six Newly Independent States	Simeon Djankov	February 1999	R. Vo 33722
WPS2048 Corruption in Economic Development: Beneficial Grease, Minor Annoyance, or Major Obstacle?	Shang-Jin Wei	February 1999	C. Bernardo 31148
WPS2049 Household Labor Supply, Unemployment, and Minimum Wage Legislation	Kaushik Basu Garance Genicot Joseph E. Stiglitz	February 1999	M. Mason 30809
WPS2050 Measuring Aid Flows: A New Approach	Charles C. Chang Eduardo Fernández-Arias Luis Servén	February 1999	E. Khine 37471
WPS2051 How Stronger Protection of Intellectual Property Rights Affects International Trade Flows	Carsten Fink Carlos A. Primo Braga	February 1999	L. Willems 85153
WPS2052 The Macro Wage Curve and Labor Market Flexibility in Zimbabwe	Dorte Verner	February 1999	H. Vargas 37871
WPS2053 Managing Foreign Labor in Singapore And Malaysia: Are There Lessons for GCC Countries?	Elizabeth Ruppert	February 1999	A. Sperling 37079
WPS2054 Who Controls East Asian Corporations?	Stijn Claessens Simeon Djankov Larry H. P. Lang	February 1999	R. Vo 33722
WPS2055 Social Security Reform, Income Distribution, Fiscal Policy, and Capital Accumulation	Carlos Serrano	February 1999	M. de Loayza 38902
WPS2056 Does a Thin Foreign Exchange Market Lead to Destabilizing Capital-Market Speculation in the Asian Crisis Countries?	Hong G. Min Judith A. McDonald	February 1999	K. Labrie 31001
WPS2057 Finance and the Sources of Growth	Thorsten Beck Ross Levine Norman Loayza	February 1999	K. Labrie 31001
WPS2058 Do Depositors Punish Banks for "Bad" Behavior? Market Discipline in Argentina, Chile, and Mexico	Maria Soledad Martinez Peria Sergio L. Schmukler	February 1999	A. Yaptenco 38526

Policy Research Working Paper Series

	Title	Author	Date	Contact for paper
WPS2046	Restructuring of Insider-Dominated Firms	Simeon Djankov	January 1999	R. Vo 33722
WPS2047	Ownership Structure and Enterprise Restructuring in Six Newly Independent States	Simeon Djankov	February 1999	R. Vo 33722
WPS2048	Corruption in Economic Development: Beneficial Grease, Minor Annoyance, or Major Obstacle?	Shang-Jin Wei	February 1999	C. Bernardo 31148
WPS2049	Household Labor Supply, Unemployment, and Minimum Wage Legislation	Kaushik Basu Garance Genicot Joseph E. Stiglitz	February 1999	M. Mason 30809
WPS2050	Measuring Aid Flows: A New Approach	Charles C. Chang Eduardo Fernández-Arias Luis Servén	February 1999	E. Khine 37471
WPS2051	How Stronger Protection of Intellectual Property Rights Affects International Trade Flows	Carsten Fink Carlos A. Primo Braga	February 1999	L. Willems 85153
WPS2052	The Macro Wage Curve and Labor Market Flexibility in Zimbabwe	Dorte Verner	February 1999	H. Vargas 37871
WPS2053	Managing Foreign Labor in Singapore And Malaysia: Are There Lessons for GCC Countries?	Elizabeth Ruppert	February 1999	A. Sperling 37079
WPS2054	Who Controls East Asian Corporations?	Stijn Claessens Simeon Djankov Larry H. P. Lang	February 1999	R. Vo 33722
WPS2055	Social Security Reform, Income Distribution, Fiscal Policy, and Capital Accumulation	Carlos Serrano	February 1999	M. de Loayza 38902
WPS2056	Does a Thin Foreign Exchange Market Lead to Destabilizing Capital-Market Speculation in the Asian Crisis Countries?	Hong G. Min Judith A. McDonald	February 1999	K. Labrie 31001
WPS2057	Finance and the Sources of Growth	Thorsten Beck Ross Levine Norman Loayza	February 1999	K. Labrie 31001
WPS2058	Do Depositors Punish Banks for "Bad" Behavior? Market Discipline in Argentina, Chile, and Mexico	Maria Soledad Martinez Peria Sergio L. Schmukler	February 1999	A. Yaptenco 39526