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**REVISIONS IN QUARTERLY GDP OF OECD COUNTRIES: AN UPDATE**

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## REVISIONS IN QUARTERLY GDP OF OECD COUNTRIES: AN UPDATE

### 1. Introduction

This paper examines the revisions histories of eighteen OECD countries for the first estimates of constant prices, seasonally adjusted quarter-on-quarter GDP growth rates as published in successive monthly issues of the OECD publication: *Main Economic Indicators* (MEI) from May-95 to May-06.

This paper updates the paper presented at the OECD Working Party on National Accounts in October 2005<sup>1</sup> (Di Fonzo 2005b).

The main characteristics of this update are the following:

- Estimates from recent publications of Main Economic Indicators (from September 2005 to May 2006) have been added to the previous ones in the database. The analysis of revisions has been extended to 1995.1-2004.4 (while last year it was 1997.2- 2004.1).<sup>2</sup>
- Countries were given the opportunity to express their point of view and explain the reasons for revisions as presented in the results of the analysis. Comments from countries are available in section 5. Some countries expressed their concern that this revision analysis did not make a difference between revisions due to changes in definitions or in methodology and revisions due to changes in the sources of quarterly national accounts during the “normal” cycle of compilation. However, the data in our possession does not allow differentiating between these origins, thus the statistics presented in this paper mix revisions due to definitional changes and “normal” revisions. Some countries are able to distinguish between these origins (see section 5).

As in last year’s paper, the analysis covers 18 countries by exploiting data contained in the OECD *Main Economic Indicators Original Release Data and Revisions Database*- now available on the OECD web site at <http://stats.oecd.org/mei/default.asp?rev=1>. This database encourages the development of revisions analysis on an internationally comparable basis for quarterly national accounts.

The present study is focused on quarterly GDP, and countries included are those for which the revisions record is long enough to permit sensible statistical analysis. They are Australia, Belgium, Canada, Denmark, Finland, France, Germany, Italy, Japan, Korea, Netherlands, New Zealand, Norway, Portugal, Spain, Switzerland, United Kingdom and USA. The available revisions database permits to analyse the size and direction of the revisions for each country, and to perform comparisons across countries. For full organizational and methodological aspects readers can refer to Di Fonzo (2005a, 2005b).

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1 <http://www.oecd.org/dataoecd/13/49/35440080.pdf>

2 An important change was made for Korea which analysis is now limited to 99Q4-present time, rather than, in the previous study, 95Q1-present time. This is because QNA data for Korea available at OECD previous to 99Q3 was not adapted to revision analysis.

This paper is organized as follows. Section 2 contains some brief information about the organization of the database. Main results are presented in graphical form and explained in section 3. Section 4 shows the summary indices used to analyze the revisions, which are presented in detail in section 6, making a comparison across countries. Section 5 includes country's comments. More detailed information on the revision process and the organization of the database are presented in the annex.

## 2. Organization of the database

The detailed results of this analysis are available as a series of two spreadsheets for each country on the OECD website:

[http://www.oecd.org/document/21/0,2340,en\\_2649\\_33715\\_37047509\\_1\\_1\\_1\\_1,00.html](http://www.oecd.org/document/21/0,2340,en_2649_33715_37047509_1_1_1_1,00.html).

The data have been organized as suited for the revisions analysis, as shown in Annex 1 using the Australian example.

In the paper we will use the following notations:

- P: First published estimate of GDP
- L: Latest published estimate of GDP (at least 3 years after the first)
- Y1: Estimate published 1 year later
- Y2: Estimate published 2 years later
- Y3: Estimate published 3 years later
- Y1\_P: Revision between Y1 and P
- Y2\_P: Revision between Y2 and P
- Y3\_P: Revision between Y3 and P
- L\_P: Revision between L and P

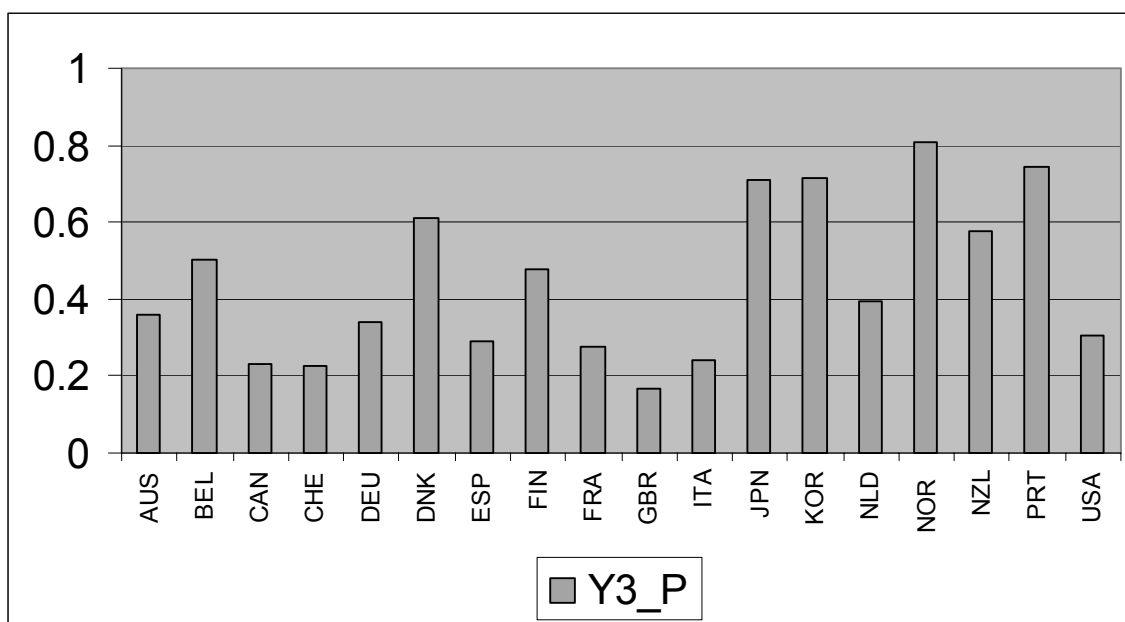
## 3. Main results

The main results are given in the figures 1 and 2.<sup>3</sup>

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<sup>3</sup> Unlike in last year paper's Figure 1, statistics are given here for the whole period of 95.1-2002.4, rather than 1997 1-2002.4.

**Figure 1: Revisions between three years later estimates (Y3) and the first published estimates (P) of q-o-q GDP growth rates (%) on MEI. Mean absolute revision (1995.1-2002.4)\***



\* BEL: 96.4;2002.4, DEU: 95.2.2002.4, PRT: 1996.1.2002.4, KOR 1999.4 2002.4.

Figure 1 presents in graphical form the size of the revisions for each country in the period 1995.1-2002.4, as measured by the mean absolute revision of 3 years later published estimates to the first published estimates (Y3\_P).

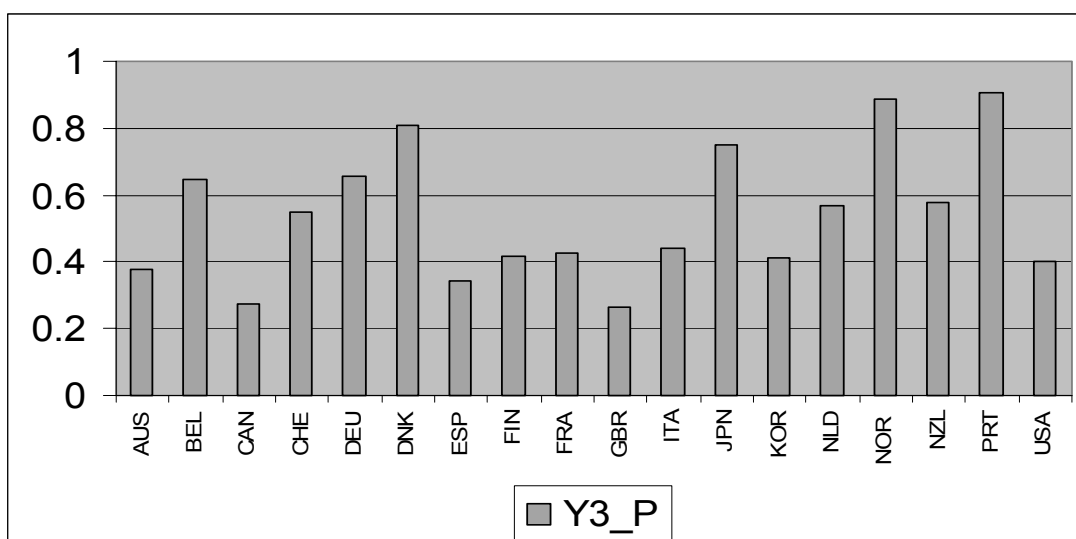
The revision has been of a different magnitude for the analysed countries. For Australia, Canada, France, Germany, Italy, Netherlands, Spain, Switzerland, United Kingdom and USA it is quite small (it does not exceed 0.4). Belgium, Denmark, Finland display larger revisions<sup>4</sup> as well as New Zealand. Portugal, Norway, Japan and Korea show the largest values<sup>5</sup>.

Figure 2 show the same range of countries and data using the relative mean absolute revision. This statistic is interesting for international comparisons because, in difference with the mean absolute revision, it takes into account the average size of growth in the given period for the given country (see section 4), (high growth numbers will probably result in higher absolute revisions). This statistic is significantly different for Korea than the previous one.

<sup>4</sup> See country comments, in particular for Belgium, in section 5.

<sup>5</sup> See country comments for Korea and Japan, in section 5.

**Figure 2: Revisions between three years later estimates (Y3) and the first published estimates (P) of q-o-q GDP growth rates (%) on MEI. Relative mean absolute revision (1995.1-2002.4)\***

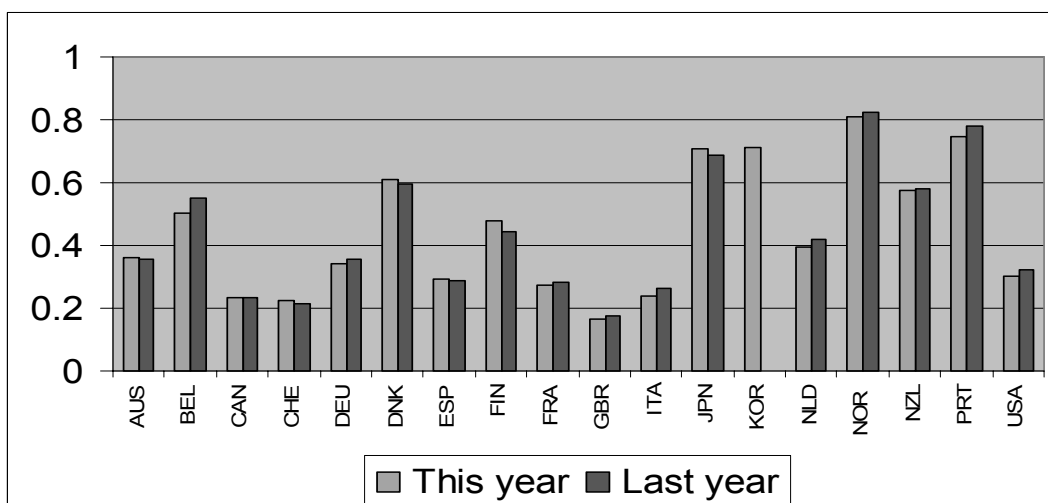


\* BEL: 96.4;2002.4, DEU: 95.2.2002.4, PRT: 1997.1-2002.4, KOR 1999.4 2002.4.

### 3.1 A comparison between last year's and this year's analysis results

This section compares the results presented last year to the WPNA (Di Fonzo, 2005) to results of this year, which includes an extended analysis for 2002. Unsurprisingly there are only slight changes for all the analysed countries. Figure 3 shows a comparison between previous and updated results of the mean absolute revision of 3 years later published estimates to the first published estimates (Y3\_P) of q-o-q GDP growth rates (%) on MEI for the analysed period.

**Figure 3: Comparison between previous year's and this year's updated results of revisions of the 3 years later published estimates to the first published estimates (Y3\_P) of q-o-q GDP growth rates (%) on MEI. Mean absolute revision.**



KOR: cannot be compared because last year data for Korea was not relevant.

#### 4. Summary indices for the revisions analysis

The statistical indices used to lead the revisions analysis of GDP q-o-q growth rates are

- *Mean revision*

$$\bar{R} = \frac{1}{n} \sum_{t=1}^n (L_t - P_t) = \frac{1}{n} \sum_{t=1}^n R_t$$

where  $L_t$  is the later estimate,  $P_t$  is the earlier estimate,  $R_t = L_t - P_t$  is the revision and  $n$  is the number of observations.

- *Mean absolute revision*

$$MAR = \frac{1}{n} \sum_{t=1}^n |L_t - P_t| = \frac{1}{n} \sum_{t=1}^n |R_t|$$

This statistic measures the dimension of the revision  $R_t$ . If small it means that there are reliable estimates

- *Mean squared revision*

$$MSR = \frac{1}{n} \sum_{t=1}^n (L_t - P_t)^2 = \frac{1}{n} \sum_{t=1}^n R_t^2$$

It gives information about the “dispersion” of the estimates.

We use a simple and robust approach based on the Heteroskedasticity Autocorrelation consistent estimate’s variance proposed by Newey and West (1987) to evaluate the significance of the mean revision calculating a t test in a different way to what currently done by ONS (Jenkinson and Stuttard, 2004) and Stuttard (2005)<sup>6</sup>

- *Relative mean absolute revision*

$$RMAR = \frac{\sum_{t=1}^n |L_t - P_t|}{\sum_{t=1}^n |L_t|} = \frac{\sum_{t=1}^n |R_t|}{\sum_{t=1}^n |L_t|}$$

This indicator allows to asses the relative robustness of two estimates. It measures the proportion of Pt revised in Lt

- $\% \text{Sign}(L) = \% \text{Sign}(E)$

It gives information about the percentage of quarters for which the earlier estimate of q-o-q growth rate has the same sign as the later one.

Other useful statistics are the range of revisions and the amount of positive and negative revisions.

#### 5. Country’s comments

Countries were asked to send comments on the first results.

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6 For technical details on this point see Di Fonzo (2005).

- Australia:

The results are similar to those calculated internally by the ABS. There appear to be slight differences in the results below the 1 and 2 decimal point level, but this could be the result of rounding differences, slight data variations that were observed or some other reason.

In terms of reasons for the revisions there are a range of possibilities including updated source data, seasonal reanalysis and the application of improved concepts and methods. Work is currently underway within the Australian National Accounts program to decompose the GDP revisions by component of GDP to isolate the key drivers.

The paper focuses almost exclusively on the mean absolute revision. While this gives a useful indicator of the size and dispersion of the revisions it does not give an indication of whether the revisions tend in a particular direction. This may be of most interest to compilers and forecasters.

One thing not clear from any of the previous papers or from the revisions database itself, is what the respective countries 'GDP' measure actually represents. For Australia the measure used is an average of the Expenditure, Income and Production/Output approaches to measuring GDP. Other countries' headline measures are likely to be different. Our internal research suggests that the different measures are subject to different amounts of revision and hence international comparability through comparing headline GDP may not be as comparable as one might think.

- Belgium:

1. Our own analysis of the revisions in the published Belgian quarterly national accounts produces quite similar results, but nevertheless smaller:

- figure 1: revision between 3 years later estimates and the first published estimates of q-o-q GDP growth rates (mean absolute revision on the period 1997.2-2002.4): 0.469%;
- figure 2: successive revisions to the first published estimates of q-o-q GDP growth rates (mean absolute revision on the period 1997.2-2002.4): 0.332% for year t+1, 0.389% for year t+2 and 0.469% for year t+3;
- figure 3: revisions to successive estimates of q-o-q GDP growth rates (mean absolute revision on the period 1997.2-2002.4): 0.332% for year t+1, 0.244% for year t+2 and 0.174% for year t+3.

2. The results of the analysis are perturbed by two major methodological changes introduced during the observed period:

- the introduction in 1999 of the ESA 1995 methodology in the quarterly and yearly national accounts, which concerns all the European countries;
- the introduction in 2001 of a correction of the calendar effects in the Belgian quarterly accounts; before 2001, the Belgian accounts were only corrected for the seasonal patterns.

This second methodological change, which represents a major step forward in the quality of the Belgian quarterly results, is a determining factor in the analysis of the revisions in Belgian GDP because it introduced a break in the series.

From 2001, the statistics of the revisions are much smaller:

- figure 1: 0.275% (against 0.469%);
- figure 2: 0.105% (against 0.332%), 0.253% (against 0.389%) and 0.275% (against 0.469%).

- Canada:
- Denmark:
- Finland:
- France:
- Germany:
- Italy:
- Japan:

The following points should be considered in revisions analyses on Japan's quarterly national accounts.

- (1) It should be taken into account in comparative analyses that differences of the frequency, timing, and impact of benchmark revisions among countries must, in general, affect the magnitude of revisions.
  - (2) During the analyzed period, we have held some benchmark revisions in every five years\* (2000Q3, 2005Q3), transition to the 1993 SNA (2000Q3), introduction of the new estimation method (2002Q2), and introduction of the chain-linking method (2004Q3) - in Japan's national accounts. These factors could account for relatively large revisions.
  - (3) In Japan, benchmark Input-Output Tables are revised every five years, and benchmark revisions of national accounts are conducted incorporating renewed I-O Tables. This could be a factor which makes the impact of benchmark revisions more significant.
  - (4) Especially, we should note the influence of the methodological changes in compiling quarterly national accounts from 2002Q2 forward. In contrast to annual estimation based on supply-side statistics, quarterly national accounts had conventionally been compiled using only demand-side data, and this was thought to be a factor in large revisions in annual estimation. Under the new method, efforts are made to reduce the size of revisions in annual estimation by using more supply-side statistics, and by enhancing methodological consistency between quarterly and annual estimation. Therefore, the following two points could be argued:
    - In this paper, the analysis is given over the periods before and after the introduction of the new method. Therefore, it should be taken into account that the size of revisions is affected by the methodological changes.
    - On the other hand, the size of revisions is expected to be smaller during the period after the introduction of the new method. The values of the mean absolute revision in the period from 2002Q2 up to the last quarters for which data are available are as follows: 0.41 (Y1\_P), 0.37 (Y2\_P), and 0.33 (Y3\_P), which are smaller than the corrected results in the paper (0.57, 0.64, and 0.79, respectively).
  - (5) We incorporate as much information available from source data as possible in quarterly national accounts. In light of transparency, we compile quarterly accounts by the previously published method without any artificial judgments. So, revisions to source data lead straight to GDP revisions.
- Korea:

This paper mainly compares the size of revisions across OECD countries using mean absolute revision. We suggest that the relative mean absolute revision is also a good indicator for international

comparison. Korea belongs to the high growth rate countries (the mean absolute estimates of Y3 is 1.8% from 1999 Q3 to 2002 Q4). This may be one of reasons that make the magnitude of mean absolute revision large. From our study, we found that the size of relative mean absolute revision (Y3\_P) of our country is moderate compared to other OECD countries.

- Netherlands

Revision analysis should distinguish between conceptual or methodological revisions and revisions due to the normal cycle of calculation of quarterly national accounts.

- New Zealand
- Norway:
- Portugal:
- Spain:
- Switzerland :
- United Kingdom:
- USA:

## **6. Revisions analysis of GDP for OECD countries**

Summary indices of the revisions to the first published estimates for the longest common period under analysis (whole) are presented in table 1.

Below are summary indices of revisions to the first published estimates vs. estimates 1 year later, 2 years later, 3 years and latest estimates for the period 1995.1-2004.4, 1995.1-2003.4, 1995.1-2002.4 depending on the variable (Y1\_P, Y2\_P, Y3\_P, L\_P).

**Table 1: Summary indices of revisions to the first published estimates**

Y1\_P

<i>Summary statistics</i>	AUS	BEL	CAN	CHE	DEU	DNK	ESP	FIN	FRA	GBR	ITA	JPN	KOR	NLD	NOR	NZL	PRT	USA
<b>sample</b>	95.1-04.4	96.4-05.1	95.1-04.4	95.1-04.4	95.2-04.4	95.1-04.4	95.1-04.4	95.1-04.4	95.1-04.4	95.1-05.1	95.1-05.1	95.1-05.1	99.4-04.4	95.1-04.4	95.1-04.4	95.1-05.1	96.1-04.4	95.1-05.1
<b>n</b>	40	34	40	40	39	40	40	40	40	40	40	40	21	40	40	40	36	41
<b>mean absolute revision</b>	0.2863	0.3208	0.1338	0.2338	0.1481	0.3989	0.1261	0.3331	0.1388	0.1614	0.1998	0.4504	0.3896	0.2976	0.6557	0.3060	0.5390	0.1830
<b>mean revision (Rbar)</b>	-0.0327	0.0369	0.0028	-0.0211	-0.0165	0.1731	0.0218	0.1029	0.0103	0.0473	0.0054	-0.0476	-0.0010	0.0322	0.0203	0.0297	-0.0648	0.0399
<b>st. dev(Rbar) - HAC formula</b>	0.0485	0.0597	0.0299	0.0584	0.0259	0.0664	0.0254	0.0555	0.0319	0.0295	0.0318	0.0741	0.0957	0.0680	0.1119	0.0657	0.1213	0.0304
<b>mean squared revision</b>	0.1496	0.2681	0.0376	0.0925	0.0389	0.2898	0.0338	0.1918	0.0363	0.0416	0.1168	0.3217	0.2564	0.2059	0.7186	0.1335	0.6448	0.0566
<b>relative mean absolute revision</b>	0.3409	0.5003	0.1916	0.5448	0.3650	0.5480	0.1688	0.3180	0.2359	0.2689	0.4330	0.5001	0.2987	0.4782	0.6531	0.3465	0.6465	0.2219
<b>t-stat</b>	-0.6734	0.6176	0.0926	-0.3618	-0.6360	2.6069	0.8583	1.8553	0.3232	1.6041	0.1694	-0.6421	-0.0104	0.4728	0.1809	0.4518	-0.5338	1.3116
<b>t-crit</b>	2.0227	2.0345	2.0227	2.0227	2.0244	2.0227	2.0227	2.0227	2.0227	2.0227	2.0227	2.0227	2.0860	2.0227	2.0227	2.0227	2.0301	2.0211
<b>Is mean revision significant?</b>	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>Correlation</b>	0.7273	0.6130	0.8990	0.7773	0.9081	0.7156	0.7501	0.9183	0.9047	0.7140	0.7881	0.8707	0.8776	0.6742	0.7063	0.9020	0.6924	0.8740
<b>Min Revision</b>	-1.1941	-2.1082	-0.7169	-0.9757	-0.5642	-1.1300	-0.3371	-0.9571	-0.5288	-0.5449	-1.3494	-1.3741	-0.9810	-1.3197	-2.0699	-0.6374	-2.5242	-0.5436
<b>Max Revision</b>	0.9995	0.9368	0.4319	0.5380	0.3503	1.4600	0.7578	1.2075	0.6292	0.5096	1.2156	1.2218	0.9091	1.6254	1.8116	0.8531	1.5432	0.6234
<b>Range</b>	2.1935	3.0450	1.1488	1.5137	0.9145	2.5900	1.0949	2.1646	1.1580	1.0545	2.5650	2.5959	1.8901	2.9451	3.8815	1.4906	4.0674	1.1670
<b>% Later &gt; Earlier</b>	57.5	61.8	62.5	47.5	46.2	62.5	55.0	57.5	50.0	62.5	50.0	55.0	52.4	57.5	57.5	50.0	50.0	68.3
<b>% Sign(Later) = Sign(Earlier)</b>	97.5	91.2	97.5	80.0	92.3	72.5	100.0	85.0	95.0	97.5	85.0	87.5	100.0	90.0	80.0	85.0	83.3	100.0
<b>Variance of Later estimate</b>	0.3030	0.3449	0.1916	0.2178	0.2126	0.5046	0.0704	0.9598	0.1955	0.0635	0.2358	1.2114	1.0433	0.2246	1.4028	0.7004	0.9679	0.2324
<b>Variance of Earlier estimate</b>	0.2272	0.3445	0.1780	0.0818	0.2070	0.3905	0.0623	1.1558	0.1398	0.0734	0.3008	1.2565	1.0518	0.3679	0.9221	0.6398	1.1044	0.1879
<b>UM %</b>	0.7134	0.5072	0.0204	0.4819	0.6973	10.3434	1.4079	5.5175	0.2924	5.3682	0.0249	0.7038	0.0004	0.5023	0.0571	0.6605	0.6505	2.8159
<b>UR %</b>	3.8872	19.2046	2.1514	6.3658	3.3828	4.6929	7.5474	16.0463	1.8892	19.9218	23.5145	8.2167	6.5026	40.0037	2.1286	1.5167	21.2050	0.2604
<b>UD %</b>	95.3993	80.2882	97.8282	93.1523	95.9199	84.9637	91.0447	78.4363	97.8184	74.7101	76.4606	91.0795	93.4970	59.4940	97.8143	97.8228	78.1445	96.9237

Y2\_P

<i>Summary statistics</i>	AUS	BEL	CAN	CHE	DEU	DNK	ESP	FIN	FRA	GBR	ITA	JPN	KOR	NLD	NOR	NZL	PRT	USA
<b>sample</b>	95.1-03.4	96.4-04.1	95.1-03.4	95.1-03.4	95.2-03.4	95.1-03.4	95.1-03.4	95.1-03.4	95.1-03.4	95.1-04.1	95.1-04.1	95.1-04.1	99.4-03.4	95.1-03.4	95.1-03.4	95.1-04.1	96.1-03.4	95.1-04.1
<b>n</b>	36	30	36	36	35	36	36	36	36	36	36	36	17	36	36	36	32	37
<b>mean absolute revision</b>	0.2954	0.4347	0.2024	0.2440	0.2563	0.5199	0.1939	0.5103	0.2008	0.1749	0.2455	0.5104	0.5710	0.3388	0.5400	0.3850	0.8495	0.2691
<b>mean revision (Rbar)</b>	0.0037	0.0239	0.0436	0.0096	-0.0118	0.1954	0.0403	0.1456	0.0395	0.0456	0.0264	0.0290	0.1101	-0.0071	0.0323	0.0594	0.0358	-0.0304
<b>st. dev(Rbar) - HAC formula</b>	0.0581	0.0820	0.0376	0.0632	0.0458	0.0850	0.0431	0.0745	0.0422	0.0327	0.0435	0.0843	0.1301	0.0650	0.0972	0.0689	0.1587	0.0548
<b>mean squared revision</b>	0.1370	0.3439	0.0585	0.0936	0.0987	0.4953	0.0617	0.4127	0.0639	0.0488	0.1666	0.4373	0.5411	0.2393	0.4336	0.2287	1.4657	0.1176
<b>relative mean absolute revision</b>	0.3185	0.6408	0.2708	0.5947	0.5762	0.7003	0.2501	0.4502	0.3367	0.2989	0.4870	0.5513	0.3690	0.5300	0.5501	0.4267	0.9420	0.3433
<b>t-stat</b>	0.0630	0.2920	1.1597	0.1524	-0.2573	2.2972	0.9361	1.9544	0.9346	1.3974	0.6083	0.3434	0.8464	-0.1099	0.3325	0.8624	0.2258	-0.5546
<b>t-crit</b>	2.0301	2.0452	2.0301	2.0301	2.0322	2.0301	2.0301	2.0301	2.0301	2.0301	2.0301	2.0301	2.1199	2.0301	2.0301	2.0301	2.0395	2.0281
<b>Is mean revision significant?</b>	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>Correlation</b>	0.7387	0.5799	0.8763	0.7322	0.7869	0.5545	0.6638	0.8339	0.8384	0.6868	0.7284	0.8294	0.8028	0.6313	0.8220	0.8328	0.3380	0.7749
<b>Min Revision</b>	-0.7085	-1.6220	-0.4561	-0.7622	-0.5962	-1.5282	-0.3398	-0.9689	-0.4877	-0.5539	-1.5375	-1.9813	-1.3606	-1.1658	-1.4288	-1.1315	-3.3455	-0.7400
<b>Max Revision</b>	0.9382	1.3517	0.5073	0.5544	0.5263	2.1528	0.6680	1.4438	0.6701	0.4279	1.2950	1.3121	1.5043	1.5500	1.0215	0.8630	2.6519	0.6269
<b>Range</b>	1.6467	2.9737	0.9634	1.3166	1.1225	3.6810	1.0079	2.4127	1.1579	0.9819	2.8325	3.2934	2.8649	2.7158	2.4503	1.9944	5.9975	1.3669
<b>% Later &gt; Earlier</b>	47.22	56.67	55.56	50.00	54.29	58.33	55.56	55.56	58.33	58.33	52.78	55.56	70.59	52.78	55.56	50.00	43.75	48.65
<b>% Sign(Later) = Sign(Earlier)</b>	100.00	80.00	97.22	77.78	85.71	72.22	100.00	77.78	94.44	97.22	94.44	80.56	94.12	91.67	75.00	88.89	65.63	94.59
<b>Variance of Later estimate</b>	0.2919	0.4382	0.2436	0.1992	0.2415	0.5847	0.1040	0.9562	0.2098	0.0729	0.2854	1.1861	1.4167	0.2411	1.3337	0.6909	1.0968	0.2881
<b>Variance of Earlier estimate</b>	0.2161	0.3758	0.1912	0.0864	0.2190	0.4257	0.0667	1.2811	0.1429	0.0761	0.3226	1.3470	1.2425	0.3807	0.9167	0.6533	1.1154	0.2075
<b>UM %</b>	0.0098	0.1666	3.2475	0.0991	0.1408	7.7057	2.6324	5.1403	2.4356	4.2693	0.4194	0.1917	2.2404	0.0213	0.2410	1.5435	0.0876	0.7861
<b>UR %</b>	3.1568	15.2624	0.0405	1.1514	6.6953	10.5396	3.1844	24.2671	0.0556	16.7672	19.1989	15.1444	4.6812	39.3861	0.0153	5.8864	33.6320	1.3332
<b>UD %</b>	96.8335	84.5710	96.7120	98.7495	93.1639	81.7547	94.1833	70.5926	97.5088	78.9635	80.3816	84.6639	93.0783	60.5927	99.7437	92.5701	66.2804	97.8807

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<i>Summary statistics</i>	AUS	BEL	CAN	CHE	DEU	DNK	ESP	FIN	FRA	GBR	ITA	JPN	KOR	NLD	NOR	NZL	PRT	USA
<b>sample</b>	95.1-02.4	96.4-02.4	95.1-02.4	95.1-02.4	95.2-02.4	95.1-02.4	95.1-02.4	95.1-02.4	95.1-02.4	95.1-03.1	95.1-03.1	95.1-03.1	99.4-02.4	95.1-02.4	95.1-02.4	95.1-03.1	96.1-02.4	95.1-03.1
<b>n</b>	32	25	32	32	31	32	32	32	32	32	32	32	13	32	32	32	28	33
<b>mean absolute revision</b>	0.3612	0.5005	0.2319	0.2252	0.3408	0.6097	0.2915	0.4756	0.2738	0.1676	0.2408	0.7090	0.7124	0.3943	0.8092	0.5759	0.7454	0.3041
<b>mean revision (Rbar)</b>	0.0291	0.0590	0.1314	0.0291	-0.0493	0.2147	0.1054	0.1249	0.0465	0.0986	0.0964	0.2117	0.1561	0.0078	0.1421	0.1939	0.0143	-0.0204
<b>st. dev(Rbar) - HAC formula</b>	0.0615	0.1021	0.0473	0.0634	0.0624	0.1040	0.0717	0.0780	0.0511	0.0321	0.0466	0.1244	0.1831	0.0885	0.1162	0.0847	0.1539	0.0631
<b>mean squared revision</b>	0.1956	0.4093	0.0795	0.0806	0.1604	0.6161	0.1439	0.3767	0.1074	0.0466	0.1546	0.8869	0.8094	0.3481	0.9434	0.5197	0.9282	0.1327
<b>relative mean absolute revision</b>	0.3754	0.6454	0.2744	0.5490	0.6568	0.8079	0.3428	0.4156	0.4278	0.2631	0.4416	0.7519	0.4100	0.5703	0.8897	0.5770	0.9074	0.4014
<b>t-stat</b>	0.4733	0.5781	2.7779	0.4594	-0.7905	2.0646	1.4703	1.6018	0.9096	3.0728	2.0701	1.7021	0.8525	0.0883	1.2227	2.2897	0.0930	-0.3225
<b>t-crit</b>	2.0395	2.0639	2.0395	2.0395	2.0423	2.0395	2.0395	2.0395	2.0395	2.0395	2.0395	2.0395	2.1788	2.0395	2.0395	2.0395	2.0518	2.0369
<b>Is mean revision significant?</b>	NO	NO	YES	NO	NO	YES	NO	NO	NO	YES	YES	NO	NO	NO	NO	YES	NO	NO
<b>Correlation</b>	0.6975	0.5761	0.8657	0.7283	0.7346	0.4504	0.5205	0.8491	0.7608	0.7419	0.7739	0.6784	0.6589	0.4131	0.5306	0.7017	0.5092	0.7338
<b>Min Revision</b>	-0.8922	-1.4744	-0.4070	-0.6333	-0.6835	-1.6749	-0.4770	-0.9962	-0.5841	-0.2544	-1.3338	-2.9277	-1.3721	-1.6861	-1.7010	-1.6512	-2.2844	-0.6874
<b>Max Revision</b>	0.8520	1.1162	0.6882	0.4998	0.7378	2.2349	1.0721	1.4104	0.6554	0.6351	1.2985	1.8333	1.8169	1.8041	2.0979	1.5998	2.3366	0.9043
<b>Range</b>	1.7442	2.5906	1.0952	1.1331	1.4212	3.9098	1.5491	2.4066	1.2396	0.8895	2.6323	4.7610	3.1890	3.4902	3.7989	3.2510	4.6209	1.5917
<b>% Later &gt; Earlier</b>	50.00	52.00	75.00	56.25	38.71	56.25	43.75	50.00	56.25	71.88	65.63	56.25	61.54	62.50	62.50	65.63	53.57	45.45
<b>% Sign(Later) = Sign(Earlier)</b>	93.75	84.00	96.88	78.13	80.65	65.63	100.00	81.25	90.63	96.88	90.63	71.88	100.00	81.25	71.88	84.38	71.43	93.94
<b>Variance of Later estimate</b>	0.3771	0.5203	0.2481	0.1688	0.3372	0.5793	0.1786	0.9639	0.2496	0.0694	0.2861	1.1496	1.3130	0.2286	0.9527	0.9000	0.5877	0.2793
<b>Variance of Earlier estimate</b>	0.2141	0.4313	0.1899	0.0770	0.2288	0.4513	0.0731	1.2930	0.1376	0.0733	0.3467	1.4353	0.9222	0.3547	1.0128	0.6797	1.1930	0.1990
<b>UM %</b>	0.4325	0.8510	21.7445	1.0512	1.5170	7.4833	7.7268	4.1441	2.0132	20.8579	6.0094	5.0522	3.0097	0.0176	2.1395	7.2370	0.0221	0.3121
<b>UR %</b>	0.6014	14.2163	0.0257	0.5818	1.6746	17.5644	1.7722	24.4478	0.0784	12.1600	19.7919	24.9791	5.2050	45.5106	25.2973	4.8503	53.0771	2.5563
<b>UD %</b>	98.9661	84.9328	78.2298	98.3670	96.8084	74.9523	90.5010	71.4081	97.9084	66.9821	74.1986	69.9687	91.7853	54.4718	72.5632	87.9127	46.9008	97.1316

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<i>Summary statistics</i>	AUS	BEL	CAN	CHE	DEU	DNK	ESP	FIN	FRA	GBR	ITA	JPN	KOR	NLD	NOR	NZL	PRT	USA
<b>sample</b>	95.1-02.4	96.4-02.4	95.1-02.4	95.1-02.4	95.2-02.4	95.1-02.4	95.1-02.4	95.1-02.4	95.1-02.4	95.1-03.1	95.1-03.1	95.1-03.1	99.4-02.4	95.1-02.4	95.1-02.4	95.1-03.1	96.1-02.4	95.1-03.1
<b>n</b>	32	25	32	32	31	32	32	32	32	32	32	32	13	32	32	32	28	33
<b>mean absolute revision</b>	0.4002	0.5345	0.2680	0.4439	0.3110	0.5856	0.3994	0.7110	0.2685	0.3044	0.3595	0.8025	0.8879	0.3802	0.7132	0.6490	0.7524	0.3513
<b>mean revision (Rbar)</b>	0.0522	0.0767	0.1631	0.0628	0.0208	0.1658	0.1807	0.0601	0.0552	0.1606	0.0666	0.0769	0.0627	0.0440	0.2087	0.2876	0.1178	-0.0031
<b>st. dev(Rbar) - HAC formula</b>	0.0596	0.0971	0.0542	0.0917	0.0639	0.0975	0.0591	0.0983	0.0475	0.0553	0.0664	0.1355	0.2559	0.0699	0.1164	0.1072	0.1511	0.0676
<b>mean squared revision</b>	0.2634	0.4704	0.1040	0.3344	0.1417	0.6301	0.2195	0.6741	0.1021	0.1441	0.2735	1.0866	1.2524	0.2530	0.7681	0.6312	1.0322	0.1893
<b>relative mean absolute revision</b>	0.3960	0.7649	0.3101	0.7460	0.5589	0.8378	0.4308	0.6761	0.4300	0.4356	0.6323	1.2133	0.5434	0.5318	0.6436	0.6233	0.8203	0.4526
<b>t-stat</b>	0.8762	0.7907	3.0103	0.6850	0.3260	1.7004	3.0572	0.6120	1.1619	2.9047	1.0028	0.5678	0.2449	0.6300	1.7932	2.6818	0.7795	-0.0464
<b>t-crit</b>	2.0395	2.0639	2.0395	2.0395	2.0423	2.0395	2.0395	2.0395	2.0395	2.0395	2.0395	2.0395	2.1788	2.0395	2.0395	2.0395	2.0518	2.0369
<b>Is mean revision significant?</b>	NO	NO	YES	NO	NO	NO	YES	NO	NO	YES	NO	NO	NO	NO	NO	YES	NO	NO
<b>Correlation</b>	0.5776	0.4295	0.8385	0.4620	0.7709	0.3922	0.5299	0.6974	0.7344	0.2916	0.5636	0.5097	0.5086	0.6023	0.6928	0.6392	0.4672	0.6119
<b>Min Revision</b>	-1.1625	-1.6748	-0.4925	-1.3725	-0.6488	-1.7829	-0.5509	-1.6018	-0.6643	-0.3370	-1.3833	-2.5905	-1.7559	-1.0228	-1.5733	-1.5497	-1.8334	-1.0679
<b>Max Revision</b>	1.2631	1.0820	0.7503	1.0245	0.5817	1.7782	0.8933	1.5451	0.6080	0.8635	1.5455	1.8871	1.9325	1.3384	2.3023	1.6003	3.1740	0.9829
<b>Range</b>	2.4255	2.7567	1.2428	2.3970	1.2305	3.5611	1.4442	3.1469	1.2723	1.2005	2.9288	4.4776	3.6884	2.3612	3.8757	3.1499	5.0074	2.0508
<b>% Later &gt; Earlier</b>	50.00	64.00	71.88	62.50	54.84	56.25	56.25	50.00	59.38	65.63	46.88	56.25	61.54	53.13	68.75	65.63	57.14	60.61
<b>% Sign(Later) = Sign(Earlier)</b>	100.00	80.00	96.88	71.88	74.19	71.88	96.88	78.13	93.75	96.88	84.38	75.00	100.00	84.38	81.25	81.25	85.71	93.94
<b>Variance of Later estimate</b>	0.3731	0.3816	0.2604	0.4195	0.3468	0.5378	0.2598	0.5088	0.2129	0.0933	0.2621	0.5566	1.5376	0.2671	1.3043	0.8276	0.6450	0.2783
<b>Variance of Earlier estimate</b>	0.2141	0.4313	0.1899	0.0770	0.2288	0.4513	0.0731	1.2930	0.1376	0.0733	0.3467	1.4353	0.9222	0.3547	1.0128	0.6797	1.1930	0.1990
<b>UM %</b>	1.0354	1.2521	25.5861	1.1797	0.3063	4.3644	14.8850	0.5364	2.9817	17.8917	1.6218	0.5447	0.3137	0.7658	5.6727	13.1001	1.3436	0.0052
<b>UR %</b>	4.5849	32.5777	0.0604	0.1403	0.4185	23.4218	0.0001	60.6939	1.0083	22.8955	32.9766	61.5448	8.6739	31.9438	6.0250	9.3551	49.8108	8.0271
<b>UD %</b>	94.3797	66.1703	74.3535	98.6801	99.2752	72.2139	85.1149	38.7697	96.0100	59.2128	65.4016	37.9105	91.0124	67.2904	88.3023	77.5448	48.8456	91.9677

## ANNEX

*A.1. Organization of the database*

Each country has two files: the basic revision spreadsheet (called GDPm) and a spreadsheet where statistics are calculated (called revspreadsheet).

Using the Australian GDPm dataset as an example, the database of GDP in levels (table 4) is used to obtain the QoQ rates of change (table 5), based on which one obtains the revisions triangle (table 6) is calculated, from which the revisions spreadsheet is immediately extracted (table 7).

**Table 4: n excerpt from the QNA-MEI revisions database: level estimates<sup>7</sup>**

*Revisions QNA-MEI dataset (OECD)*  
*AUSTRALIA, Gross Domestic Product (constant prices, seasonally adjusted)*  
*Level*

AUS		Relating to period	1994Q 3	1994 Q4	1995 Q1	1995 Q2	1995Q 3	1995Q 4	1996 Q1	1996 Q2	1996 Q3	1996 Q4	1997 Q1	1997 Q2	1997 Q3
		<b>First estimate</b>	412.9	414.3	417.3	417.8	423.1	426.1	433.3	437.2	441.9	446.9	450.7	452.2	455.7
		<b>December t+1</b>	412.5	414.4	417.2	418.2	425.2	428.6	437.2	437.9	442.8	445.0	449.2	457.7	460.7
		<b>December t+2</b>	411.6	416.8	421.0	422.6	430.2	432.1	440.3	441.2	447.3	450.0	541.2	549.8	555.4
		<b>December t+3</b>	412.8	419.8	421.6	425.0	433.6	435.2	526.0	526.0	533.9	536.8	539.3	549.6	554.5
		<b>1 year later</b>	412.4	416.2	416.7	418.2	425.2	431.1	437.7	438.8	443.1	450.2	450.1	457.7	544.6
		<b>2 years later</b>	412.3	418.6	419.0	420.9	430.2	434.8	440.0	441.2	524.9	526.5	532.0	549.8	555.2
		<b>3 years later</b>	415.1	422.0	421.9	425.0	433.6	510.9	519.8	526.0	534.6	536.0	540.6	549.6	554.5
unit	level	Latest estimate	148.0	148.4	149.5	151.0	153.1	154.2	156.7	157.5	159.1	160.9	161.0	165.0	165.8
2001-02 \$A bln	QR	May-04	135.5	135.8	136.6	138.1	140.3	141.3	143.4	144.1	145.7	146.8	147.6	150.4	151.1
2001-02 \$A bln	QR	Jun-04	<b>135.5</b>	<b>135.8</b>	<b>136.6</b>	<b>138.1</b>	<b>140.3</b>	<b>141.3</b>	<b>143.4</b>	<b>144.1</b>	<b>145.7</b>	<b>146.8</b>	<b>147.6</b>	<b>150.4</b>	<b>151.1</b>
2001-02 \$A bln	QR	Jul-04	135.5	135.8	136.6	138.1	140.3	141.3	143.4	144.1	145.7	146.8	147.6	150.4	151.1
2001-02 \$A bln	QR	Aug-04	135.5	135.8	136.6	138.1	140.3	141.3	143.4	144.1	145.7	146.8	147.6	150.4	151.1
2002-03 \$A bln	QR	Sep-04	<b>139.1</b>	<b>139.4</b>	<b>140.2</b>	<b>141.8</b>	<b>144.0</b>	<b>144.8</b>	<b>147.2</b>	<b>147.9</b>	<b>149.5</b>	<b>150.6</b>	<b>151.5</b>	<b>154.4</b>	<b>155.1</b>
2002-03 \$A bln	QR	Oct-04	139.1	139.4	140.2	141.8	144.0	144.8	147.2	147.9	149.5	150.6	151.5	154.4	155.1
2002-03 \$A bln	QR	Nov-04	139.1	139.4	140.2	141.8	144.0	144.8	147.2	147.9	149.5	150.6	151.5	154.4	155.1
2002-03 \$A bln	QR	Dec-04	<b>139.2</b>	<b>139.5</b>	<b>140.3</b>	<b>141.9</b>	<b>144.2</b>	<b>145.1</b>	<b>147.4</b>	<b>148.2</b>	<b>149.8</b>	<b>150.8</b>	<b>151.6</b>	<b>154.8</b>	<b>155.3</b>
2002-03 \$A bln	QR	Jan-05	139.2	139.5	140.3	141.9	144.2	145.1	147.4	148.2	149.8	150.8	151.6	154.8	155.3
2002-03 \$A bln	QR	Feb-05	139.2	139.5	140.3	141.9	144.2	145.1	147.4	148.2	149.8	150.8	151.6	154.8	155.3
2002-03 \$A bln	QR	Mar-05	<b>139.2</b>	<b>139.5</b>	<b>140.3</b>	<b>141.9</b>	<b>144.2</b>	<b>145.2</b>	<b>147.4</b>	<b>148.1</b>	<b>149.7</b>	<b>150.9</b>	<b>151.6</b>	<b>154.9</b>	<b>155.4</b>
2002-03 \$A bln	QR	Apr-05	139.2	139.5	140.3	141.9	144.2	145.2	147.4	148.1	149.7	150.9	151.6	154.9	155.4
2002-03 \$A bln	QR	May-05	139.2	139.5	140.3	141.9	144.2	145.2	147.4	148.1	149.7	150.9	151.6	154.9	155.4
2002-03 \$A bln	QR	Jun-05	<b>139.2</b>	<b>139.5</b>	<b>140.3</b>	<b>141.9</b>	<b>144.1</b>	<b>145.2</b>	<b>147.4</b>	<b>148.1</b>	<b>149.7</b>	<b>150.9</b>	<b>151.6</b>	<b>154.9</b>	<b>155.4</b>
2002-03 \$A bln	QR	Jul-05	139.2	139.5	140.3	141.9	144.1	145.2	147.4	148.1	149.7	150.9	151.6	154.9	155.4
2002-03 \$A bln	QR	Aug-05	139.2	139.5	140.3	141.9	144.1	145.2	147.4	148.1	149.7	150.9	151.6	154.9	155.4
2002-03 \$A bln	QR	Sep-05	139.2	139.5	140.3	141.9	144.1	145.2	147.4	148.1	149.7	150.9	151.6	154.9	155.4
2003-04 \$A bln	QR	Oct-05	<b>143.3</b>	<b>143.7</b>	<b>144.5</b>	<b>146.0</b>	<b>148.2</b>	<b>149.4</b>	<b>151.5</b>	<b>152.2</b>	<b>153.8</b>	<b>155.2</b>	<b>155.8</b>	<b>159.3</b>	<b>159.7</b>
2003-04 \$A bln	QR	Nov-05	143.3	143.7	144.5	146.0	148.2	149.4	151.5	152.2	153.8	155.2	155.8	159.3	159.7
2003-04 \$A bln	QR	Dec-05	143.3	143.7	144.5	146.0	148.2	149.4	151.5	152.2	153.8	155.2	155.8	159.3	159.7
2003-04 \$A bln	QR	Jan-06	<b>148.0</b>	<b>148.5</b>	<b>149.6</b>	<b>150.9</b>	<b>153.1</b>	<b>154.2</b>	<b>156.7</b>	<b>157.6</b>	<b>159.1</b>	<b>160.9</b>	<b>161.0</b>	<b>165.0</b>	<b>165.8</b>
2003-04 \$A bln	QR	Feb-06	148.0	148.5	149.6	150.9	153.1	154.2	156.7	157.6	159.1	160.9	161.0	165.0	165.8
2003-04 \$A bln	QR	Mar-06	<b>148.0</b>	<b>148.4</b>	<b>149.5</b>	<b>151.0</b>	<b>153.1</b>	<b>154.2</b>	<b>156.7</b>	<b>157.5</b>	<b>159.1</b>	<b>160.9</b>	<b>161.0</b>	<b>165.0</b>	<b>165.8</b>
2003-04 \$A bln	QR	Apr-06	148.0	148.4	149.5	151.0	153.1	154.2	156.7	157.5	159.1	160.9	161.0	165.0	165.8
2003-04 \$A bln	QR	May-06	148.0	148.4	149.5	151.0	153.1	154.2	156.7	157.5	159.1	160.9	161.0	165.0	165.8

<sup>7</sup> his web sheet contains values with different precision. When possible, values have been taken from the QNA-MEI database, where more precision is available. Numbers with less precision have been taken from MEI paper editions.

Table 5: An excerpt from the QNA-MEI revisions database: quarter-on-quarter growth rates

*Revisions QNA-MEI dataset (OECD)*  
*AUSTRALIA, Gross Domestic Product (constant prices, seasonally adjusted)*  
*QoQ rates of changes (%)*

Relating to period	1994 Q4	1995 Q1	1995 Q2	1995 Q3	1995 Q4	1996 Q1	1996 Q2	1996 Q3	1996 Q4	1997 Q1	1997 Q2	1997 Q3	1997Q 4	1998 Q1	1998 Q2	1998 Q3	1998 Q4	1999 Q1	1999 Q2
First estimate	0.4	0.7	0.7	1.4	0.5	1.9	0.3	1.2	0.8	0.9	1.2	1.1	0.4	1.7	0.9	1.0	1.1	1.1	0.2
December t+1	0.5	0.1	0.2	1.7	0.8	1.2	0.2	1.1	0.5	-0.2	1.9	0.6	0.8	1.5	0.7	0.9	1.5	1.3	0.4
December t+2	1.3	0.3	0.4	1.8	0.4	1.2	0.2	1.4	0.6	0.8	1.6	1.0	1.3	1.5	1.0	1.5	1.6	1.0	0.7
December t+3	1.7	0.0	0.8	2.0	0.4	1.8	0.0	1.5	0.5	0.7	1.9	0.9	1.2	1.6	0.7	1.6	1.6	0.7	0.6
1 year later	0.9	0.1	0.2	1.7	0.6	1.5	0.3	1.3	0.7	-0.3	1.9	0.4	1.4	1.1	0.7	0.9	1.4	0.9	0.5
2 years later	1.5	0.1	0.5	1.8	0.3	1.2	0.2	1.2	0.3	0.5	1.6	1.0	1.4	1.2	0.9	1.6	1.6	1.2	0.4
3 years later	1.7	0.0	0.8	2.0	0.4	1.5	0.0	1.6	0.3	0.7	1.9	0.9	1.3	1.4	1.1	1.6	1.7	0.8	0.6
Latest estimate																			
May-02	0.5	0.2	1.5	1.5	0.4	1.8	0.3	1.3	0.5	0.5	1.8	0.8	1.2	1.5	0.8	1.7	1.7	0.8	0.8
Jun-02	0.5	0.2	1.5	1.5	0.4	1.8	0.3	1.3	0.5	0.5	1.8	0.8	1.2	1.5	0.8	1.7	1.7	0.8	0.8
Jul-02	0.3	0.4	1.4	1.4	0.6	1.7	0.2	1.3	0.7	0.3	1.8	0.8	1.3	1.6	0.6	1.6	1.9	0.8	0.6
Aug-02	0.3	0.4	1.4	1.4	0.6	1.7	0.2	1.3	0.7	0.3	1.8	0.8	1.3	1.6	0.6	1.6	1.9	0.8	0.6
Sep-02	0.3	0.4	1.4	1.4	0.6	1.7	0.2	1.3	0.7	0.3	1.8	0.8	1.3	1.6	0.6	1.6	1.9	0.8	0.6
Oct-02	0.4	0.4	1.4	1.4	0.5	1.8	0.3	1.4	0.8	0.3	1.9	0.7	1.3	1.5	0.8	1.7	1.9	0.7	0.6
Nov-02	0.4	0.4	1.4	1.4	0.5	1.8	0.3	1.4	0.8	0.3	1.9	0.7	1.3	1.5	0.8	1.7	1.9	0.7	0.6
Dec-02	0.4	0.4	1.4	1.4	0.5	1.8	0.3	1.4	0.8	0.3	1.9	0.7	1.3	1.5	0.8	1.7	1.9	0.7	0.6
Jan-03	0.2	0.5	1.4	1.5	0.7	1.5	0.4	1.4	0.8	0.2	1.8	0.7	1.3	1.5	0.8	1.6	2.2	0.2	0.8
Feb-03	0.2	0.5	1.4	1.5	0.7	1.5	0.4	1.4	0.8	0.2	1.8	0.7	1.3	1.5	0.8	1.6	2.2	0.2	0.8
Mar-03	0.2	0.5	1.4	1.5	0.7	1.5	0.4	1.4	0.8	0.2	1.8	0.7	1.3	1.5	0.8	1.6	2.2	0.2	0.8
Apr-03	0.3	0.5	1.4	1.5	0.7	1.5	0.4	1.3	0.8	0.3	1.8	0.7	1.3	1.4	0.9	1.6	2.2	0.2	0.8
May-03	0.3	0.5	1.4	1.5	0.7	1.5	0.4	1.3	0.8	0.3	1.8	0.7	1.3	1.4	0.9	1.6	2.2	0.2	0.8
Jun-03	0.2	0.5	1.3	1.5	0.7	1.6	0.3	1.4	0.8	0.4	1.6	0.8	1.4	1.4	0.9	1.5	2.3	0.1	0.8
Jul-03	0.2	0.5	1.3	1.5	0.7	1.6	0.3	1.4	0.8	0.4	1.6	0.8	1.4	1.4	0.9	1.5	2.3	0.1	0.8
Aug-03	0.2	0.5	1.3	1.5	0.7	1.6	0.3	1.4	0.8	0.4	1.6	0.8	1.4	1.4	0.9	1.5	2.3	0.1	0.8
Sep-03	0.2	0.5	1.3	1.5	0.7	1.6	0.3	1.4	0.8	0.4	1.6	0.8	1.4	1.4	0.9	1.5	2.3	0.1	0.8
Oct-03	0.3	0.5	1.2	1.6	0.7	1.6	0.3	1.3	0.8	0.4	1.6	0.8	1.5	1.3	0.9	1.5	2.2	0.1	0.9
Nov-03	0.3	0.5	1.2	1.6	0.7	1.6	0.3	1.3	0.8	0.4	1.6	0.8	1.5	1.3	0.9	1.5	2.2	0.1	0.9
Dec-03	0.3	0.5	1.2	1.6	0.7	1.6	0.3	1.3	0.8	0.4	1.6	0.8	1.5	1.3	0.9	1.5	2.2	0.1	0.9
Jan-04	0.3	0.6	1.1	1.6	0.8	1.4	0.5	1.1	0.8	0.4	1.9	0.5	1.6	1.2	1.2	1.5	1.7	0.6	0.9
Feb-04	0.3	0.6	1.1	1.6	0.8	1.4	0.5	1.1	0.8	0.4	1.9	0.5	1.6	1.2	1.2	1.5	1.7	0.6	0.9
Mar-04	0.3	0.6	1.1	1.6	0.8	1.4	0.5	1.1	0.8	0.4	1.9	0.5	1.6	1.2	1.2	1.5	1.7	0.6	0.9
Apr-04	0.3	0.6	1.1	1.6	0.7	1.5	0.4	1.1	0.8	0.5	1.9	0.5	1.5	1.3	1.1	1.5	1.7	0.7	0.9
May-04	0.3	0.6	1.1	1.6	0.7	1.5	0.4	1.1	0.8	0.5	1.9	0.5	1.5	1.3	1.1	1.5	1.7	0.7	0.9
Jun-04	0.3	0.6	1.1	1.6	0.7	1.5	0.5	1.1	0.8	0.5	1.9	0.4	1.5	1.2	1.2	1.5	1.7	0.7	0.9
Jul-04	0.3	0.6	1.1	1.6	0.7	1.5	0.5	1.1	0.8	0.5	1.9	0.4	1.5	1.2	1.2	1.5	1.7	0.7	0.9
Aug-04	0.3	0.6	1.1	1.6	0.7	1.5	0.5	1.1	0.8	0.5	1.9	0.4	1.5	1.2	1.2	1.5	1.7	0.7	0.9
Sep-04	0.2	0.6	1.1	1.6	0.6	1.6	0.5	1.1	0.7	0.6	1.9	0.4	1.5	1.3	1.2	1.5	1.6	0.8	1.0
Oct-04	0.2	0.6	1.1	1.6	0.6	1.6	0.5	1.1	0.7	0.6	1.9	0.4	1.5	1.3	1.2	1.5	1.6	0.8	1.0
Nov-04	0.2	0.6	1.1	1.6	0.6	1.6	0.5	1.1	0.7	0.6	1.9	0.4	1.5	1.3	1.2	1.5	1.6	0.8	1.0
Dec-04	0.2	0.6	1.2	1.6	0.7	1.6	0.5	1.1	0.7	0.5	2.1	0.4	1.4	1.5	1.0	1.6	1.7	0.6	0.9
Jan-05	0.2	0.6	1.2	1.6	0.7	1.6	0.5	1.1	0.7	0.5	2.1	0.4	1.4	1.5	1.0	1.6	1.7	0.6	0.9
Feb-05	0.2	0.6	1.2	1.6	0.7	1.6	0.5	1.1	0.7	0.5	2.1	0.4	1.4	1.5	1.0	1.6	1.7	0.6	0.9
Mar-05	0.2	0.5	1.1	1.6	0.7	1.5	0.5	1.1	0.8	0.5	2.2	0.3	1.3	1.5	1.0	1.5	1.8	0.5	1.0
Apr-05	0.2	0.5	1.1	1.6	0.7	1.5	0.5	1.1	0.8	0.5	2.2	0.3	1.3	1.5	1.0	1.5	1.8	0.5	1.0
May-05	0.2	0.5	1.1	1.6	0.7	1.5	0.5	1.1	0.8	0.5	2.2	0.3	1.3	1.5	1.0	1.5	1.8	0.5	1.0
Jun-05	0.3	0.5	1.1	1.6	0.7	1.5	0.5	1.1	0.8	0.5	2.2	0.3	1.3	1.6	1.0	1.5	1.8	0.5	1.0
Jul-05	0.3	0.5	1.1	1.6	0.7	1.5	0.5	1.1	0.8	0.5	2.2	0.3	1.3	1.6	1.0	1.5	1.8	0.5	1.0
Aug-05	0.3	0.5	1.1	1.6	0.7	1.5	0.5	1.1	0.8	0.5	2.2	0.3	1.3	1.6	1.0	1.5	1.8	0.5	1.0
Sep-05	0.3	0.5	1.1	1.6	0.7	1.5	0.5	1.1	0.8	0.5	2.2	0.3	1.3	1.6	1.0	1.5	1.8	0.5	1.0
Oct-05	0.3	0.5	1.1	1.5	0.8	1.4	0.5	1.1	0.9	0.4	2.3	0.2	1.4	1.7	0.8	1.5	1.9	0.5	1.0
Nov-05	0.3	0.5	1.1	1.5	0.8	1.4	0.5	1.1	0.9	0.4	2.3	0.2	1.4	1.7	0.8	1.5	1.9	0.5	1.0
Dec-05	0.3	0.5	1.1	1.5	0.8	1.4	0.5	1.1	0.9	0.4	2.3	0.2	1.4	1.7	0.8	1.5	1.9	0.5	1.0
Jan-06	0.4	0.7	0.9	1.5	0.7	1.7	0.6	1.0	1.1	0.1	2.5	0.4	1.2	1.4	0.8	1.6	1.8	0.6	1.1
Feb-06	0.4	0.7	0.9	1.5	0.7	1.7	0.6	1.0	1.1	0.1	2.5	0.4	1.2	1.4	0.8	1.6	1.8	0.6	1.1
Mar-06	0.3	0.7	1.0	1.4	0.7	1.6	0.5	1.0	1.1	0.1	2.5	0.5	1.2	1.4	0.7	1.6	1.8	0.6	1.1
Apr-06	0.3	0.7	1.0	1.4	0.7	1.6	0.5	1.0	1.1	0.1	2.5	0.5	1.2	1.4	0.7	1.6	1.8	0.6	1.1
May-06	0.3	0.7	1.0	1.4	0.7	1.6	0.5	1.0	1.1	0.1	2.5	0.5	1.2	1.4	0.7	1.6	1.8	0.6	1.1

Table 6: An excerpt from the QNA-MEI revisions database: revisions triangle

*Revisions QNA-MEI dataset (OECD)*  
*AUSTRALIA, Gross Domestic Product (constant prices, seasonally adjusted)*  
*Revisions to QoQ rates of changes*

Relating to period	1994 Q4	1995 Q1	1995 Q2	1995 Q3	1995 Q4	1996 Q1	1996 Q2	1996 Q3	1996 Q4	1997 Q1	1997 Q2	1997 Q3	1997 Q4	1998 Q1	1998 Q2	1998 Q3	1998 Q4	1999 Q1	1999 Q2
First estimate	0.4	0.7	0.7	1.4	0.5	1.9	0.3	1.2	0.8	0.9	1.2	1.1	0.4	1.7	0.9	1.0	1.1	1.1	0.2
December t+1	0.5	0.1	0.2	1.7	0.8	1.2	0.2	1.1	0.5	-0.2	1.9	0.6	0.8	1.5	0.7	0.9	1.5	1.3	0.4
December t+2	1.3	0.3	0.4	1.8	0.4	1.2	0.2	1.4	0.6	0.8	1.6	1.0	1.3	1.5	1.0	1.5	1.6	1.0	0.7
December t+3	1.7	0.0	0.8	2.0	0.4	1.8	0.0	1.5	0.5	0.7	1.9	0.9	1.2	1.6	0.7	1.6	1.6	0.7	0.6
1 year later	0.9	0.1	0.2	1.7	0.6	1.5	0.3	1.3	0.7	-0.3	1.9	0.4	1.4	1.1	0.7	0.9	1.4	0.9	0.5
2 years later	1.5	0.1	0.5	1.8	0.3	1.2	0.2	1.2	0.3	0.5	1.6	1.0	1.4	1.2	0.9	1.6	1.6	1.2	0.4
3 years later	1.7	0.0	0.8	2.0	0.4	1.5	0.0	1.6	0.3	0.7	1.9	0.9	1.3	1.4	1.1	1.6	1.7	0.8	0.6
Latest estimate																			
May-02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Jun-02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Jul-02	-0.1	0.2	-0.1	-0.1	0.2	-0.1	0.0	0.0	0.2	-0.2	0.0	0.0	0.1	0.0	-0.1	-0.1	0.2	0.0	-0.1
Aug-02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sep-02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Oct-02	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	-0.1	0.0
Nov-02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dec-02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Jan-03	-0.2	0.1	-0.1	0.1	0.2	-0.2	0.1	0.0	0.1	0.0	0.0	0.0	0.0	-0.1	0.1	-0.1	0.3	-0.5	0.1
Feb-03	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mar-03	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Apr-03	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.1	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0
May-03	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Jun-03	0.0	0.1	-0.1	0.0	0.0	0.1	-0.1	0.1	-0.1	0.1	-0.2	0.1	0.1	-0.1	0.1	0.0	0.0	-0.1	0.1
Jul-03	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Aug-03	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sep-03	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Oct-03	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.1	-0.1	0.0	0.0	-0.1	0.0	0.0
Nov-03	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dec-03	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Jan-04	0.0	0.0	-0.2	0.1	0.1	-0.1	0.2	-0.2	0.0	0.0	0.3	-0.3	0.1	-0.1	0.2	0.0	-0.5	0.5	0.1
Feb-04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mar-04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Apr-04	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	-0.1	0.1	0.0	0.0	-0.1	0.1	0.0	0.0	-0.1	0.1	-0.1
May-04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Jun-04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Jul-04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Aug-04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sep-04	0.0	0.0	0.0	-0.1	-0.1	0.1	0.0	0.0	-0.1	0.1	0.1	0.0	-0.1	0.0	0.0	0.0	-0.1	0.1	0.0
Oct-04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nov-04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dec-04	0.0	0.0	0.1	0.0	0.1	-0.1	0.0	0.0	0.0	-0.1	0.1	-0.1	-0.1	0.3	-0.2	0.1	0.1	-0.2	0.0
Jan-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Feb-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mar-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Apr-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
May-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Jun-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Jul-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Aug-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sep-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Oct-05	0.0	0.0	0.0	-0.1	0.1	-0.1	0.0	0.0	0.1	-0.1	0.1	-0.1	0.1	0.1	-0.1	0.0	0.1	-0.1	0.0
Nov-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dec-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Jan-06	0.1	0.2	-0.2	0.0	-0.1	0.2	0.1	-0.1	0.2	-0.3	0.2	0.2	-0.2	-0.3	-0.1	0.1	-0.1	0.1	0.1
Feb-06	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mar-06	0.0	0.0	0.1	-0.1	0.0	0.0	-0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Apr-06	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
May-06	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 7: An excerpt from the QNA-MEI revisions database. Revisions spreadsheet

*Revisions QNA-MEI dataset (OECD)*  
*AUSTRALIA, Gross Domestic Product (constant prices, seasonally adjusted)*  
*Revisions spreadsheet*

Relating to Period	First estimate	Value December year t+1	Value December year t+2	Value December year t+3	Estimate published 1 year later	Estimate published 2 years later	Estimate published 3 years later	Latest estimate	Latest estimate published at least 3 years later
1994Q4	0.4	0.5	1.3	1.7	0.9	1.5	1.7	0.3	0.3
1995Q1	0.7	0.1	0.3	0.0	0.1	0.1	0.0	0.7	0.7
1995Q2	0.7	0.2	0.4	0.8	0.2	0.5	0.8	1.0	1.0
1995Q3	1.4	1.7	1.8	2.0	1.7	1.8	2.0	1.4	1.4
1995Q4	0.5	0.8	0.4	0.4	0.6	0.3	0.4	0.7	0.7
1996Q1	1.9	1.2	1.2	1.8	1.5	1.2	1.5	1.6	1.6
1996Q2	0.3	0.2	0.2	0.0	0.3	0.2	0.0	0.5	0.5
1996Q3	1.2	1.1	1.4	1.5	1.3	1.2	1.6	1.0	1.0
1996Q4	0.8	0.5	0.6	0.5	0.7	0.3	0.3	1.1	1.1
1997Q1	0.9	-0.2	0.8	0.7	-0.3	0.5	0.7	0.1	0.1
1997Q2	1.2	1.9	1.6	1.9	1.9	1.6	1.9	2.5	2.5
1997Q3	1.1	0.6	1.0	0.9	0.4	1.0	0.9	0.5	0.5
1997Q4	0.4	0.8	1.3	1.2	1.4	1.4	1.3	1.2	1.2
1998Q1	1.7	1.5	1.5	1.6	1.1	1.2	1.4	1.4	1.4
1998Q2	0.9	0.7	1.0	0.7	0.7	0.9	1.1	0.7	0.7
1998Q3	1.0	0.9	1.5	1.6	0.9	1.6	1.6	1.6	1.6
1998Q4	1.1	1.5	1.6	1.6	1.4	1.6	1.7	1.8	1.8
1999Q1	1.1	1.3	1.0	0.7	0.9	1.2	0.8	0.6	0.6
1999Q2	0.2	0.4	0.7	0.6	0.5	0.4	0.6	1.1	1.1
1999Q3	1.6	1.4	1.2	1.3	1.3	1.4	1.5	0.4	0.4
1999Q4	1.0	1.0	1.3	1.2	1.1	1.3	1.1	1.6	1.6
2000Q1	1.1	0.8	0.5	0.2	1.2	0.5	0.2	0.9	0.9
2000Q2	0.7	0.8	1.0	1.3	0.8	1.0	1.3	1.2	1.2
2000Q3	0.6	0.3	0.4	0.2	0.3	0.2	0.1	0.2	0.2
2000Q4	-0.6	-0.4	-0.6	-0.7	-0.5	-0.6	-0.5	-1.0	-1.0
2001Q1	1.1	0.9	0.9	0.7	0.6	0.9	0.8	1.1	1.1
2001Q2	0.9	1.0	1.2	1.2	1.0	1.2	1.3	0.8	0.8
2001Q3	1.1	1.2	1.0	1.3	1.3	1.2	1.3	1.1	1.1
2001Q4	1.3	1.1	1.5	1.1	1.2	1.1	1.1	1.1	1.1
2002Q1	0.9	0.4	0.7	0.8	0.5	0.7	0.8	1.0	1.0
2002Q2	0.6	0.8	1.3	1.2	0.8	1.1	1.2	1.2	1.2
2002Q3	0.9	1.0	0.8	0.9	0.8	0.8	0.9	0.9	0.9
2002Q4	0.4	0.3	0.4	0.4	0.1	0.5	0.1	0.1	0.1
2003Q1	0.7	0.8	0.8		0.9	0.7		0.9	
2003Q2	0.1	0.4	0.2		0.2	0.2		0.1	
2003Q3	1.2	1.7	1.7		1.7	1.6		1.7	
2003Q4	1.4	1.5	1.6		1.6	1.6		1.6	
2004Q1	0.2	0.4			0.3			0.8	
2004Q2	0.6	0.6			0.7			0.5	
2004Q3	0.3	0.4			0.4			0.4	
2004Q4	0.1	0.3			0.3			0.3	
2005Q1	0.7							0.7	
2005Q2	1.3							1.3	
2005Q3	0.2							0.3	
2005Q4	0.5							0.5	

The revisions spreadsheet may finally be used to calculate summary statistics on revisions for various comparisons, in the second dataset, called “revspreadsheet”, as shown in table 8.

**Table 8: An excerpt from the QNA-MEI revisions database. Summary statistics for various comparisons**

*AUSTRALIA, Gross Domestic Product (constant prices, seasonally adjusted)*

*Common sample*

<b>Summary statistics</b>	<b>Y1_P</b>	<b>Y2_P</b>	<b>Y3_P</b>	<b>L_P</b>	<b>Y2_Y1</b>	<b>Y3_Y2</b>	<b>L_Y3</b>	<b>Y3_Y1</b>
<b>sample</b>	95.1-02.4	95.1-02.4	95.1-02.4	95.1-02.4	95.1-02.4	95.1-02.4	95.1-02.4	95.1-02.4
<b>n</b>	32	32	32	32	32	32	32	32
<b>mean absolute revision</b>	0.313143	0.30642	0.361211	0.40024521	0.236055	0.178526	0.345291	0.283014
<b>mean revision (Rbar)</b>	-0.0855	-0.0218	0.0291	0.0522	0.0637	0.0509	0.0231	0.1146
<b>st. dev(Rbar) - HAC formula</b>	0.0519	0.0616	0.0615	0.0596	0.0490	0.0304	0.0532	0.0564
<b>mean squared revision</b>	0.1742	0.1459	0.1957	0.2634	0.0931	0.0450	0.1989	0.1411
<b>relative mean absolute revision</b>	0.3636	0.3354	0.3755	0.3960	0.2584	0.1856	0.3416	0.2942
<b>t-stat</b>	-1.6486	-0.3547	0.4736	0.8764	1.2989	1.6758	0.4349	2.0324
<b>t-crit</b>	2.0395	2.0395	2.0395	2.0395	2.0395	2.0395	2.0395	2.0395
<b>Is mean revision significant?</b>	NO	NO	NO	NO	NO	NO	NO	NO
<b>Correlation</b>	0.6876	0.7122	0.6975	0.5775	0.8480	0.9459	0.7355	0.8168
<b>Min Revision</b>	-1.2	-0.7	-0.9	-1.2	-0.6	-0.4	-1.1	-1.0
<b>Max Revision</b>	1.0	0.9	0.9	1.3	0.8	0.4	0.9	1.0
<b>Range</b>	2.2	1.6	1.7	2.4	1.4	0.8	2.0	1.9
<b>% Later &gt; Earlier</b>	46.9	40.6	50.0	50.0	56.3	65.6	56.3	62.5
<b>% Sign(Later) = Sign(Earlier)</b>	96.9	100.0	93.8	100.0	96.9	93.8	93.8	90.6
<b>Variance of Later estimate</b>	0.3032	0.2802	0.3771	0.3731	0.2802	0.3771	0.3731	0.3771
<b>Variance of Earlier estimate</b>	0.2141	0.2141	0.2141	0.2141	0.3032	0.2802	0.3771	0.3032
<b>UM %</b>	4.20	0.33	0.43	1.04	4.36	5.77	0.27	9.31
<b>UR %</b>	4.05	5.03	0.60	4.59	11.13	5.91	13.66	1.71
<b>UD %</b>	91.75	94.64	98.96	94.38	84.51	88.32	86.07	88.98

**Legend:**

- P: First published estimate
- L: Latest published estimate (at least 3 years after the first)
- Y1: Estimate published 1 year later
- Y2: Estimate published 2 years later
- Y3: Estimate published 3 years later
- Y1\_P: Revision between Y1 and P, etc...

*A.2. Months of publication on MEI of the first estimates of quarterly GDP (constant prices, seasonally adjusted). Period under review: MEI published in May 1995 – May 2006\*.*

Country (covered period)	Q1	Q2	Q3	Q4
<b>Australia</b> (1995.1-2005.4)	July: 97-00,02 June:95,96,01,03-05	October: 97,00-03, 05 September: 95,96,98,99,04	January t+1: 96-03, 05 December: 95,04	May t+1: 98,99 April t+1: 95,96,01-03 March t+1: 97,00,04, 05
<b>Belgium</b> (1996.4-2006.1)	December: 98 September: 99,00 August: 97,01,02 June: 03 May: 04-06	December: 97,98 November: 99-02 September: 03 August: 04-05	March t+1: 98,99 February t+1: 97,00-02 December: 03, 05 November: 04	July t+1: 98 May t+1: 96,97,99-01 April t+1: 03 March t+1: 02, 04, 05
<b>Canada</b> (1995.1-2005.4)	July: 95,99,01 June: 96-98,00,02-05	September: 95-05	January t+1: 97 December: 95,96,98-05	March t+1: 95-05
<b>Denmark</b> (1995.1-2005.4)	August: 95-97 July: 98-01 June: 02-05	November: 95,98,99, 05 October: 96,97,00,01 September: 02-04	March t+1: 95,97 February t+1: 96 January t+1: 98-01,03 December: 02,04-05	May t+1: 95,98,99 April t+1: 96,97,00, 05 March t+1: 01-04
<b>Finland</b> (1995.1-2005.4)	July: 95-03,05 June: 04	November: 98,99 October: 95-97,00-05	January t+1: 95-04 December: 05	May t+1: 98,99 April t+1: 95-97 March t+1: 00-05
<b>France</b> (1995.1-2005.4)	August: 99 July: 95,97 June: 96,98,00-05	October: 95,97,00,01 September: 96,98,99,02-05	January t+1: 97 December: 95,96,98-05	March t+1: 95-05
<b>Germany</b> (1995.2-2005.4)	July: 96,97,99,00 June: 98,01-05	October: 95-99 September: 00-05	March t+1: 95 January t+1: 96,97 December: 98-05	April t+1: 95,96,98 March t+1: 97,99-05
<b>Italy</b> (1995.1-2005.4)	August: 95-97 July: 98-00 June: 01-05	November: 95 October: 96-02 September 03-05	February t+1: 96,99 January t+1: 95,97,98 December: 00-05	July t+1: 98 May t+1: 95,96, 05 April t+1: 97,99,00 March t+1: 01-04
<b>Japan</b> (1995.1-2005.4)	July: 95-02 June: 03-05	October: 95-01 September: 02-05	January t+1: 95,97,01 December: 96,98-00,02-05	April t+1:95-01 March t+1: 02-05
<b>Korea</b> (1997.1-2006.1)	October: 97 July: 99 June: 98,00-05 May: 06	October: 97,02 September: 98-01,03,04 August: 05	January t+1: 97,98 December: 99-04 November: 05	April t+1:97-04 February t+1: 05
<b>Netherlands</b> (1995.1-2005.4)	September: 98,00 August: 95,96 July: 99 June: 97,01-05	December: 96 November: 95 September: 97-05	February t+1: 95,98 January t+1: 99 December: 96,97,00-05	May t+1: 95,97 March t+1: 96,98-05
<b>New Zealand</b> (1995.1-2005.4)	October: 95 August: 96 July: 97-05	November: 98,99 October: 95-97,00-05	July t+1: 00 February t+1: 95,96, 05 January t+1: 97-99,01-04	July t+1: 00 May t+1: 95,98 April t+1: 96,97,99,01-05
<b>Norway</b> (1995.1-2005.4)	December: 95 October: 02 September: 96 July: 97-01,03,05 June: 04	December: 95 October: 96,97,00-05 September: 98,99	February t+1: 95,97 January t+1: 96,99-05 December: 98	May t+1: 95 April t+1: 98,00,02-05 March t+1: 96-99,01
<b>Portugal</b> (1996.1-2005.4)	February t+2: 99 July t+1: 97 February t+1: 96,00 January t+1: 98 September: 01,02 July: 03,05 June: 04	February t+2: 99 July t+1: 97 February t+1: 96,00 January t+1: 98 December: 01 November: 02 October: 03-05	February t+2: 99 November t+1: 96 July t+1: 97 May t+1: 98 March t+1: 00-02 January t+1: 03-05	February t+2: 99 November t+1: 96 July t+1: 97 June t+1: 01 May t+1: 98,00 April t+1: 02-05
<b>Spain</b> (1995.1-2005.4)	September: 99 August: 95 July: 96-98,00,01 June: 02-05	November: 95,98,99 October: 96,97,00,01,03 September 02,04-05	January t+1: 95-01 December: 02-05	April t+1:95,96 March t+1: 97-05
<b>Switzerland</b> (1995.1-2005.4)	August: 97 July: 95,96, 98-02 June: 03-05	November: 98,99 October: 95-97,00-05	January t+1: 95-02 December: 03-05	May t+1: 98,99,03 April t+1: 95-97,00,01 March t+1: 02,04-05
<b>United Kingdom</b> (1995.1-2005.4)	June: 95-05	October: 02 September: 95-01,03-05	December:95-05	March t+1: 95-05
<b>United States</b> (1995.1-2006.1)	May: 95-06	September: 02,04 August: 95-01,03,05	February t+1: 99 November: 95-98,00-05	March t+1: 95,96 February t+1: 97-05

### A.3. Properties of the Mean Squared Revision

This part completely refers to Di Fonzo's (2005).

For unbiased preliminary estimates (that is,  $E(R_t) = 0$ ,  $t=1, \dots, n$ ), where the symbol  $E(\cdot)$  denotes the expected value),  $MSR$  is the variance of the revision. Taking the square root gives the Root Mean

Squared Revision ( $RMSR$ ), which is a suitable measure of accuracy when using a quadratic loss function.

The disadvantages of the  $RMSR$  are that (i) while it has a minimum value of zero, it is unbounded, and (ii) it is unrelated to the variation in the latest estimate. Theil (1966) proposed an inequality coefficient ( $U$ ) defined as the positive square root of

$$U^2 = \frac{MSR}{\sum_{t=1}^n L_t^2 / n}$$

which takes account of the variation in the most recent series. The coefficient  $U$  takes the value one when all the latest figures are zero, which is an interesting property if the index is used on growth rates. For, a value of  $U$  between zero and one indicates that the early estimates of growth rates are an improvement over a no-change estimate, while larger values imply poor preliminary estimates. Theil (1961) proposed two alternative decompositions of  $MSR$  and, following Granger and Newbold (1973), we consider the following:

$$MSR = \overline{R^2} + (S_p - \rho S_L)^2 + (1 - \rho^2) S_L^2,$$

where  $\overline{R}$  is the mean revision,  $S_L$  and  $S_p$  are the standard deviations of the latest and preliminary estimates, respectively, and  $\rho$  is their correlation. Dividing throughout by  $MSR$  gives

$$1 = UM + UR + UD$$

where

$$UM = \frac{\overline{R^2}}{MSR}$$

$$UR = \frac{(S_p - \rho S_L)^2}{MSR}$$

$$UD = \frac{(1 - \rho^2) S_L^2}{MSR}$$

The interpretation of these is helped by consideration of the regression model in which the latest estimate is linked to the preliminary estimate as

$$L_t = \alpha + \beta P_t + u_t \tag{1}$$

for which the least squares estimators are 2

$\hat{\beta} = \frac{S_{LP}}{S_P^2}$  and  $\hat{\alpha} = \bar{L} - \hat{\beta}\bar{P}$ , where  $S_{LP}$  is the covariance between  $L_t$  and  $P_t$ . If the preliminary

estimates are unbiased,  $\alpha=0$  and  $\beta=1$ , so that  $\bar{R}$ , and hence  $UM$ , is zero. That is,  $UM$  gives the proportion of  $MSR$  due to systematic differences between the preliminary and the latest estimates. For  $UR$  we note that

$$S_P - \rho S_L = S_L(1 - \hat{\beta}),$$

so that  $UR$  is the proportion of  $MSR$  due to the slope coefficient in (1) differing from one. Finally, if (1) gave a perfect fit, then  $UD$  would be zero, so  $UD$  can be interpreted as the disturbance proportion of  $MSR$  or that part of the observed revision which is not explained by the mean or slope error. 'Good' preliminary estimates will have low values of  $UM$  and  $UR$  and a high value of  $UD$ .

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