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Common Biases in OECD and IMF Forecasts: Who Dares to be Different?

Heinz Glück

Oesterreichische Nationalbank

Stefan P. Schleicher

University of Graz

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Heinz Glück

Oesterreichische Nationalbank
Economic Studies Division
P.O.Box 61
A-1011 Vienna, Austria

Tel. +43 (1) 40420-7201
Fax +43 (1) 40420-7299
heinz.glueck@oenb.at

Stefan P. Schleicher

Economics Department
University of Graz
Universitaetsstrasse 15 / F4
A-8010 Graz, Austria

Tel. +43 (676) 591-3150
Fax +43 (316) 380-9520
stefan.schleicher@wifo.at
www.wifo.at/Stefan.Schleicher

Abstract

In previous papers we investigated forecast errors and forecast biases in OECD projections as well as the data revision processes in G7 countries (Glück, Schleicher and Catena, 2000), and we analyzed the consequences of our findings for economic policy decisions, especially for monetary policy rules (Glück and Schleicher, 2004).

This paper extends these analyses to the IMF forecast performance. We investigate the sequence of forecasts as to changes in accuracy and serial correlation of forecast errors. Furthermore, we compare the forecasting performance of IMF with OECD.

We focus our attention to the frequently observed fact that both in OECD as well as IMF forecasts something like a consensus view of future developments becomes apparent with the shortening of the forecast horizon. Forecasters become increasingly influenced by the forecasts for other countries, which, however, are often biased for different reasons. Thus, the consensus forecast converges towards a “common bias”.

We try to evaluate this phenomenon and put forward some considerations why this happens and what can be done about it.

Keywords: Economic forecasting, IMF, OECD
JEL classification: C53

Common Biases in OECD and IMF Forecasts: Who Dares to be Different?

Heinz Glück and Stefan P. Schleicher

1. Introduction

Over the past decades, enormous amounts of intellectual input have been devoted to economic forecasting. Nevertheless, the general mood seems to be that the success of these endeavors is limited and that many questions still remain open. Hendry and Clements (2001) identify nine sources of forecast error, each of which – and even more the combinations of them – could cause serious forecast errors. More recently, however, certain developments even increased the need for reliable forecasts for policy purposes. In monetary policy, for instance, not least the literature on policy rules and, especially, on forecast-based rules, brought the problem of forecast quality and reliability and the problem of decisions in real time to the very forefront. Orphanides (2001) pointed out that: “The discussion (on monetary policy rules)... often does not place proper emphasis on the informational problem associated with some of the advocated policy rules.” It has to be taken into account that the policymaker when making a decision has at his disposal only forecast values for the arguments entering his reaction function. Erroneous and biased forecasts, however, will induce bad policy decisions. Sims (2002) rightly criticizes, however, that “academic research...has paid very little attention to the central problems of modeling for macro-economic policy in real time”.

On the policy-oriented side, a voluminous literature on “real-time issues” was elicited by these developments, and there is an ongoing debate about its implications. Thus far, the evidence on whether it really matters if a central bank uses real-time data or final data is not yet clear. Orphanides (2001) finds that revisions of recommendations tend to be “very large” comparing results from these two data sets, whereas Adema

(2003) for “quasi-real time” data as well as Bernanke and Boivin (2000) and others cannot find much difference.

Generally, at least three sources of forecast error in the broadest sense have to be observed when projections are used for policy purposes:

- Forecast uncertainty: The policymaker wishing to influence some future outcome in an optimal sense has, as mentioned, at his disposal only forecasts for the period in question. These forecasts may be wrong and the mistake usually is the larger the longer the forecast horizon is.
- Forecast bias: Over time, errors do not sum up to zero; in many cases forecasts can be shown to be severely biased. If such biases can be identified, is it possible and does it make sense to correct for them in order to bring the policymaker’s real-time decision closer to “reality”?
- Data revisions: In many cases significant revisions can be observed, and there seem to exist systematic components in the revision process. Again, if identifiable, can these be incorporated into some correction mechanism?

But there seem to be still other sources of forecast error. If we try to understand forecasting as a social process among a group of people, some additional aspects enter the picture. Especially, a tendency towards making the same kinds and types of error can frequently be observed. In this context, Fildes and Stekler (2002) have pointed out that “(w)hat is required is a thorough understanding of the intellectual or cognitive processes that forecasters use in making forecasts and adjusting their models.” They postulate that in order to obtain this understanding it would be necessary to build and test models of forecaster behaviour. We think that it would also be most interesting to get more insight into the behaviour of forecasters as a group. Thus, in the following we try to define and to identify a further source of forecast bias which may be termed “herd behaviour” or “common bias”.

We will proceed in the following way: We start out with some descriptive evidence of the real time database of OECD and IMF forecasts. then we try to obtain some estimates for the size and evolution of forecast errors by evaluating these forecasts over the past two decades, by calculating the forecast errors over changing forecast horizons, by investigating for biases, and by observing the ex-post data revisions. We put special emphasis on the dynamic aspects of the forecasting and data revision processes and on biases as this will provide us with a database appropriate to deal with

some of the problems discussed above. This will be done in section 3. Section 4 then will concentrate on the phenomenon of “common biases” and its implications. In section 5 we will draw our conclusions.

2. The real time database of OECD and IMF forecasts

2.1 Evaluating forecast quality and data revisions

There is a vast literature on the evaluation of forecast accuracy trying to discriminate between models based on their relative forecasting record. Although this seems to be potentially an objective criterion, considerable difficulties remain nonetheless.

The first difficulty inherent in such an exercise relates to the measurement of forecast quality. What should be the appropriate metric? As regards quantitative measures, there are many to choose from. Similarly, a number of qualitative measures are available. For instance, we might be interested in correctly predicting turning points. We might also be more interested in the forecast ‘story’.

Second, even if we assume that some suitable forecasting metric can be found, there still remains the question of how one interprets and makes use of that metric. For example, over which horizon do we judge performance? Results will inevitably differ for different forecast horizons. Moreover, ex-post data revisions will change those errors. It should also be borne in mind that small forecast failure does not necessarily imply that the model is well-specified; the forecast error is a compound of different errors – specification (i.e. model) errors, errors in residual adjustment and errors in exogenous assumptions, and it is not clear how to disentangle these different aspects.

It is well known, however, that more serious problems are involved in forecasting than the simple aspect of accuracy, namely bias, rationality and efficiency as well as the problem of data revisions. Efficiency may not be guaranteed, as shown for instance by Joutz and Stekler (2000) as well as by Loungani (2000), and obviously there are extended periods of bias towards systematic over- or underestimation. Whereas Joutz and Stekler in their study of the Fed forecasts find that on average these were unbiased, Loungani (2000) in his investigation on private sector forecasts finds evidence of an upward bias. These results relate predominantly to GDP forecasts, but generally it can be supposed that they also apply to previsions of inflation.

2.2 The dated forecasts of OECD and IMF

Since the sixties, in its Economic Outlook the OECD has been publishing forecasts for some of its member countries. Projections for the major macroeconomic aggregates are published twice a year, one in June (mid-year forecast) and one in December (end-year forecast). Originally, the first forecast for a particular year was the mid-year forecast one year ahead. This has been extended in the eighties to the end-year forecast two years ahead. Thus, for instance, the first forecast for 2002 is published in December 2000.

OECD's Economic Outlook is designed for forecasting the industrial countries. The IMF, however, was the first official agency to do an overall forecast of the world economic conditions. The first World Economic Outlook was published in May 1980. It was intended to be produced once a year, but four years later the Executive Board agreed to publish a second set of projections in autumn.

We analyse, both in the case of OECD as well as IMF, the gross domestic product (GDP) forecasts for the G7 countries. The basic data for this study were taken from every published Economic Outlook since 1967 and from every World Economic Outlook since 1986. The evolution of forecasts for the particular years as well as the data revisions are analysed. That sums up to nine estimates for OECD (one two-year-ahead estimate, two one-year-ahead, two current year and two estimates each one year and two years after, and eight estimates for IMF (two semiannual estimates each for the period one year ahead, the current year and the two consecutive years) for every country. These estimates are compared to the final data, where "final" still means preliminary, since many countries continue their data revisions.

Figures 2-1 and 2-2 exhibit the evolution of these estimates from OECD and IMF for GDP over time for USA and Japan, respectively. We observe estimation errors before, during, and after a target year. The estimation errors are defined as deviations from last reported values as reported in OECD Economic Outlook in December 2004.

Figure 2-1a: Dated estimates from OECD for GDP USA

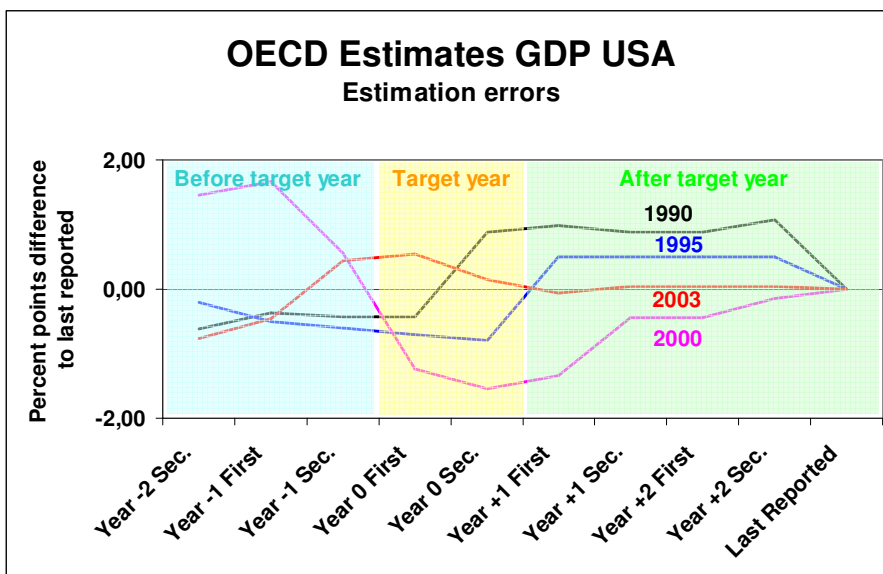


Figure 2-1b: Dated estimates from IMF for GDP USA

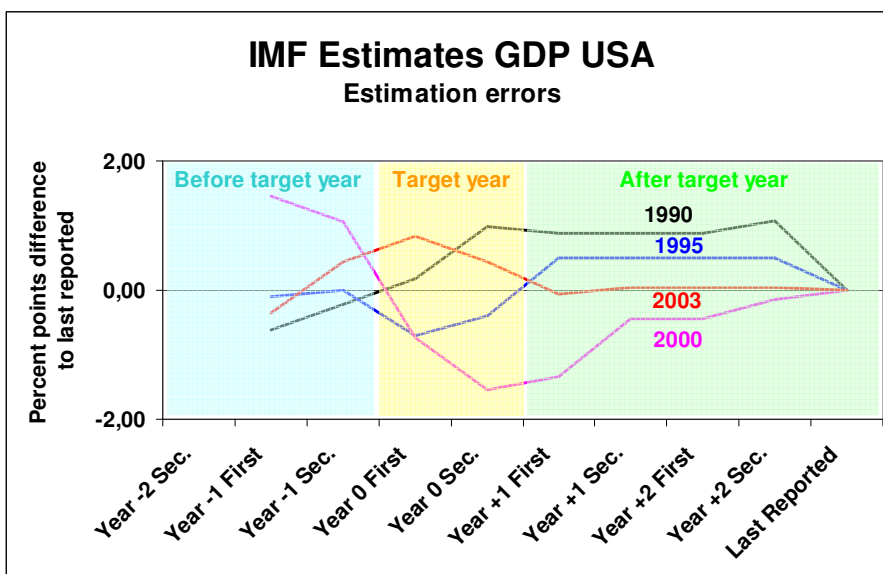


Figure 2-2a: Dated estimates from OECD for GDP Japan

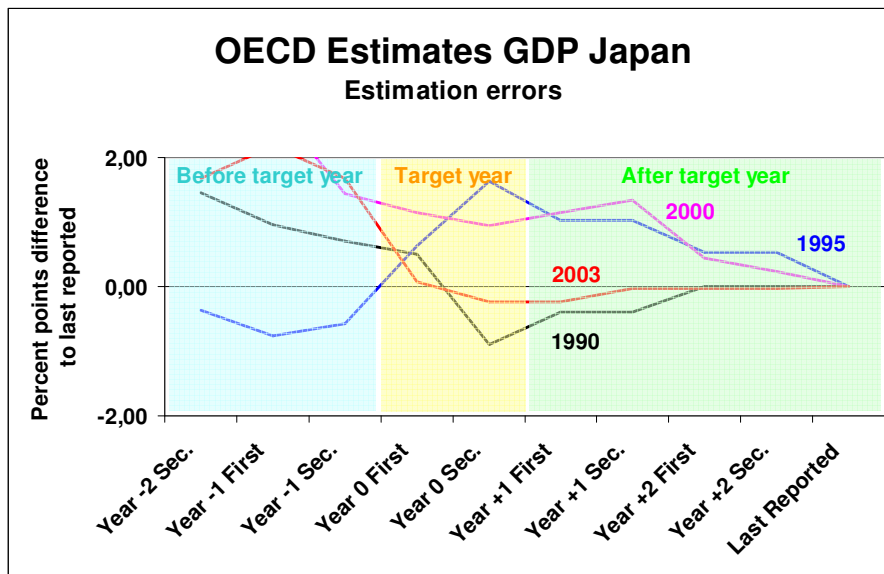
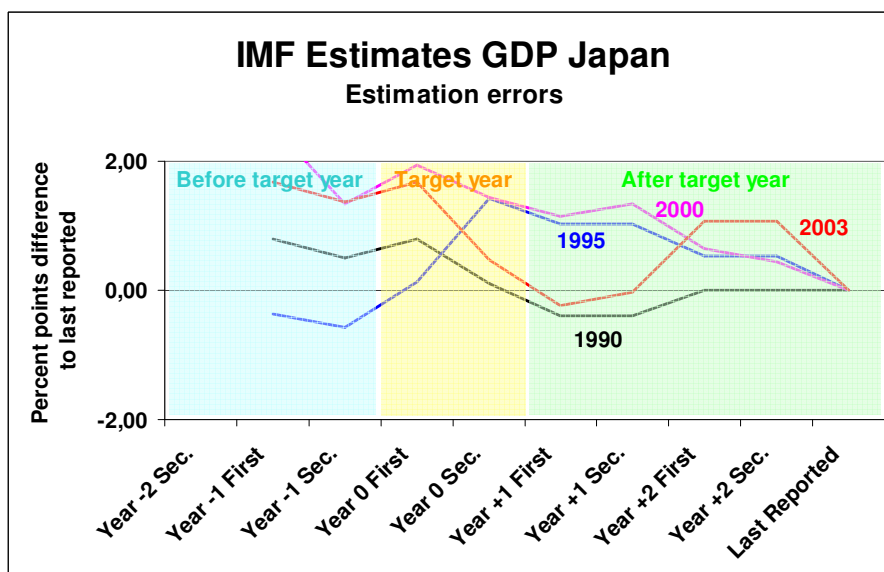


Figure 2-2b: Dated estimates from IMF for GDP Japan



3. Common biases among OECD and IMF forecasts

For several reasons, these forecasts are tempting for a thorough analysis. First, the forecasting process in these institutions obviously takes into account a lot of national and international information and political influence cannot be fully excluded. Second, the sequence of these forecasts provides a good documentation of the gradual revisions of the forecasts, since up to five semi-annual revisions for the predictions of a particular year are available. Third, a very special feature of this database is the documentation of the data revision process that follows afterwards. Four additional estimates (revisions) of the data for a particular year can be traced.

3.1 Methodology

We present a comparison of the real time database for GDP as it has been published by OECD and IMF over the course of the last twenty years. We applied the following methodology for evaluating the information content of this database.

In step 1 we calculate the error between last reported values (as shown in the Economic Outlook in December 2004) and dated estimates, starting from the first prediction made one year ahead and ending with the second prediction two years after a target year.

In step 2 we calculate smoothed first and second moments of these estimation errors from which we obtain time dependent sequential estimates for the bias – the mean estimation error (either a prediction error or a data revision error, depending on the date of the estimate) - and also time dependent sequential estimates for the coefficients of correlations between the dated estimates and the last reported values.

The smoothed moments for the time dependent sequential estimates represent a fading memory filtering operation which is done by exponential smoothing with the weighting parameter equal to 0.1.

We report a summary of this error analysis in Tables 3-1 and 3-2, and the complete series in Tables 7 in the annex for OECD and Tables 8 for IMF. In addition, Figures 3-3a and 3-3b present the evolution of the second forecast one year ahead of the target year as correlated with the last reported value.

3.2 Information content of the sequence of dated GDP estimates

A number of valuable insights can be gained from the sequence of correlations between dated data estimates (either forecasts or data revisions) and last reported values. Both for OECD and IMF, the first predictions made in the year before hardly exhibit any predictive power. This seems to hold also for the second forecast made one year ahead in the case of IMF. Starting with the first forecast for the current year, both OECD and IMF substantially improve the forecast performance with a slightly better performance visible in the OECD record. Most countries exhibit substantial data revisions in the year after the target year. These revisions are particularly pronounced in the US, Japan and Italy.

In addition to the correlation between dated estimates and last reported values, we are interested in the existence of systematic biases which could be exploited for improving the reported dated estimates. Such a correction procedure obviously can be applied only after some level of predictive power is reached; that means – given the evidence reported above – that such a correction procedure cannot be made before the target year. Significant biases can be identified for the first forecast made in the target year. These biases vary over time, but significant underestimation can be observed for US and UK. The reason for these pronounced estimation biases is revealed by looking at the developments in the two years following the target year: The persistence of the bias hints at major data revisions several years after the target year. A persistent pattern seems to be that the bias of IMF forecasts tends to be slightly higher than OECD's.

Looking at the time series of coefficients of correlation between last reported and dated estimates in Tables 7 and 8, we realize at least two points of concern: Not only that for most countries only the first forecast made in the year which is to be forecasted itself seems to carry predictive information, the forecast performance also deteriorated over the course of the period under consideration.

Table 3-1: Summary of OECD forecast performance**Bias of forecast**

1994 GDP	1 year ahead		Current year		1 year after		2 yrs. after	
	First	Second	First	Second	First	Second	First	Second
United States	0,37	0,75	0,50	0,56	0,48	0,40	0,48	0,49
Japan	-0,74	-0,40	-0,20	-0,45	-0,37	-0,35	-0,23	-0,26
Germany	-0,19	0,28	0,43	0,27	0,12	0,06	0,05	0,07
France	-0,26	0,03	0,37	0,19	0,15	0,11	0,25	0,23
Italy	-0,15	0,04	0,06	0,14	0,17	0,27	0,26	0,26
United Kingdom	0,38	0,53	0,61	0,64	0,51	0,36	0,30	0,21
Canada	-0,70	-0,25	0,00	0,29	0,21	0,19	0,19	0,19

2003 GDP	1 year ahead		Current year		1 year after		2 yrs. after	
	First	Second	First	Second	First	Second	First	Second
United States	0,38	0,68	0,25	0,20	0,15	0,22	0,27	0,26
Japan	-0,46	-0,17	0,08	0,13	0,11	0,16	0,00	-0,03
Germany	-0,97	-0,50	-0,14	-0,03	-0,05	-0,06	-0,05	-0,02
France	-0,54	-0,19	0,07	0,21	0,11	0,09	0,14	0,08
Italy	-0,70	-0,28	-0,18	0,16	0,15	0,19	0,17	0,17
United Kingdom	0,27	0,46	0,54	0,49	0,43	0,37	0,34	0,24
Canada	-0,26	0,19	0,17	0,46	0,39	0,35	0,36	0,26

Correlation of forecast

1994 GDP	1 year ahead		Current year		1 year after		2 yrs. after	
	First	Second	First	Second	First	Second	First	Second
United States	0,68	0,89	0,97	0,97	0,97	0,97	0,97	0,97
Japan	-0,05	0,67	0,76	0,85	0,87	0,87	0,88	0,88
Germany	0,25	0,56	0,84	0,95	0,97	0,97	0,97	0,98
France	-0,18	0,36	0,74	0,91	0,92	0,92	0,95	0,95
Italy	0,22	0,56	0,68	0,80	0,86	0,88	0,95	0,95
United Kingdom	0,69	0,75	0,96	0,96	0,98	0,99	0,98	0,98
Canada	0,41	0,71	0,91	0,93	0,96	0,97	0,97	0,97

2003 GDP	1 year ahead		Current year		1 year after		2 yrs. after	
	First	Second	First	Second	First	Second	First	Second
United States	0,28	0,55	0,85	0,90	0,91	0,96	0,96	0,97
Japan	0,20	0,63	0,86	0,89	0,91	0,90	0,93	0,94
Germany	0,08	0,48	0,80	0,92	0,95	0,96	0,96	0,98
France	-0,08	0,52	0,79	0,91	0,94	0,94	0,95	0,96
Italy	0,00	0,53	0,69	0,86	0,90	0,91	0,95	0,95
United Kingdom	0,58	0,70	0,86	0,95	0,96	0,97	0,97	0,97
Canada	0,22	0,39	0,85	0,93	0,96	0,97	0,97	0,97

Source: Own calculations based on OECD Economic Outlook

Table 3-2: Summary of IMF forecast performance**Bias of forecast**

1994 GDP	1 year ahead		Current year		1 year after		2 yrs. after	
	First	Second	First	Second	First	Second	First	Second
United States	0,13	0,30	0,57	0,66	0,59	0,51	0,49	0,54
Japan	-0,17	0,08	0,53	0,34	0,16	0,39	0,27	0,34
Germany	0,24	0,18	0,58	0,22	0,18	0,46	0,15	0,29
France	0,04	0,16	0,46	0,36	0,17	0,12	0,12	0,20
Italy	-0,13	-0,09	0,02	0,01	0,01	-0,13	-0,06	-0,03
United Kingdom	0,52	0,57	0,74	0,54	0,50	0,24	0,41	-0,01
Canada	-0,52	-0,31	0,24	-0,07	-0,06	-0,18	-0,07	0,14

2003 GDP	1 year ahead		Current year		1 year after		2 yrs. after	
	First	Second	First	Second	First	Second	First	Second
United States	0,35	0,46	0,44	0,29	0,19	0,29	0,27	0,32
Japan	-0,39	-0,12	0,61	0,49	0,30	0,44	0,32	0,33
Germany	-0,94	-0,75	-0,11	-0,07	-0,03	0,10	-0,01	0,06
France	-0,48	-0,31	0,11	0,19	0,17	0,11	0,06	0,06
Italy	-0,75	-0,60	-0,19	0,00	0,09	-0,01	0,05	0,05
United Kingdom	0,31	0,34	0,53	0,55	0,44	0,31	0,38	0,15
Canada	0,05	0,16	0,38	0,27	0,28	0,21	0,26	0,23

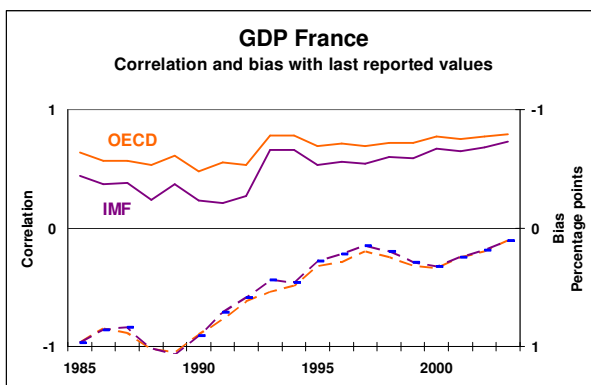
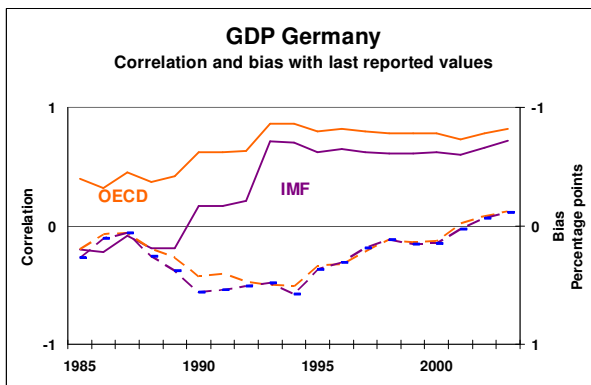
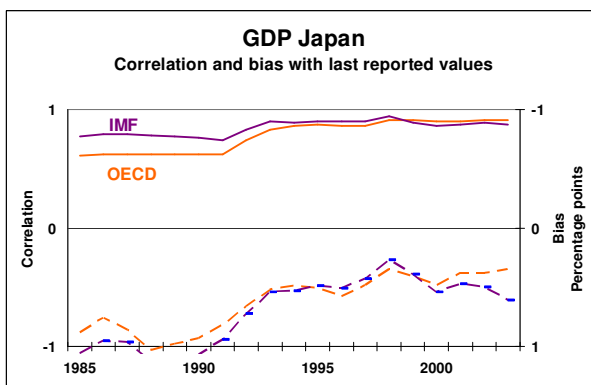
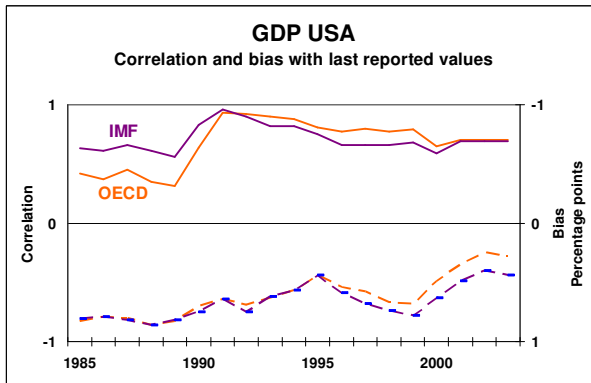
Correlation of forecast

1994 GDP	1 year ahead		Current year		1 year after		2 yrs. after	
	First	Second	First	Second	First	Second	First	Second
United States	0,56	0,70	0,82	0,90	0,88	0,87	0,91	0,90
Japan	-0,18	0,39	0,89	0,95	0,96	0,92	0,96	0,94
Germany	-0,37	-0,12	0,70	0,94	0,92	0,78	0,90	0,93
France	-0,57	-0,23	0,66	0,90	0,95	0,95	0,95	0,96
Italy	-0,28	0,40	0,74	0,88	0,97	0,96	0,98	0,99
United Kingdom	0,28	0,54	0,83	0,88	0,97	0,91	0,99	0,95
Canada	0,17	0,60	0,77	0,96	0,99	0,96	0,98	0,97

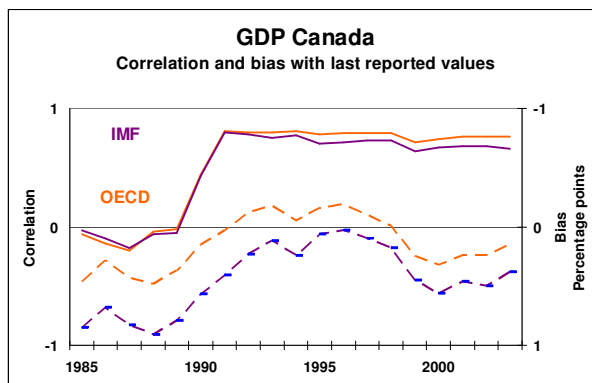
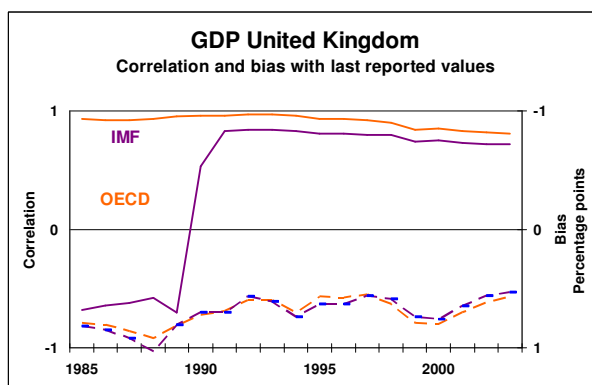
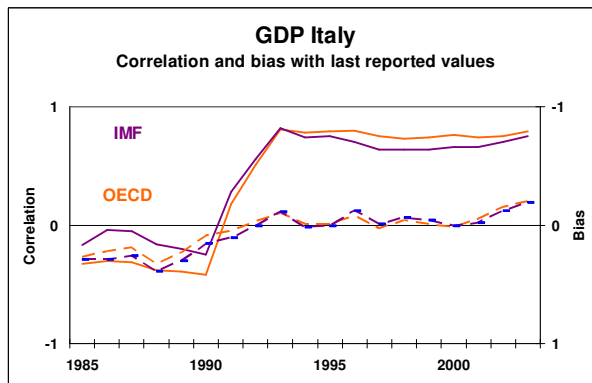
2003 GDP	1 year ahead		Current year		1 year after		2 yrs. after	
	First	Second	First	Second	First	Second	First	Second
United States	-0,10	0,06	0,69	0,78	0,82	0,89	0,92	0,94
Japan	0,37	0,62	0,87	0,94	0,95	0,93	0,96	0,95
Germany	-0,42	0,07	0,72	0,93	0,93	0,86	0,93	0,96
France	-0,25	0,10	0,73	0,91	0,94	0,96	0,96	0,97
Italy	-0,47	0,34	0,75	0,91	0,97	0,96	0,98	0,99
United Kingdom	0,06	0,27	0,72	0,85	0,94	0,90	0,96	0,93
Canada	-0,08	0,22	0,66	0,93	0,97	0,95	0,96	0,97

Source: Own calculations based on IMF World Economic Outlook

**Figure 3-3a: Bias and correlation of OECD/IMF forecasts
(Second forecast in year before target year)**



**Figure 3-3b: Bias and correlation of OECD/IMF forecasts
(Second forecast in year before target year)**



4. Common biases of IMF forecasts among countries

After having discovered in the previous section strong evidence of common biases between OECD and IMF forecast, we attempt to check for similar evidence among different countries within the set of IMF forecasts. The results for OECD should be similar given the close relationship of the forecasts produced by both institutions.

4.1 Potential causes for common forecast errors

The most basic reasons for forecast failure, as pointed out by Hendry and Clements (2001), simply are that models are simplified representations which are incorrect in many ways, and economies both evolve and suddenly shift.”

In practice, they conclude, “economic forecasts end up being a mixture of science...and art, namely judgments about perturbations from recent unexpected events.” In this situation of high uncertainty it seems that the “macroeconomic forecasting industry” (Fildes and Stekler 2002) has already developed a number of rules as, for instance, a tendency to produce forecasts which are damped towards the mean, the desire to avoid sudden adjustments etc. The institutional environment (whether the forecast is produced by government, academics, banks or private forecasters) will also play a role.

Generally, it cannot be excluded that individual forecasters might be motivated by other factors than accuracy when they produce their forecasts. Most of all, there are considerations relating to reputation: The loss of reputation for the individual forecaster seems small when all forecasters err together; it is large however if someone’s estimate deviates significantly from the others’ but turns out to be wrong. In this case of an asymmetric loss function a biased forecast can be regarded as efficient.

Of course, there are also objective reasons for common forecast errors, most of all if there is some agreement on the set of exogenous assumptions (oil prices, exchange rates, the reactions of monetary policy etc) which may not hold.

Anyway, there seem to be good reasons that something like a „consensus“ among forecasters evolves. Gregory and Yetman (2004) observe that „...predictions...over time...are likely to become increasingly similar for at least three reasons. First, forecasters observe the predictions of others, and are able to incorporate these into their own later revisions. Second, much of the new information that is incorporated into later

revisions is common to all forecasters. And third, once we enter (a new) calendar year and data pertaining to the early part of that year become available, the degree of uncertainty faced by the forecasters diminishes”.

This may only be part of the story. Gallo, Granger and Jeon (2002) found that an individual forecaster’s results are heavily influenced by the consensus forecast of the previous period. Such a “copycat behaviour” can lead the consensus to converge to a forecast value that is far from the actual value. This casts doubt on the common practice of using the dispersion of individual forecasts as a kind of confidence interval and also questions the frequently recommended method of forecast pooling.

Forecast accuracy may also be diminished by political influences. In government-funded and intergovernmental agencies there may be temptations to let government policy appear in a favourable light. There is evidence that in some cases this political bias outweighs any informational advantages a close-to-government forecaster might have (Batchelor 2000).

Questions like these have occasionally been investigated for private forecasters and the forecasts of different institutions for the same country. Can similar phenomena be observed also for the forecasts within country groups as they are presented by OECD and IMF?

4.2 Some empirical evidence

We employ the same methodology as in section 3 for investigating common forecast errors by calculating smoothed correlations of forecast errors between G7 countries. The advantage of sequential estimation of correlation coefficients is evidence about changes in these relations over time. Table 4-1 presents this analysis for IMF forecast errors for the first forecast made during the target year.

A major finding seems to be that the relationship describing forecast errors between countries changes over time. There is evidence of common forecast errors particularly between US and Canada and to a lesser degree between Germany, France and Italy. Remarkable is the evidence of an increasing common forecast bias for these three countries which might be attributed to the increased integration among them. There is no evidence of any common bias between Japan and the other G7 countries.

Figure 4-1a: IMF forecast errors between countries

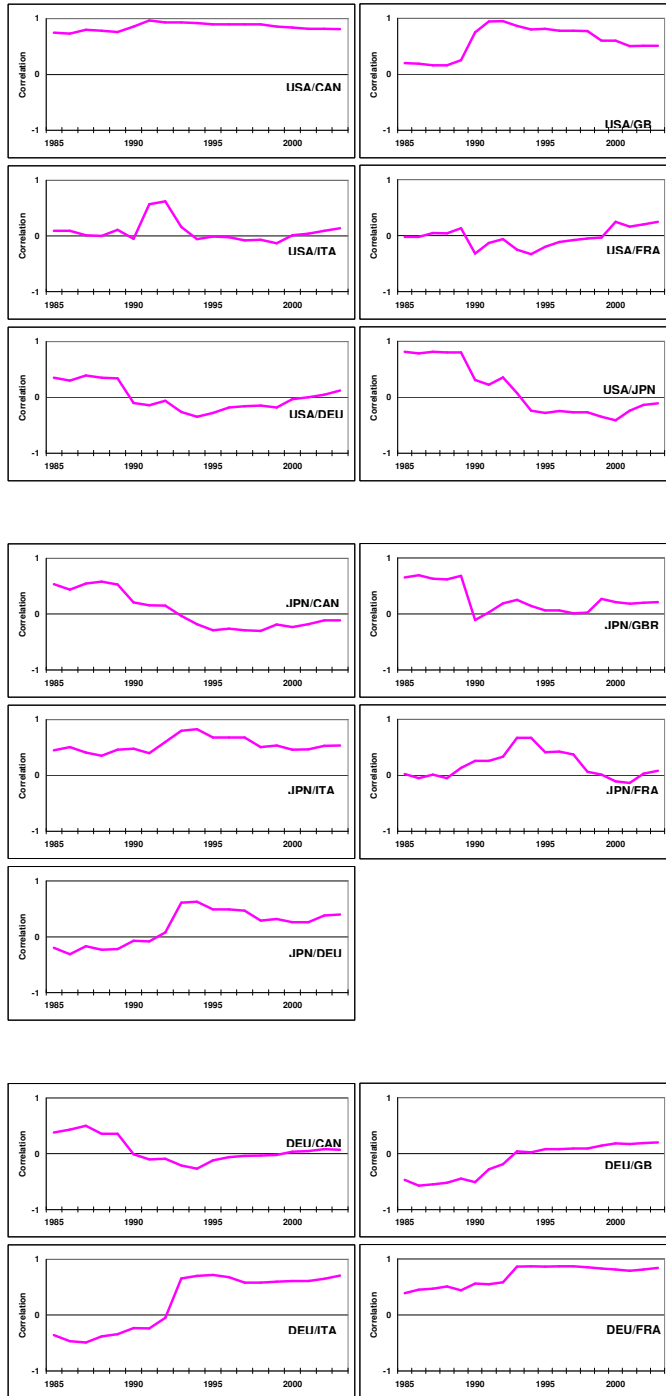
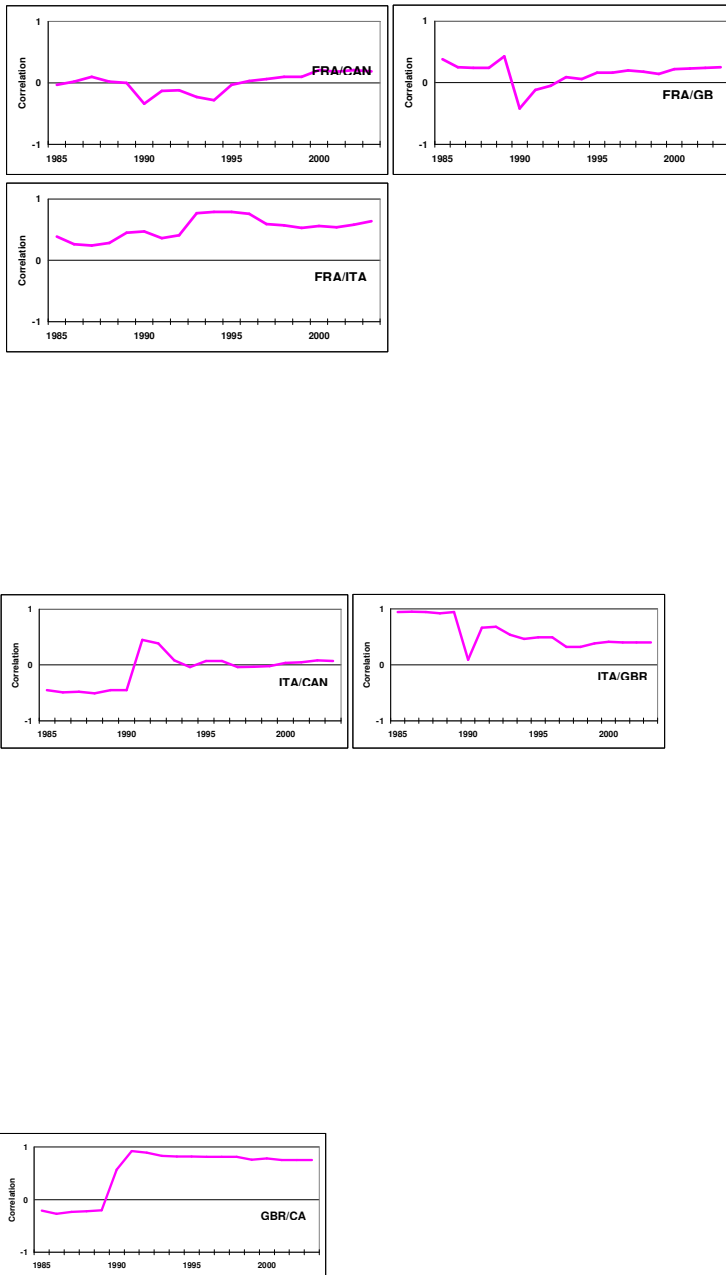


Table 4-2b: IMF forecast errors between countries



5. Conclusions

We collected in this paper evidence about biases in OECD and IMF forecasts. Based on OECD Economic Outlook and IMF World Economic Outlook we compiled for each of the G7 countries eight dated estimates for rates of change of real GDP. We defined the corresponding estimation error (both for forecasting and data revisions) by comparing the estimates with the last reported values published by OECD in December 2004. In order to identify changes in the error patterns over time and among the G7 countries, we applied an exponential smoothing procedure to first and second moments of the errors and thus obtained smoothed estimates for forecast biases and coefficients of correlation between errors and the dated estimates. The following results have emerged:

- Only the first forecast made in the target year itself provides reasonable predictive accuracy. This holds for both institutions, with a slight advantage for OECD.
- Remarkably, the quality of most forecasts has deteriorated over time.
- Searching for relationships that reveal a common behavior in forecast errors, we found strong evidence between the US and Canada on the one hand and, on the other hand, between Germany, France and Italy.
- Furthermore, there is evidence that common forecast errors have become more synchronized over time. Remarkably, increase of economic integration also increases common forecast error.

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**7. ANNEX A:
OECD Forecasts**

Table 7-1: United States**Smoothed bias of forecast**

USA GDP	1 year ahead		Current year		1 year after		2 yrs. after	
	First	Second	First	Second	First	Second	First	Second
1985	1,06	1,24	0,65	0,62	0,54	0,49	0,53	0,58
1986	1,02	1,19	0,63	0,63	0,59	0,50	0,54	0,59
1987	0,89	1,11	0,66	0,63	0,58	0,45	0,48	0,50
1988	0,93	1,16	0,73	0,61	0,54	0,37	0,41	0,41
1989	0,95	1,10	0,71	0,60	0,54	0,44	0,47	0,48
1990	0,81	0,95	0,60	0,63	0,58	0,49	0,51	0,54
1991	0,47	0,74	0,54	0,60	0,58	0,54	0,56	0,54
1992	0,44	0,78	0,61	0,69	0,64	0,56	0,58	0,58
1993	0,30	0,73	0,55	0,61	0,55	0,46	0,48	0,48
1994	0,37	0,75	0,50	0,56	0,48	0,40	0,48	0,49
1995	0,28	0,61	0,38	0,42	0,49	0,41	0,48	0,49
1996	0,39	0,65	0,48	0,51	0,57	0,46	0,52	0,47
1997	0,60	0,82	0,52	0,53	0,58	0,48	0,53	0,42
1998	0,76	0,88	0,62	0,55	0,55	0,42	0,47	0,36
1999	0,92	1,09	0,64	0,56	0,52	0,40	0,45	0,36
2000	0,99	1,04	0,45	0,35	0,33	0,32	0,36	0,31
2001	0,67	0,66	0,31	0,28	0,26	0,33	0,37	0,32
2002	0,48	0,71	0,22	0,21	0,18	0,24	0,30	0,29
2003	0,38	0,68	0,25	0,20	0,15	0,22	0,27	0,26

Source: Own calculations based on OECD Economic Outlook

Smoothed correlation of forecast

USA GDP	1 year ahead		Current year		1 year after		2 yrs. after	
	First	Second	First	Second	First	Second	First	Second
1985	0,83	0,94	0,99	0,99	0,98	0,99	0,99	1,00
1986	0,82	0,93	0,99	0,99	0,98	0,99	0,99	1,00
1987	0,79	0,92	0,99	0,99	0,98	0,99	0,99	0,99
1988	0,79	0,93	0,98	0,99	0,98	0,99	0,99	0,99
1989	0,80	0,92	0,98	0,99	0,98	0,98	0,98	0,98
1990	0,78	0,90	0,97	0,99	0,98	0,98	0,98	0,98
1991	0,70	0,89	0,98	0,99	0,98	0,98	0,98	0,98
1992	0,70	0,89	0,97	0,98	0,98	0,98	0,98	0,98
1993	0,67	0,89	0,97	0,98	0,97	0,97	0,97	0,97
1994	0,68	0,89	0,97	0,97	0,97	0,97	0,97	0,97
1995	0,66	0,86	0,95	0,95	0,97	0,97	0,97	0,97
1996	0,65	0,86	0,94	0,95	0,96	0,97	0,97	0,97
1997	0,59	0,84	0,94	0,95	0,96	0,97	0,97	0,97
1998	0,55	0,84	0,93	0,95	0,96	0,97	0,97	0,97
1999	0,52	0,76	0,93	0,95	0,96	0,97	0,97	0,97
2000	0,50	0,75	0,87	0,89	0,92	0,96	0,96	0,97
2001	0,36	0,52	0,86	0,90	0,92	0,97	0,97	0,97
2002	0,30	0,55	0,86	0,90	0,91	0,96	0,96	0,97
2003	0,28	0,55	0,85	0,90	0,91	0,96	0,96	0,97

Source: Own calculations based on OECD Economic Outlook

Table 7-2: Japan**Smoothed bias of forecast**

JPN GDP	1 year ahead		Current year		1 year after		2 yrs. after	
	First	Second	First	Second	First	Second	First	Second
1985	-1,01	-1,11	-0,93	-1,14	-0,96	-0,97	-0,92	-0,98
1986	-1,06	-1,06	-0,86	-0,96	-0,82	-0,81	-0,77	-0,82
1987	-0,87	-0,85	-0,60	-0,83	-0,78	-0,78	-0,77	-0,81
1988	-0,31	-0,44	-0,29	-0,65	-0,59	-0,60	-0,58	-0,63
1989	-0,13	-0,31	-0,21	-0,54	-0,49	-0,50	-0,47	-0,50
1990	-0,02	-0,21	-0,13	-0,57	-0,49	-0,49	-0,42	-0,45
1991	-0,08	-0,23	-0,14	-0,63	-0,55	-0,55	-0,44	-0,47
1992	-0,33	-0,35	-0,21	-0,65	-0,53	-0,52	-0,41	-0,44
1993	-0,58	-0,52	-0,26	-0,51	-0,46	-0,46	-0,33	-0,35
1994	-0,74	-0,40	-0,20	-0,45	-0,37	-0,35	-0,23	-0,26
1995	-0,74	-0,42	-0,12	-0,24	-0,23	-0,21	-0,16	-0,18
1996	-0,56	-0,24	0,01	-0,23	-0,22	-0,20	-0,19	-0,21
1997	-0,56	-0,19	-0,03	-0,08	-0,10	-0,08	-0,13	-0,14
1998	-0,90	-0,45	-0,11	0,08	0,07	0,10	0,02	0,01
1999	-0,94	-0,42	-0,01	-0,06	0,04	0,08	-0,05	-0,07
2000	-0,56	-0,24	0,11	0,04	0,15	0,20	0,00	-0,03
2001	-0,68	-0,40	0,04	0,15	0,22	0,25	0,00	-0,03
2002	-0,75	-0,38	0,08	0,17	0,15	0,18	0,00	-0,03
2003	-0,46	-0,17	0,08	0,13	0,11	0,16	0,00	-0,03

Source: Own calculations based on OECD Economic Outlook

Smoothed correlation of forecast

JPN GDP	1 year ahead		Current year		1 year after		2 yrs. after	
	First	Second	First	Second	First	Second	First	Second
1985	-0,19	0,86	0,54	0,55	0,48	0,47	0,50	0,52
1986	-0,16	0,81	0,53	0,49	0,44	0,42	0,43	0,44
1987	-0,31	0,45	0,32	0,44	0,45	0,44	0,48	0,48
1988	-0,75	0,12	0,32	0,59	0,62	0,62	0,69	0,69
1989	-0,68	0,24	0,39	0,61	0,65	0,64	0,70	0,71
1990	-0,53	0,32	0,44	0,66	0,69	0,69	0,74	0,74
1991	-0,54	0,32	0,45	0,66	0,68	0,68	0,74	0,74
1992	-0,38	0,55	0,60	0,75	0,78	0,78	0,82	0,82
1993	-0,13	0,68	0,72	0,83	0,85	0,85	0,87	0,87
1994	-0,05	0,67	0,76	0,85	0,87	0,87	0,88	0,88
1995	0,03	0,68	0,76	0,83	0,86	0,86	0,88	0,88
1996	-0,03	0,61	0,73	0,83	0,86	0,86	0,88	0,88
1997	0,05	0,63	0,73	0,83	0,86	0,86	0,89	0,88
1998	0,15	0,66	0,83	0,90	0,91	0,91	0,93	0,93
1999	0,34	0,71	0,84	0,87	0,92	0,92	0,92	0,92
2000	0,15	0,65	0,83	0,86	0,90	0,90	0,92	0,92
2001	0,18	0,64	0,83	0,87	0,91	0,91	0,93	0,93
2002	0,30	0,70	0,86	0,89	0,91	0,90	0,93	0,94
2003	0,20	0,63	0,86	0,89	0,91	0,90	0,93	0,94

Source: Own calculations based on OECD Economic Outlook

Table 7-3: Germany**Smoothed bias of forecast**

DEU GDP	1 year ahead		Current year		1 year after		2 yrs. after	
	First	Second	First	Second	First	Second	First	Second
1985	-0,75	0,04	0,01	0,36	0,15	0,10	0,04	0,05
1986	-0,71	-0,05	-0,10	0,29	0,14	0,08	0,03	0,05
1987	-0,79	-0,20	-0,09	0,26	0,10	0,04	-0,01	0,03
1988	-0,54	0,05	0,07	0,23	0,12	0,05	0,00	0,03
1989	-0,27	0,18	0,15	0,17	0,10	0,05	0,02	0,04
1990	0,05	0,42	0,32	0,30	0,21	0,16	0,14	0,15
1991	0,02	0,38	0,32	0,26	0,19	0,15	0,12	0,14
1992	0,02	0,39	0,38	0,34	0,20	0,15	0,12	0,13
1993	-0,32	0,14	0,42	0,35	0,20	0,13	0,11	0,13
1994	-0,19	0,28	0,43	0,27	0,12	0,06	0,05	0,07
1995	-0,26	0,15	0,27	0,20	0,09	0,01	0,02	0,06
1996	-0,43	-0,03	0,27	0,13	0,02	-0,05	-0,04	0,00
1997	-0,49	-0,14	0,17	0,02	-0,06	-0,13	-0,12	-0,01
1998	-0,52	-0,23	0,07	-0,06	-0,14	-0,14	-0,13	-0,03
1999	-0,55	-0,22	0,10	0,02	-0,07	-0,08	-0,07	0,00
2000	-0,44	-0,14	0,09	0,01	-0,08	-0,09	-0,08	0,00
2001	-0,61	-0,31	-0,06	0,02	-0,05	-0,05	-0,05	-0,02
2002	-0,78	-0,37	-0,11	-0,01	-0,05	-0,06	-0,05	-0,02
2003	-0,97	-0,50	-0,14	-0,03	-0,05	-0,06	-0,05	-0,02

Source: Own calculations based on OECD Economic Outlook

Smoothed correlation of forecast

USA DEU	1 year ahead		Current year		1 year after		2 yrs. after	
	First	Second	First	Second	First	Second	First	Second
1985	0,36	0,41	0,66	0,96	0,98	0,98	0,99	0,99
1986	0,40	0,49	0,70	0,96	0,98	0,98	0,99	0,99
1987	0,40	0,47	0,70	0,96	0,98	0,98	0,99	0,99
1988	0,32	0,40	0,68	0,97	0,98	0,98	0,99	0,99
1989	0,24	0,46	0,71	0,98	0,98	0,99	0,99	0,99
1990	0,32	0,57	0,77	0,95	0,97	0,97	0,97	0,97
1991	0,35	0,59	0,78	0,95	0,97	0,97	0,97	0,97
1992	0,35	0,59	0,77	0,94	0,97	0,97	0,97	0,97
1993	0,28	0,61	0,84	0,96	0,98	0,98	0,98	0,98
1994	0,25	0,56	0,84	0,95	0,97	0,97	0,97	0,98
1995	0,24	0,53	0,81	0,94	0,97	0,97	0,97	0,98
1996	0,19	0,47	0,82	0,94	0,96	0,96	0,97	0,97
1997	0,19	0,44	0,80	0,91	0,95	0,95	0,95	0,97
1998	0,19	0,43	0,78	0,91	0,94	0,95	0,95	0,97
1999	0,20	0,44	0,78	0,89	0,93	0,94	0,95	0,97
2000	0,19	0,44	0,79	0,90	0,93	0,95	0,95	0,97
2001	0,11	0,37	0,75	0,90	0,93	0,95	0,95	0,97
2002	0,11	0,46	0,77	0,91	0,94	0,96	0,96	0,98
2003	0,08	0,48	0,80	0,92	0,95	0,96	0,96	0,98

Source: Own calculations based on OECD Economic Outlook

Table 7-4: France**Smoothed bias of forecast**

FRA GDP	1 year ahead		Current year		1 year after		2 yrs. after	
	First	Second	First	Second	First	Second	First	Second
1985	0,00	0,33	0,67	0,38	0,38	0,36	0,38	0,33
1986	0,03	0,33	0,59	0,38	0,38	0,35	0,36	0,32
1987	0,03	0,32	0,65	0,44	0,40	0,34	0,39	0,35
1988	0,25	0,56	0,81	0,47	0,44	0,39	0,39	0,36
1989	0,48	0,64	0,86	0,51	0,46	0,42	0,39	0,36
1990	0,42	0,52	0,72	0,47	0,39	0,36	0,39	0,36
1991	0,19	0,34	0,61	0,38	0,33	0,30	0,39	0,36
1992	0,03	0,23	0,48	0,28	0,29	0,26	0,36	0,33
1993	-0,33	-0,05	0,41	0,25	0,26	0,24	0,38	0,36
1994	-0,26	0,03	0,37	0,19	0,15	0,11	0,25	0,23
1995	-0,34	-0,10	0,22	0,09	0,10	0,07	0,20	0,18
1996	-0,52	-0,20	0,20	0,05	0,04	0,01	0,13	0,10
1997	-0,52	-0,24	0,12	0,01	-0,01	-0,03	0,08	0,08
1998	-0,39	-0,15	0,18	0,05	0,03	-0,01	0,11	0,11
1999	-0,31	-0,05	0,25	0,13	0,06	0,03	0,10	0,12
2000	-0,12	0,07	0,28	0,21	0,15	0,11	0,15	0,11
2001	-0,19	-0,01	0,20	0,20	0,15	0,12	0,16	0,10
2002	-0,33	-0,06	0,15	0,19	0,12	0,09	0,15	0,09
2003	-0,54	-0,19	0,07	0,21	0,11	0,09	0,14	0,08

Source: Own calculations based on OECD Economic Outlook

Smoothed correlation of forecast

FRA GDP	1 year ahead		Current year		1 year after		2 yrs. after	
	First	Second	First	Second	First	Second	First	Second
1985	0,04	0,62	0,79	0,55	0,75	0,85	0,87	0,86
1986	0,13	0,65	0,83	0,64	0,80	0,87	0,90	0,89
1987	0,29	0,70	0,75	0,63	0,82	0,90	0,90	0,88
1988	0,28	0,43	0,63	0,87	0,93	0,94	0,96	0,96
1989	0,24	0,61	0,73	0,91	0,96	0,96	0,98	0,97
1990	0,26	0,59	0,70	0,91	0,94	0,95	0,98	0,97
1991	0,07	0,49	0,67	0,89	0,93	0,94	0,98	0,98
1992	-0,01	0,45	0,62	0,85	0,93	0,94	0,98	0,97
1993	-0,17	0,38	0,74	0,92	0,96	0,97	0,99	0,98
1994	-0,18	0,36	0,74	0,91	0,92	0,92	0,95	0,95
1995	-0,16	0,33	0,69	0,87	0,91	0,91	0,94	0,94
1996	-0,22	0,30	0,70	0,87	0,90	0,90	0,93	0,92
1997	-0,21	0,31	0,69	0,86	0,89	0,90	0,92	0,92
1998	-0,07	0,41	0,73	0,88	0,91	0,92	0,93	0,93
1999	0,02	0,43	0,73	0,88	0,92	0,92	0,94	0,94
2000	0,07	0,52	0,79	0,90	0,92	0,93	0,94	0,95
2001	0,06	0,49	0,78	0,90	0,92	0,93	0,94	0,95
2002	0,02	0,52	0,78	0,90	0,92	0,93	0,95	0,96
2003	-0,08	0,52	0,79	0,91	0,94	0,94	0,95	0,96

Source: Own calculations based on OECD Economic Outlook

Table 7-5: Italy**Smoothed bias of forecast**

ITA GDP	1 year ahead		Current year		1 year after		2 yrs. after	
	First	Second	First	Second	First	Second	First	Second
1985	0,72	0,83	0,45	0,65	0,58	0,84	0,70	0,66
1986	0,73	0,76	0,38	0,59	0,50	0,74	0,60	0,56
1987	0,67	0,67	0,33	0,55	0,43	0,65	0,53	0,50
1988	0,76	0,81	0,46	0,52	0,41	0,60	0,46	0,43
1989	0,74	0,67	0,35	0,43	0,33	0,51	0,40	0,38
1990	0,53	0,47	0,19	0,32	0,29	0,45	0,33	0,31
1991	0,30	0,32	0,15	0,33	0,26	0,40	0,31	0,29
1992	0,07	0,16	0,05	0,24	0,22	0,34	0,28	0,26
1993	-0,23	-0,02	-0,02	0,14	0,18	0,29	0,28	0,27
1994	-0,15	0,04	0,06	0,14	0,17	0,27	0,26	0,26
1995	-0,10	0,06	0,05	0,11	0,15	0,24	0,24	0,24
1996	-0,28	-0,11	-0,02	0,12	0,16	0,25	0,25	0,25
1997	-0,28	-0,02	0,08	0,18	0,20	0,28	0,28	0,28
1998	-0,25	-0,05	0,01	0,19	0,22	0,29	0,28	0,27
1999	-0,33	-0,09	0,03	0,24	0,22	0,29	0,25	0,25
2000	-0,20	-0,01	0,06	0,25	0,22	0,29	0,26	0,25
2001	-0,33	-0,11	-0,01	0,21	0,19	0,25	0,22	0,22
2002	-0,51	-0,18	-0,12	0,20	0,17	0,22	0,19	0,20
2003	-0,70	-0,28	-0,18	0,16	0,15	0,19	0,17	0,17

Source: Own calculations based on OECD Economic Outlook

Smoothed correlation of forecast

ITA GDP	1 year ahead		Current year		1 year after		2 yrs. after	
	First	Second	First	Second	First	Second	First	Second
1985	0,65	0,81	0,60	0,79	0,75	0,90	0,96	0,96
1986	0,66	0,82	0,62	0,80	0,77	0,91	0,95	0,96
1987	0,70	0,83	0,65	0,82	0,79	0,92	0,96	0,97
1988	0,73	0,78	0,64	0,84	0,83	0,92	0,97	0,97
1989	0,74	0,77	0,65	0,85	0,83	0,93	0,97	0,97
1990	0,62	0,68	0,61	0,82	0,83	0,92	0,95	0,96
1991	0,48	0,62	0,60	0,83	0,82	0,90	0,95	0,95
1992	0,34	0,55	0,60	0,80	0,82	0,88	0,94	0,94
1993	0,23	0,57	0,70	0,80	0,85	0,88	0,94	0,95
1994	0,22	0,56	0,68	0,80	0,86	0,88	0,95	0,95
1995	0,26	0,59	0,71	0,82	0,87	0,89	0,95	0,95
1996	0,19	0,51	0,70	0,83	0,87	0,90	0,95	0,95
1997	0,19	0,49	0,67	0,82	0,87	0,89	0,95	0,95
1998	0,20	0,49	0,66	0,82	0,87	0,89	0,95	0,95
1999	0,18	0,48	0,66	0,82	0,87	0,89	0,95	0,95
2000	0,18	0,50	0,69	0,83	0,88	0,90	0,95	0,95
2001	0,14	0,47	0,68	0,83	0,88	0,90	0,94	0,95
2002	0,09	0,52	0,66	0,85	0,89	0,90	0,94	0,95
2003	0,00	0,53	0,69	0,86	0,90	0,91	0,95	0,95

Source: Own calculations based on OECD Economic Outlook

Table 7-6: United Kingdom**Smoothed bias of forecast**

GBR GDP	1 year ahead		Current year		1 year after		2 yrs. after	
	First	Second	First	Second	First	Second	First	Second
1985	0,97	1,04	0,56	0,75	0,40	0,16	0,14	-0,03
1986	1,02	1,11	0,60	0,85	0,49	0,21	0,19	0,05
1987	1,14	1,18	0,67	0,84	0,45	0,21	0,17	0,03
1988	1,30	1,28	0,75	0,83	0,53	0,27	0,20	0,06
1989	1,16	1,07	0,67	0,73	0,46	0,24	0,20	0,04
1990	0,92	0,91	0,59	0,58	0,43	0,21	0,16	0,02
1991	0,50	0,61	0,57	0,57	0,47	0,27	0,23	0,10
1992	0,31	0,35	0,49	0,64	0,50	0,33	0,28	0,17
1993	0,26	0,42	0,50	0,60	0,50	0,33	0,27	0,16
1994	0,38	0,53	0,61	0,64	0,51	0,36	0,30	0,21
1995	0,31	0,42	0,50	0,59	0,50	0,37	0,31	0,20
1996	0,26	0,42	0,51	0,57	0,53	0,38	0,34	0,21
1997	0,26	0,38	0,48	0,50	0,47	0,32	0,28	0,16
1998	0,28	0,43	0,58	0,49	0,52	0,38	0,34	0,20
1999	0,35	0,59	0,73	0,56	0,55	0,41	0,37	0,25
2000	0,54	0,65	0,76	0,59	0,58	0,46	0,42	0,30
2001	0,49	0,55	0,66	0,53	0,53	0,45	0,39	0,29
2002	0,36	0,51	0,58	0,50	0,47	0,41	0,37	0,26
2003	0,27	0,46	0,54	0,49	0,43	0,37	0,34	0,24

Source: Own calculations based on OECD Economic Outlook

Smoothed correlation of forecast

GBR GDP	1 year ahead		Current year		1 year after		2 yrs. after	
	First	Second	First	Second	First	Second	First	Second
1985	0,95	0,91	0,96	0,98	0,99	0,99	0,99	0,98
1986	0,96	0,92	0,96	0,98	0,98	0,99	0,98	0,97
1987	0,96	0,93	0,97	0,98	0,98	0,99	0,99	0,98
1988	0,95	0,93	0,97	0,98	0,98	0,99	0,99	0,98
1989	0,92	0,88	0,96	0,97	0,98	0,99	0,99	0,98
1990	0,85	0,85	0,96	0,95	0,98	0,99	0,99	0,98
1991	0,69	0,80	0,97	0,96	0,98	0,99	0,99	0,98
1992	0,65	0,72	0,96	0,96	0,98	0,99	0,99	0,98
1993	0,65	0,72	0,96	0,96	0,98	0,99	0,99	0,98
1994	0,69	0,75	0,96	0,96	0,98	0,99	0,98	0,98
1995	0,69	0,74	0,94	0,96	0,98	0,99	0,98	0,98
1996	0,69	0,74	0,94	0,96	0,98	0,99	0,98	0,98
1997	0,70	0,75	0,94	0,96	0,98	0,98	0,98	0,98
1998	0,71	0,75	0,93	0,96	0,98	0,98	0,98	0,98
1999	0,70	0,70	0,89	0,95	0,98	0,98	0,98	0,97
2000	0,65	0,72	0,89	0,95	0,98	0,97	0,97	0,97
2001	0,64	0,70	0,88	0,95	0,97	0,97	0,97	0,97
2002	0,60	0,70	0,86	0,95	0,97	0,97	0,97	0,97
2003	0,58	0,70	0,86	0,95	0,96	0,97	0,97	0,97

Source: Own calculations based on OECD Economic Outlook

Table 7-7: Canada**Smoothed bias of forecast**

CAN GDP	1 year ahead		Current year		1 year after		2 yrs. after	
	First	Second	First	Second	First	Second	First	Second
1985	0,03	0,24	0,59	0,99	0,73	0,62	0,62	0,62
1986	-0,05	0,16	0,40	0,83	0,59	0,47	0,47	0,47
1987	0,05	0,30	0,53	0,80	0,57	0,44	0,44	0,44
1988	0,27	0,49	0,58	0,79	0,56	0,40	0,40	0,40
1989	0,18	0,40	0,46	0,68	0,47	0,32	0,32	0,32
1990	-0,04	0,18	0,23	0,52	0,36	0,26	0,26	0,26
1991	-0,51	-0,14	0,10	0,37	0,26	0,19	0,19	0,19
1992	-0,68	-0,35	-0,05	0,29	0,23	0,19	0,19	0,19
1993	-0,81	-0,40	-0,13	0,25	0,20	0,18	0,18	0,18
1994	-0,70	-0,25	0,00	0,29	0,21	0,19	0,19	0,19
1995	-0,78	-0,36	-0,11	0,30	0,25	0,22	0,22	0,22
1996	-0,88	-0,46	-0,15	0,29	0,24	0,21	0,24	0,24
1997	-0,71	-0,33	-0,06	0,32	0,26	0,24	0,26	0,26
1998	-0,56	-0,23	0,02	0,40	0,34	0,32	0,33	0,31
1999	-0,25	0,10	0,29	0,54	0,44	0,39	0,40	0,32
2000	0,02	0,32	0,35	0,53	0,45	0,43	0,44	0,36
2001	-0,10	0,12	0,26	0,53	0,43	0,42	0,43	0,32
2002	-0,07	0,34	0,26	0,49	0,40	0,39	0,40	0,29
2003	-0,26	0,19	0,17	0,46	0,39	0,35	0,36	0,26

Source: Own calculations based on OECD Economic Outlook

Smoothed correlation of forecast

CAN GDP	1 year ahead		Current year		1 year after		2 yrs. after	
	First	Second	First	Second	First	Second	First	Second
1985	0,39	0,73	0,99	0,97	0,98	0,98	0,98	0,98
1986	0,39	0,72	0,95	0,96	0,97	0,97	0,97	0,97
1987	0,41	0,72	0,94	0,96	0,97	0,97	0,97	0,97
1988	0,41	0,72	0,95	0,96	0,97	0,97	0,97	0,97
1989	0,40	0,70	0,93	0,95	0,97	0,97	0,97	0,97
1990	0,41	0,70	0,90	0,94	0,96	0,97	0,97	0,97
1991	0,35	0,74	0,92	0,93	0,96	0,97	0,97	0,97
1992	0,32	0,68	0,91	0,93	0,96	0,97	0,97	0,97
1993	0,31	0,68	0,90	0,92	0,96	0,97	0,97	0,97
1994	0,41	0,71	0,91	0,93	0,96	0,97	0,97	0,97
1995	0,40	0,68	0,89	0,93	0,96	0,97	0,97	0,97
1996	0,39	0,66	0,89	0,93	0,96	0,97	0,97	0,97
1997	0,40	0,67	0,89	0,93	0,96	0,97	0,97	0,97
1998	0,40	0,69	0,89	0,93	0,96	0,97	0,97	0,97
1999	0,34	0,58	0,85	0,92	0,95	0,97	0,97	0,97
2000	0,29	0,57	0,86	0,93	0,96	0,97	0,97	0,97
2001	0,29	0,51	0,86	0,93	0,96	0,97	0,97	0,97
2002	0,29	0,42	0,86	0,93	0,96	0,97	0,97	0,97
2003	0,22	0,39	0,85	0,93	0,96	0,97	0,97	0,97

Source: Own calculations based on OECD Economic Outlook

**8. ANNEX B:
IMF Forecasts**

Table 8-1: United States**Smoothed bias of forecast**

USA GDP	1 year ahead		Current year		1 year after		2 yrs. after	
	First	Second	First	Second	First	Second	First	Second
1985	0,45	0,47	0,81	0,81	0,83	0,67	0,55	0,61
1986	0,45	0,44	0,79	0,81	0,84	0,66	0,55	0,62
1987	0,38	0,38	0,82	0,82	0,81	0,59	0,49	0,52
1988	0,45	0,49	0,86	0,75	0,75	0,51	0,42	0,52
1989	0,49	0,51	0,82	0,74	0,73	0,62	0,48	0,57
1990	0,38	0,44	0,75	0,77	0,74	0,65	0,52	0,63
1991	0,09	0,24	0,64	0,70	0,72	0,68	0,57	0,62
1992	0,15	0,25	0,75	0,77	0,77	0,69	0,59	0,66
1993	0,05	0,18	0,62	0,69	0,66	0,58	0,48	0,55
1994	0,13	0,30	0,57	0,66	0,59	0,51	0,49	0,54
1995	0,10	0,27	0,44	0,55	0,58	0,51	0,49	0,54
1996	0,27	0,42	0,59	0,63	0,65	0,55	0,53	0,52
1997	0,48	0,59	0,68	0,64	0,66	0,55	0,54	0,52
1998	0,63	0,69	0,74	0,65	0,62	0,53	0,47	0,45
1999	0,79	0,87	0,78	0,66	0,58	0,50	0,45	0,44
2000	0,86	0,89	0,63	0,44	0,39	0,40	0,36	0,38
2001	0,54	0,55	0,49	0,34	0,31	0,41	0,37	0,39
2002	0,43	0,46	0,40	0,27	0,22	0,31	0,30	0,35
2003	0,35	0,46	0,44	0,29	0,19	0,29	0,27	0,32

Source: Own calculations based on IMF World Economic Outlook

Smoothed correlation of forecast

USA GDP	1 year ahead		Current year		1 year after		2 yrs. after	
	First	Second	First	Second	First	Second	First	Second
1985	0,38	0,08	0,63	0,59	0,22	0,39	0,37	0,19
1986	0,40	0,07	0,61	0,60	0,26	0,39	0,39	0,23
1987	0,30	0,02	0,66	0,63	0,24	0,33	0,33	0,08
1988	0,22	-0,14	0,61	0,71	0,40	0,46	0,48	0,19
1989	0,26	-0,09	0,56	0,70	0,39	0,48	0,50	0,24
1990	0,52	0,50	0,83	0,88	0,78	0,71	0,79	0,79
1991	0,65	0,79	0,96	0,94	0,93	0,90	0,93	0,93
1992	0,63	0,79	0,90	0,92	0,92	0,90	0,93	0,93
1993	0,55	0,77	0,82	0,90	0,88	0,87	0,91	0,89
1994	0,56	0,70	0,82	0,90	0,88	0,87	0,91	0,90
1995	0,58	0,71	0,75	0,86	0,88	0,88	0,91	0,90
1996	0,35	0,57	0,66	0,84	0,86	0,87	0,90	0,90
1997	0,16	0,43	0,66	0,86	0,88	0,88	0,91	0,91
1998	0,06	0,40	0,66	0,87	0,89	0,89	0,91	0,91
1999	-0,03	0,24	0,68	0,88	0,90	0,90	0,92	0,92
2000	-0,04	0,24	0,59	0,73	0,80	0,88	0,90	0,91
2001	-0,15	-0,03	0,69	0,78	0,83	0,92	0,94	0,94
2002	-0,10	0,06	0,69	0,78	0,82	0,90	0,92	0,94
2003	-0,10	0,06	0,69	0,78	0,82	0,89	0,92	0,94

Source: Own calculations based on IMF World Economic Outlook

Table 8-2: Japan**Smoothed bias of forecast**

JPN GDP	1 year ahead		Current year		1 year after		2 yrs. after	
	First	Second	First	Second	First	Second	First	Second
1985	1,04	1,06	1,06	0,60	0,40	0,72	0,38	0,48
1986	0,80	0,85	0,95	0,57	0,40	0,70	0,39	0,47
1987	0,78	0,85	0,96	0,57	0,32	0,59	0,28	0,36
1988	1,05	1,10	1,13	0,61	0,40	0,64	0,36	0,49
1989	1,09	1,10	1,10	0,59	0,39	0,75	0,38	0,50
1990	1,06	1,04	1,07	0,69	0,32	0,64	0,35	0,45
1991	0,87	0,94	0,94	0,51	0,17	0,47	0,25	0,34
1992	0,49	0,60	0,72	0,35	0,12	0,39	0,21	0,29
1993	0,08	0,19	0,54	0,35	0,12	0,36	0,23	0,31
1994	-0,17	0,08	0,53	0,34	0,16	0,39	0,27	0,34
1995	-0,19	0,01	0,49	0,45	0,25	0,45	0,30	0,36
1996	-0,18	0,14	0,51	0,39	0,20	0,40	0,22	0,27
1997	-0,29	0,04	0,43	0,43	0,28	0,46	0,24	0,29
1998	-0,66	-0,29	0,27	0,52	0,42	0,58	0,35	0,40
1999	-0,72	-0,30	0,39	0,38	0,35	0,51	0,24	0,28
2000	-0,39	-0,14	0,54	0,48	0,43	0,59	0,28	0,30
2001	-0,49	-0,26	0,47	0,53	0,47	0,61	0,26	0,27
2002	-0,62	-0,29	0,50	0,50	0,36	0,50	0,23	0,25
2003	-0,39	-0,12	0,61	0,49	0,30	0,44	0,32	0,33

Source: Own calculations based on IMF World Economic Outlook

Smoothed correlation of forecast

JPN GDP	1 year ahead		Current year		1 year after		2 yrs. after	
	First	Second	First	Second	First	Second	First	Second
1985	-0,43	0,01	0,77	0,99	0,94	0,84	0,90	0,83
1986	-0,52	-0,06	0,79	0,99	0,95	0,86	0,91	0,86
1987	-0,40	0,04	0,79	0,99	0,93	0,83	0,88	0,81
1988	-0,47	-0,04	0,78	0,99	0,94	0,87	0,90	0,82
1989	-0,46	0,00	0,77	0,99	0,94	0,83	0,90	0,83
1990	-0,36	0,05	0,76	0,96	0,92	0,79	0,89	0,81
1991	-0,42	0,14	0,74	0,86	0,86	0,73	0,88	0,80
1992	-0,35	0,23	0,83	0,90	0,93	0,84	0,93	0,90
1993	-0,31	0,15	0,90	0,93	0,95	0,91	0,96	0,93
1994	-0,18	0,39	0,89	0,95	0,96	0,92	0,96	0,94
1995	0,08	0,45	0,90	0,93	0,95	0,92	0,96	0,95
1996	0,08	0,40	0,90	0,93	0,95	0,92	0,96	0,94
1997	0,15	0,43	0,90	0,93	0,95	0,92	0,96	0,94
1998	0,33	0,57	0,94	0,95	0,96	0,94	0,97	0,96
1999	0,48	0,63	0,89	0,94	0,96	0,94	0,96	0,95
2000	0,29	0,58	0,86	0,93	0,95	0,94	0,96	0,95
2001	0,36	0,61	0,87	0,93	0,96	0,94	0,96	0,95
2002	0,44	0,67	0,89	0,94	0,95	0,94	0,96	0,96
2003	0,37	0,62	0,87	0,94	0,95	0,93	0,96	0,95

Source: Own calculations based on IMF World Economic Outlook

Table 8-3: Germany**Smoothed bias of forecast**

DEU GDP	1 year ahead		Current year		1 year after		2 yrs. after	
	First	Second	First	Second	First	Second	First	Second
1985	0,41	0,25	0,27	0,05	-0,03	0,33	-0,09	0,25
1986	0,32	0,15	0,11	-0,02	-0,03	0,29	-0,09	0,23
1987	0,16	-0,01	0,06	-0,02	-0,05	0,22	-0,12	0,19
1988	0,32	0,15	0,26	0,07	-0,01	0,22	-0,09	0,27
1989	0,51	0,34	0,38	0,05	-0,02	0,41	-0,07	0,26
1990	0,74	0,57	0,56	0,20	0,11	0,50	0,06	0,35
1991	0,71	0,52	0,54	0,18	0,29	0,67	0,26	0,46
1992	0,67	0,49	0,51	0,21	0,28	0,63	0,25	0,42
1993	0,19	0,07	0,48	0,24	0,26	0,57	0,23	0,38
1994	0,24	0,18	0,58	0,22	0,18	0,46	0,15	0,29
1995	0,18	0,05	0,37	0,11	0,15	0,40	0,12	0,25
1996	-0,09	-0,16	0,31	0,04	0,07	0,29	0,04	0,17
1997	-0,23	-0,25	0,19	-0,05	-0,02	0,18	-0,04	0,11
1998	-0,31	-0,31	0,12	-0,11	-0,10	0,13	-0,06	0,09
1999	-0,36	-0,32	0,16	-0,03	-0,04	0,16	-0,01	0,10
2000	-0,32	-0,25	0,15	-0,03	-0,05	0,13	-0,02	0,09
2001	-0,53	-0,47	0,03	-0,03	-0,02	0,14	0,00	0,08
2002	-0,73	-0,60	-0,06	-0,07	-0,03	0,12	-0,01	0,07
2003	-0,94	-0,75	-0,11	-0,07	-0,03	0,10	-0,01	0,06

Source: Own calculations based on IMF World Economic Outlook

Smoothed correlation of forecast

USA DEU	1 year ahead		Current year		1 year after		2 yrs. after	
	First	Second	First	Second	First	Second	First	Second
1985	-0,85	-0,84	-0,20	0,87	0,98	0,33	1,00	0,90
1986	-0,83	-0,81	-0,22	0,85	0,98	0,33	1,00	0,90
1987	-0,82	-0,83	-0,08	0,88	0,98	0,40	1,00	0,91
1988	-0,84	-0,85	-0,19	0,85	0,98	0,51	1,00	0,89
1989	-0,86	-0,87	-0,19	0,87	0,98	0,32	1,00	0,90
1990	-0,33	-0,39	0,17	0,88	0,97	0,64	0,98	0,94
1991	-0,32	-0,36	0,17	0,88	0,83	0,55	0,79	0,88
1992	-0,22	-0,25	0,21	0,88	0,84	0,57	0,80	0,88
1993	-0,44	-0,20	0,71	0,94	0,93	0,81	0,92	0,95
1994	-0,37	-0,12	0,70	0,94	0,92	0,78	0,90	0,93
1995	-0,33	-0,15	0,62	0,92	0,92	0,78	0,90	0,93
1996	-0,45	-0,21	0,65	0,92	0,92	0,78	0,90	0,93
1997	-0,48	-0,20	0,62	0,90	0,90	0,76	0,89	0,92
1998	-0,47	-0,21	0,61	0,89	0,88	0,75	0,89	0,92
1999	-0,47	-0,21	0,61	0,88	0,87	0,75	0,88	0,92
2000	-0,43	-0,20	0,62	0,88	0,88	0,75	0,89	0,92
2001	-0,51	-0,32	0,60	0,90	0,89	0,78	0,90	0,93
2002	-0,44	-0,06	0,66	0,91	0,91	0,83	0,92	0,95
2003	-0,42	0,07	0,72	0,93	0,93	0,86	0,93	0,96

Source: Own calculations based on IMF World Economic Outlook

Table 8-4: France**Smoothed bias of forecast**

FRA GDP	1 year ahead		Current year		1 year after		2 yrs. after	
	First	Second	First	Second	First	Second	First	Second
1985	1,01	1,01	0,97	0,79	0,53	0,41	0,39	0,27
1986	0,94	0,97	0,86	0,72	0,48	0,38	0,38	0,26
1987	0,86	0,90	0,84	0,76	0,48	0,37	0,36	0,29
1988	0,99	1,05	1,02	0,81	0,51	0,40	0,40	0,30
1989	1,15	1,14	1,07	0,82	0,55	0,43	0,42	0,31
1990	1,02	0,98	0,91	0,69	0,48	0,37	0,36	0,32
1991	0,71	0,69	0,71	0,59	0,41	0,32	0,31	0,32
1992	0,49	0,51	0,59	0,44	0,32	0,27	0,27	0,29
1993	0,09	0,09	0,44	0,40	0,26	0,25	0,25	0,32
1994	0,04	0,16	0,46	0,36	0,17	0,12	0,12	0,20
1995	-0,04	0,03	0,28	0,22	0,10	0,08	0,07	0,15
1996	-0,23	-0,14	0,22	0,17	0,06	0,02	0,02	0,08
1997	-0,30	-0,18	0,15	0,12	0,01	-0,02	-0,02	0,03
1998	-0,21	-0,08	0,20	0,16	0,05	0,02	0,00	0,07
1999	-0,17	-0,03	0,29	0,22	0,10	0,05	0,00	0,08
2000	-0,02	0,09	0,33	0,27	0,19	0,13	0,06	0,07
2001	-0,12	-0,06	0,25	0,25	0,18	0,14	0,08	0,07
2002	-0,26	-0,15	0,19	0,21	0,15	0,12	0,07	0,06
2003	-0,48	-0,31	0,11	0,19	0,17	0,11	0,06	0,06

Source: Own calculations based on IMF World Economic Outlook

Smoothed correlation of forecast

FRA GDP	1 year ahead		Current year		1 year after		2 yrs. after	
	First	Second	First	Second	First	Second	First	Second
1985	0,02	0,52	0,44	0,93	0,98	0,99	1,00	0,97
1986	0,01	0,54	0,37	0,91	0,98	0,99	1,00	0,98
1987	-0,04	0,48	0,38	0,90	0,98	0,99	1,00	0,97
1988	0,02	0,36	0,24	0,91	0,98	0,99	1,00	0,97
1989	-0,13	0,47	0,37	0,92	0,98	1,00	1,00	0,98
1990	-0,20	0,20	0,23	0,83	0,96	0,98	0,98	0,98
1991	-0,50	-0,17	0,21	0,85	0,97	0,98	0,99	0,98
1992	-0,57	-0,21	0,27	0,79	0,96	0,99	0,99	0,98
1993	-0,57	-0,37	0,66	0,90	0,98	0,99	0,99	0,99
1994	-0,57	-0,23	0,66	0,90	0,95	0,95	0,95	0,96
1995	-0,58	-0,25	0,53	0,84	0,94	0,94	0,95	0,96
1996	-0,61	-0,29	0,56	0,85	0,94	0,94	0,94	0,95
1997	-0,60	-0,30	0,54	0,84	0,93	0,94	0,94	0,94
1998	-0,39	-0,17	0,60	0,86	0,94	0,94	0,95	0,94
1999	-0,28	-0,11	0,59	0,85	0,94	0,94	0,95	0,94
2000	-0,15	0,05	0,67	0,88	0,94	0,94	0,95	0,95
2001	-0,17	-0,01	0,65	0,88	0,94	0,94	0,95	0,95
2002	-0,16	0,06	0,68	0,89	0,95	0,95	0,96	0,96
2003	-0,25	0,10	0,73	0,91	0,94	0,96	0,96	0,97

Source: Own calculations based on IMF World Economic Outlook

Table 8-5: Italy**Smoothed bias of forecast**

ITA GDP	1 year ahead		Current year		1 year after		2 yrs. after	
	First	Second	First	Second	First	Second	First	Second
1985	0,73	0,61	0,29	0,23	0,11	-0,09	-0,03	-0,07
1986	0,68	0,54	0,29	0,18	0,07	-0,10	-0,04	-0,10
1987	0,67	0,53	0,26	0,20	0,08	-0,11	-0,06	-0,10
1988	0,78	0,65	0,39	0,29	0,09	-0,08	-0,07	-0,09
1989	0,76	0,63	0,30	0,23	0,05	-0,16	-0,09	-0,10
1990	0,58	0,47	0,16	0,13	0,05	-0,16	-0,09	-0,12
1991	0,37	0,29	0,11	0,12	0,08	-0,14	-0,07	-0,09
1992	0,15	0,08	0,01	0,05	0,05	-0,15	-0,07	-0,09
1993	-0,19	-0,16	-0,11	-0,07	0,03	-0,15	-0,08	-0,04
1994	-0,13	-0,09	0,02	0,01	0,01	-0,13	-0,06	-0,03
1995	-0,07	-0,06	0,01	0,01	-0,02	-0,12	-0,06	-0,02
1996	-0,27	-0,23	-0,12	0,00	0,02	-0,07	-0,02	0,01
1997	-0,30	-0,23	-0,01	0,08	0,07	-0,01	0,04	0,04
1998	-0,34	-0,24	-0,06	0,04	0,10	-0,07	0,06	0,06
1999	-0,41	-0,30	-0,04	0,06	0,11	-0,03	0,06	0,06
2000	-0,29	-0,20	0,01	0,06	0,13	0,00	0,08	0,08
2001	-0,38	-0,32	-0,02	0,04	0,10	-0,02	0,06	0,06
2002	-0,55	-0,45	-0,12	0,01	0,09	-0,02	0,05	0,05
2003	-0,75	-0,60	-0,19	0,00	0,09	-0,01	0,05	0,05

Source: Own calculations based on IMF World Economic Outlook

Smoothed correlation of forecast

ITA GDP	1 year ahead		Current year		1 year after		2 yrs. after	
	First	Second	First	Second	First	Second	First	Second
1985	-0,13	-0,88	-0,17	0,31	0,73	0,61	0,84	0,93
1986	-0,07	-0,89	-0,04	0,31	0,73	0,64	0,85	0,92
1987	-0,06	-0,89	-0,05	0,31	0,73	0,64	0,84	0,92
1988	-0,13	-0,92	-0,16	0,39	0,80	0,71	0,89	0,95
1989	-0,11	-0,88	-0,20	0,29	0,78	0,63	0,88	0,95
1990	-0,58	-0,89	-0,25	0,34	0,85	0,75	0,91	0,96
1991	-0,74	-0,87	0,28	0,68	0,91	0,85	0,95	0,97
1992	-0,60	-0,63	0,56	0,82	0,94	0,91	0,97	0,99
1993	-0,34	0,49	0,82	0,92	0,97	0,96	0,98	0,99
1994	-0,28	0,40	0,74	0,88	0,97	0,96	0,98	0,99
1995	-0,25	0,43	0,75	0,88	0,97	0,96	0,98	0,99
1996	-0,38	0,29	0,70	0,89	0,97	0,96	0,98	0,99
1997	-0,37	0,29	0,64	0,86	0,96	0,95	0,97	0,99
1998	-0,36	0,31	0,64	0,85	0,96	0,94	0,97	0,99
1999	-0,38	0,29	0,64	0,85	0,96	0,94	0,97	0,99
2000	-0,39	0,31	0,66	0,86	0,96	0,94	0,97	0,99
2001	-0,42	0,19	0,66	0,87	0,96	0,94	0,97	0,99
2002	-0,35	0,33	0,70	0,90	0,97	0,95	0,98	0,99
2003	-0,47	0,34	0,75	0,91	0,97	0,96	0,98	0,99

Source: Own calculations based on IMF World Economic Outlook

Table 8-6: United Kingdom**Smoothed bias of forecast**

GBR GDP	1 year ahead		Current year		1 year after		2 yrs. after	
	First	Second	First	Second	First	Second	First	Second
1985	1,58	1,46	0,82	0,64	0,44	0,10	0,36	-0,24
1986	1,59	1,49	0,85	0,73	0,54	0,19	0,40	-0,14
1987	1,67	1,55	0,92	0,77	0,49	0,18	0,36	-0,12
1988	1,77	1,66	1,03	0,79	0,50	0,24	0,38	-0,31
1989	1,59	1,46	0,81	0,63	0,44	0,05	0,38	-0,29
1990	1,30	1,12	0,70	0,40	0,41	0,04	0,31	-0,29
1991	0,81	0,77	0,70	0,41	0,45	0,12	0,37	-0,18
1992	0,56	0,47	0,57	0,47	0,49	0,18	0,41	-0,09
1993	0,43	0,45	0,61	0,47	0,48	0,20	0,38	-0,07
1994	0,52	0,57	0,74	0,54	0,50	0,24	0,41	-0,01
1995	0,47	0,50	0,63	0,50	0,49	0,25	0,40	0,01
1996	0,43	0,44	0,63	0,51	0,51	0,28	0,42	0,07
1997	0,44	0,42	0,56	0,46	0,46	0,24	0,36	0,04
1998	0,43	0,41	0,59	0,49	0,51	0,30	0,41	0,09
1999	0,46	0,53	0,74	0,62	0,55	0,35	0,43	0,13
2000	0,59	0,63	0,76	0,63	0,58	0,39	0,47	0,20
2001	0,56	0,51	0,65	0,60	0,53	0,39	0,45	0,20
2002	0,40	0,40	0,56	0,55	0,50	0,34	0,41	0,17
2003	0,31	0,34	0,53	0,55	0,44	0,31	0,38	0,15

Source: Own calculations based on IMF World Economic Outlook

Smoothed correlation of forecast

GBR GDP	1 year ahead		Current year		1 year after		2 yrs. after	
	First	Second	First	Second	First	Second	First	Second
1985	-0,01	-0,41	-0,68	0,51	0,83	0,37	0,96	0,85
1986	-0,01	-0,38	-0,64	0,44	0,78	0,32	0,95	0,83
1987	-0,12	-0,27	-0,62	0,46	0,79	0,38	0,95	0,83
1988	-0,05	-0,31	-0,58	0,54	0,81	0,43	0,95	0,84
1989	0,04	-0,43	-0,70	0,52	0,84	0,36	0,96	0,85
1990	0,33	-0,68	0,53	0,64	0,91	0,73	0,97	0,88
1991	0,29	0,58	0,83	0,85	0,96	0,89	0,99	0,94
1992	0,49	0,48	0,84	0,88	0,97	0,91	0,99	0,95
1993	0,15	0,49	0,84	0,88	0,97	0,91	0,99	0,95
1994	0,28	0,54	0,83	0,88	0,97	0,91	0,99	0,95
1995	0,26	0,47	0,81	0,88	0,97	0,91	0,99	0,95
1996	0,25	0,44	0,81	0,88	0,97	0,91	0,99	0,94
1997	0,26	0,44	0,80	0,87	0,97	0,91	0,98	0,94
1998	0,26	0,43	0,80	0,87	0,96	0,91	0,97	0,94
1999	0,25	0,33	0,74	0,84	0,96	0,90	0,97	0,94
2000	0,17	0,32	0,75	0,84	0,96	0,90	0,97	0,93
2001	0,21	0,27	0,73	0,84	0,95	0,90	0,97	0,93
2002	0,11	0,27	0,72	0,84	0,95	0,90	0,97	0,93
2003	0,06	0,27	0,72	0,85	0,94	0,90	0,96	0,93

Source: Own calculations based on IMF World Economic Outlook

Table 8-7: Canada**Smoothed bias of forecast**

CAN GDP	1 year ahead		Current year		1 year after		2 yrs. after	
	First	Second	First	Second	First	Second	First	Second
1985	0,79	0,71	0,85	0,29	0,03	-0,21	-0,05	0,05
1986	0,69	0,64	0,68	0,17	-0,04	-0,28	-0,13	-0,03
1987	0,72	0,64	0,83	0,23	0,00	-0,23	-0,10	-0,06
1988	0,84	0,75	0,91	0,28	0,04	-0,21	-0,09	0,02
1989	0,71	0,62	0,79	0,26	0,01	-0,30	-0,12	0,03
1990	0,41	0,38	0,57	0,10	-0,06	-0,30	-0,14	0,09
1991	-0,15	0,02	0,41	-0,03	-0,11	-0,31	-0,16	0,04
1992	-0,41	-0,27	0,23	-0,15	-0,11	-0,26	-0,13	0,07
1993	-0,62	-0,45	0,12	-0,16	-0,10	-0,22	-0,10	0,07
1994	-0,52	-0,31	0,24	-0,07	-0,06	-0,18	-0,07	0,14
1995	-0,60	-0,38	0,06	-0,01	0,01	-0,11	-0,01	0,17
1996	-0,64	-0,45	0,03	0,02	0,02	-0,09	0,03	0,20
1997	-0,44	-0,30	0,10	0,07	0,06	-0,03	0,07	0,20
1998	-0,33	-0,21	0,18	0,17	0,16	0,07	0,16	0,26
1999	-0,02	0,11	0,45	0,35	0,28	0,17	0,25	0,28
2000	0,25	0,37	0,56	0,36	0,30	0,24	0,31	0,32
2001	0,14	0,23	0,46	0,31	0,30	0,24	0,31	0,28
2002	0,23	0,33	0,50	0,28	0,28	0,23	0,29	0,26
2003	0,05	0,16	0,38	0,27	0,28	0,21	0,26	0,23

Source: Own calculations based on IMF World Economic Outlook

Smoothed correlation of forecast

CAN GDP	1 year ahead		Current year		1 year after		2 yrs. after	
	First	Second	First	Second	First	Second	First	Second
1985	0,53	0,57	-0,03	0,87	0,98	0,79	0,89	0,89
1986	0,62	0,64	-0,10	0,85	0,98	0,82	0,89	0,89
1987	0,62	0,65	-0,18	0,83	0,98	0,82	0,89	0,88
1988	0,58	0,63	-0,06	0,86	0,98	0,83	0,90	0,88
1989	0,50	0,57	-0,05	0,87	0,98	0,82	0,91	0,89
1990	0,70	0,77	0,43	0,94	0,98	0,90	0,95	0,94
1991	0,33	0,90	0,80	0,97	0,99	0,96	0,98	0,97
1992	0,09	0,69	0,78	0,96	0,99	0,96	0,98	0,97
1993	0,00	0,57	0,75	0,96	0,99	0,96	0,98	0,97
1994	0,17	0,60	0,77	0,96	0,99	0,96	0,98	0,97
1995	0,16	0,58	0,70	0,95	0,98	0,95	0,97	0,97
1996	0,21	0,60	0,71	0,95	0,98	0,95	0,97	0,97
1997	0,15	0,59	0,73	0,95	0,98	0,95	0,97	0,97
1998	0,16	0,60	0,73	0,94	0,97	0,94	0,96	0,97
1999	0,04	0,40	0,64	0,92	0,96	0,94	0,96	0,97
2000	-0,08	0,30	0,67	0,92	0,96	0,94	0,96	0,97
2001	-0,01	0,32	0,68	0,93	0,97	0,94	0,96	0,97
2002	-0,02	0,28	0,68	0,93	0,96	0,94	0,96	0,97
2003	-0,08	0,22	0,66	0,93	0,97	0,95	0,96	0,97

Source: Own calculations based on IMF World Economic Outlook