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THE WORLD BANK GROUP

Problem areas in calculating times series of PPPs

OECD, Paris - France

Agenda item n° 21

JOINT WORLD BANK – OECD SEMINAR ON PURCHASING POWER PARITIES

Recent Advances in Methods and Applications

WASHINGTON D.C.

30 January – 2 February 2001

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1. Introduction

1. It is well known that the GDP volume results based on PPPs are valid only for the benchmark years. Comparisons are based on current prices prevailing in those years and all changes in price structures influence the comparability of various benchmark years. In other words, when comparing two benchmark years, the difference between them consists of volume changes as well as changes in price structures. However, most of the time, changes in price structures are likely to be fairly smooth so that movements in GDP obtained from the benchmark PPP comparisons will closely follow those from the GDP time series in the national accounts. This has justified estimating provisional PPPs by simply updating benchmark PPPs by implicit price indices of GDP.

2. Big changes between results for various benchmark estimations that are significantly inconsistent with growth rates of GDP indicate either that methods in the national accounts are different in different countries or that there are problems in the measurement of PPPs. In the latter case, the set of prices underlying PPPs might not be representative enough or the overlapping prices might not provide a reasonable measure for the change of relative inflation. Whatever the reasons for these differences it is desirable to address the consistency issue and make efforts to explain any major differences between benchmark estimates. Any unexplainable changes might be harmful for the users of results and opens criticism on the reliability of PPP comparisons, particularly in situations where benchmarks PPPs are produced annually.

3. The aim of this paper is to discuss the issues underlying the consistency between PPPs and national accounts series. The nature of the paper is practical which means that the focus is not only on analysing the consistency between the national accounts data and PPP results but also on dealing briefly with issues to be considered in forthcoming years. The analysis is based on the OECD comparison results for 1990, 1993 and 1996, which have been updated using national accounts data for each country. The tests cover only a sample of OECD countries for which implicit price indices are available at a detailed level of GDP. In the first part of the presentation all categories of GDP except foreign trade are analysed. Foreign trade is discussed separately in section 3 because problems in this area are different. Section 4 summarises the discussion and provides some tentative conclusions.

2. Consistency between PPP time series and the national accounts

4. GDP in real terms in the OECD benchmark comparisons for 1990, 1993 and 1996 is compared below with national accounts time series at as detailed a level as possible, that is using the level at which national accounts data are available in current and constant prices. The analysis is made on the basis of the SNA 1993, which means that the data for the benchmark comparisons had to be transformed first by the new classifications. So far detailed time series are available only for a few countries, (for 8 countries since 1990 and for 10 countries since 1993). Therefore the tests have some limitations but it is unlikely that the overall picture would change very much even if data were available for more countries.

5. The test procedure consisted of the following steps:

1. The basic headings in the three PPP benchmark comparisons were reallocated into the categories for which the national account data were available. In a few cases a basic heading had to be split, in which case PPPs for both parts were assumed to be the same.

2. Nominal expenditures under each category were pro-rated to the broad aggregate levels in the national accounts. Using updated nominal expenditures, PPPs and expenditures in real values were then estimated in the normal way for 1990, 1993 and 1996 by using the EKS method.
3. A second set of PPP results was produced for 1993 and 1996. Results for 1993 were based on updating PPPs for GDP and its sub-categories for 1990 by using implicit price indices for 1990 to 1993. Correspondingly, results for 1996 were produced by taking the PPP comparison for 1993 as a starting point. Results for 1996 were also derived directly from 1990 for checking whether the differences in results tend to be systematic or fluctuating.
4. Percentage point differences between the results were estimated. For GDP and any sub-category the total of those countries for which data were available is used as the reference base. For some countries national account data on household consumption expenditures were available only by one-digit level of the COICOP classification. These countries were still included in the analysis, which means that the reference base of aggregates might be wider than the reference base used for underlying sub-aggregates.

Table 1 below summarises the differences. Detailed results by country are shown in Annex 1. It should be stressed that within Household consumption expenditure results at a 1-digit level (in bold) are for 1993 based on the national accounting data for 8 countries whereas at a more detailed level only for 4 countries. In the analysis of the results for 1996 the corresponding country scopes are 10 and 6. Thus, there is no strict consistency between the aggregate and sub-aggregate levels. Also the changes in the classification have more influence at a detailed level and therefore all sub-categories are not shown in the table.

Table 1. Real GDP for 1993 and 1996 compared to results derived by updating PPPs of the previous benchmark by implicit price indices. Average of the differences for all countries; per cent

	90/93	93/96
11 Final consumption expenditure of households on the territory	2	3
1101 Food and non-alcoholic beverages	2	4
110110 Food	2	3
110120 Non-alcoholic beverages	6	8
1102 Alcoholic beverages, tobacco and narcotics	8	5
110210 Alcoholic beverages	18	10
110220 Tobacco	2	7
1103 Clothing and footwear	7	12
110310 Clothing	6	9
110320 Footwear	10	14
1104 Housing, water, electricity, gas and other fuels	7	8
Of that:		
110411 Actual rentals for housing	8	19
110421 Imputed rentals for housing	7	14
110450 Electricity, gas and other fuels	12	3
1105 Furnishings, households equipment and routine maintenance of the house	8	8
1107 Transport	7	7
110710 Purchase of vehicles	3	3
110720 Operation of personal transport equipment	8	8
110730 Transport services	3	6
1108 Communications	16	15
1109 Recreation and culture	9	5

1111	Restaurants and hotels	8	8
111110	Catering services	9	6
111120	Accommodation services	14	6
1112	Miscellaneous goods and services	5	4
12	Final consumption expenditure of non-profit institutions serving households	5	5
13	Individual consumption expenditure of general government	8	4
14	Collective consumption expenditure of general government	8	3
15	Gross fixed capital formation	6	3
	Of that:		
150210	Metal products and machinery	6	6
150220	Transport equipment	11	12
150310	Residential buildings	10	5
150320	Other constructions	7	6
	TOTAL	2	2

6. It is difficult to state what is an “acceptable” difference between the benchmark comparisons and extrapolated results. Obviously, there are categories where price structures change slowly and where the measurement of prices and volumes is relatively straightforward in national accounts as well as the estimation of PPPs. In these areas no major differences should be expected. On the other hand, countries may apply very different practices in national accounts especially in the measurement of services and thus significant differences could arise. The overall impression is, however, that in many categories the observed differences are too large. The following observations can be made:

- Food beverages and tobacco are relatively easy to measure in the national accounts and products are also well represented in the PPP surveys. Still the difference for some countries is significant although in general the results are more solid than elsewhere within household consumption. The measurement of Alcoholic beverages seems to be especially problematic. Prices of alcohol differ strongly in different countries due to taxation and, possibly, the sample of prices collected for PPPs may not correctly reflect changes in the tax rates.
- Clothing and footwear is more difficult to measure in the national accounts as well as in the PPP comparisons. On the other hand, price structures would not be expected to change very strongly in this area and therefore the size of differences can be considered to be quite significant.
- Housing is one of the most important categories, exceeding 10 per cent of GDP in most OECD countries. Moreover, volume changes in the national accounts follow the quantity and quality changes of the dwelling stock and thus the changes should be smooth and easy to measure. However, the fluctuation of volumes is very strong in the PPP comparisons. The measurement of housing in national accounts is atypical compared to other categories of GDP because expenditure on housing rents is normally derived using quantity and price data. In principle, plausible volumes could be derived if the prices provided for PPPs are consistent with the prices in the national accounts. The test shows that it has not been possible to ensure this consistency. In addition, the inconsistency varies in different benchmark comparisons.
- The differences in results for Furnishings, etc. are of the same size as in the categories above. One would expect them to be smaller.
- Transport belongs to one of the easier categories to measure and differences can be expected to be small. Not surprisingly, operation of personal transport equipment is the most difficult sub-category within transport.

- The analysis of results for Communications is not fully accurate because in the PPP classification the category includes only post and telephone etc. services whereas in the new COICOP it covers also purchases of equipment. In any case, differences between the two results are very significant. The activity has been under strong development throughout the 1990s and it is likely that the methods applied by countries in their national accounts are far from comparable. In the PPP comparisons, the measurement of communications has been traditionally one of the most difficult areas.
- In Recreation and culture, differences are quite big in 1993. In the 1996 PPP comparison results are for many countries very close to the extrapolated results.
- Volumes and prices for Restaurants and hotels are relatively easy to measure in the national accounts. In the PPP comparisons this is not the case. Differences are large, especially in the results for accommodation. Also here the situation in 1996 has improved from 1993.
- When taking into account that Miscellaneous goods and services are a heterogeneous group of goods and services the results for this category are surprisingly close. Results at the detailed level showed, however, that differences in some sub-categories are significant.
- Differences in Final consumption expenditure of NPISHs are relatively small.
- In Individual and Collective consumption expenditure of general government the difference was quite high in 1993 but the situation improved significantly in 1996. The improved consistency might be due to the sample of government employees, for which wage data are collected for measuring PPPs, largely remaining the same in different benchmark comparisons.
- Differences in results for Gross fixed capital formation are relatively small particularly in 1996. At the sub-category level, problems are biggest for Transport equipment. PPPs for construction of residential buildings are largely based on bills of quantities for the same construction projects through the 1990s. Still, differences were quite big in 1993. In 1996 the consistency is significantly better.

7. For the total (GDP minus net exports) the difference was on average two percentage points for both benchmark years, 1993 and 1996. The periods consist of three years and thus it cannot be considered to be particularly significant. Differences are often very big at the sub-aggregate level but they seem to offset at the total level. However, for the users of PPPs the quality of results at the sub-aggregate level is also important and reducing them would further improve results at the GDP level.

3. Foreign trade

8. In the PPP comparisons, PPPs are not measured for foreign trade; rather, they are based on exchange rates. This means in effect that the terms of trade are assumed to remain unchanged in different benchmark estimations. On the other hand, in the national accounts volume and price changes are measured separately for exports and imports as for any other components of GDP and their prices may develop very differently. Thus, any change in the terms of trade leads to an inconsistency: if prices of exports rise faster than imports prices in a country, GDP in real terms goes up in the PPP comparisons and vice versa whereas in the national accounts the changes in prices do not result directly in any changes in volumes.

9. Possibly the importance of the measurement of foreign trade has been underestimated in the PPP comparisons because what is measured is net exports, and its share of GDP is quite small. However, the most important issue in this respect is exports and imports on a gross basis. In practice, their combined share of GDP can be very big, for some small countries even exceeding GDP. Fortunately, for most OECD countries in most years, the prices of exports and imports do not develop significantly differently but that is not the case for all countries for all years.

10. The significance of the issue was investigated by using GDP data for all OECD countries. The analysis consisted of the following steps:

- 1) The volume change in GDP was estimated at the previous year's prices by using time series data on main aggregates of GDP expenditures at current and constant prices. the statistical discrepancy was excluded from the calculation.
- 2) The estimation of GDP (excl. statistical discrepancy) was repeated by replacing the change in exports and imports prices by the change in exchange rates, that is by following the procedure that is in effect applied in the ICP.
- 3) GDP by the NA (1) was subtracted from GDP based on the PPP methodology (2) and the results were multiplied by 100.

11. In the analysis the US dollar was used as reference and thus the results are not base country invariant. However, the general conclusions would not be different even if a neutral reference was used.

A detailed analysis is shown in Annex 2. Table 2 below summarises the main results.

Table 2. Influence on the volume of GDP if the change in exchange rates is used as price index for foreign trade (underlying assumption in PPP comparisons) instead of price indices in national accounts; per cent

	1991	1992	1993	1994	1995	1996	1997	1998	1999
Australia	-0.6	-0.7	-0.7	0.4	0.3	0.6	-0.1	-0.9	
Austria	-0.2	0.1	-0.2	0.0	0.4	-0.4	-0.5	0.1	-0.1
Belgium	0.0	1.3	1.1	0.0	-0.1	-0.2	-0.3	1.1	-0.7
Canada	-0.4	0.0	-0.6	-0.2	1.1	1.0	-0.4	-1.4	1.4
Czech Republic	-4.9	-1.2	2.3	2.2	-0.4	0.7	0.3	3.4	-0.2
Denmark	-0.1	1.7	0.3	0.3	0.6	0.8	-0.2	0.3	0.4
Finland	-1.6	-0.8	-1.0	1.3	3.2	-0.3	-0.7	1.0	-1.9
France	-0.1	0.3	0.3	-0.1	0.2	-0.1	0.2	0.5	-0.2
Germany		0.5	0.4	0.1	0.4	-0.1	-0.5	0.6	0.2
Greece						-0.5	0.0	-0.3	-0.2
Hungary						-0.6	0.6	0.5	
Iceland	1.0	-0.1	-0.9	1.0	0.8	-1.1	1.0	2.7	0.0
Ireland	-1.1	0.3	1.7	-0.6	-0.3	0.6	1.7	1.0	-0.5
Italy	0.7	0.0	-1.3	-0.1	-0.3	1.5	0.0	0.9	-0.3
Japan	0.4	0.2	0.6	0.4	0.2	-0.6	-0.7	0.4	0.4
Korea	-0.4	0.1	0.4	0.1	-0.9	-2.0	-2.6	-2.4	-3.3
Luxembourg						0.0	2.0	2.0	0.8
Mexico	-0.8	-0.1	-0.7	0.1	-1.8	1.3	1.2	-0.9	
Netherlands						-0.3	0.1	0.5	-0.7
New Zealand	-0.5	0.5	1.1	0.9	0.6	0.7	0.2	0.4	0.7
Norway	-0.2	-2.4	0.1	-1.6	0.9	2.8	0.9	-4.0	4.3
Poland	-6.8	1.7	1.3	1.0	0.7	-0.8	-0.7	-0.2	-0.4
Portugal						-1.5	-0.2	0.2	
Spain						0.2	0.0	0.3	0.0
Sweden				0.3	1.3	0.4	-0.6	0.3	-0.9
Switzerland	1.1	-0.1	1.4	2.1	1.2	0.3	-0.2	1.3	
Turkey	0.0	-0.3	1.3	-1.0	-2.5	-1.9	1.3	-0.7	1.3
United Kingdom	0.3	0.4	0.0	-0.8	-0.7	0.3	0.9	0.8	0.7
United States	0.2	0.0	-0.1	0.0	0.0	0.0	0.2	0.4	

12. Table 2 shows that the problem is significant for several countries. For example:

- In Norway, where the share of exports has been on average almost forty per cent of GDP (and the share of oil within exports is one third) through the 1990's, the decrease in oil prices in 1998 leads to 4.1 per cent lower GDP in the PPP results compared to the national accounts. Due to the increase in oil prices the opposite situation arises in 1999 and the continuing rise in oil prices will result in a further marked increase in GDP, as estimated by the PPP comparisons, in 2000.
- The opposite happens for countries that are highly dependent on exports of high-tech products for which prices tend to decline.
- For the Czech Republic the difference in the development path of exports and imports prices is smaller than in Norway but due to the high relative importance of foreign trade the effect on GDP is significant.
- Korea joined the Programme in 1999 and thus PPP time series results do not exist. However, it should be noted that import prices have developed more strongly than export prices for the last four years. It is possible that their relative price growth could reverse in 2000 and onwards which would mean that the GDP volume for 1999 will turn out to be low compared to results in later years.

13. Obviously, the use of exchange rates as PPPs for foreign trade is not a perfect solution but is there anything better available? It has been sometimes proposed that exchange rates should not be used as PPPs for foreign trade and that they should be replaced by proxy PPPs that are built up on the basis of PPPs of goods in final consumption. At first sight, the solution might look attractive but there are several arguments against the proposal. Contra-arguments for not using such PPPs for imports are:

- The fact that a large part of imports is for intermediate consumption is ignored.
- PPPs of goods in final consumption are based on prices that include trade and transport margins as well as taxes, particularly VAT, but imports are measured at c.i.f. prices. It might be possible to eliminate the influence of different tax rates from the prices but maybe not the service part. Leaving services in prices would cause bias between countries that are at different levels of development because services are more expensive in rich countries.
- The underlying idea in the use of PPPs of goods for imports is that the prices of imported goods are related to the domestic price level and the relationship is similar in all countries. However, such an assumption might be open to doubt because imported goods are largely different kinds of products from domestic products. One of the reasons for imports is that no (or little) domestic production exists.

14. Similar arguments can be raised also against using PPPs of goods in final consumption as a proxy for exports. Goods in exports can be significantly different from those used in final consumption; they are often tax-free (sometimes even subsidised) and the share of trade and transportation margins can be low.

15. On the other hand, one can find arguments to support the use of exchange rates for foreign trade. It is true that the "blind" use of exchange rates as PPPs means implicitly that the traded goods are unique and, for example, bananas imported from different countries are different products. However, prices for imported raw materials are often based on world market prices, and it is perfectly correct to use exchange rates in their measurement. As to machinery and other more refined products, they are often unique and there is no strong reason to assume that the prices are significantly differentiated according to the customer country. Prices might be higher e.g. if a country is especially remote but also the service accompanied in trade is higher in that case. In conclusion, for any detailed product group it is difficult to reject outright the assumption that prices closely follow prevailing exchange rates. At least in principle the use of exchange rates as PPPs does not seem to be a very poor solution.

16. It can be noted, however, that the use of exchange rates for net exports is not consistent with the solutions applied elsewhere in the national accounts. By convention, the PPP comparisons follow the rule “a potato is a potato” which means that products are the same even if they are sold in different types of outlets whereas in the national accounts the volume of a good consumed consists of the volume measured at basic values plus the volume of trade margins (and taxes on products, net). In this way the treatment is consistent with the supply of goods and services. It can be argued that to some extent the use of exchange rates more closely follows the national accounts rules but does not match with the potato is a potato rule.

4. Summary and conclusions

17. Ideally, PPP comparisons are carried out fully independently and they provide results where differences in the estimation of prices and volumes in the national accounts are eliminated. This target is not easy to achieve or at least the work is too costly. In any case it is useful to analyse national accounts time series and PPP series for developing PPP comparison methodology and for avoiding oddities in the PPP results. Major differences between the two show the areas to be focused on which does not necessarily mean an addition of resources but merely reassessing the way comparisons are made.

Household consumption expenditure

18. Obviously, it is difficult to improve PPP results without collecting more prices. Establishing PPPs for a basic heading on only 2-3 prices cannot ensure either solid volumes in the year concerned or consistency over time. Suppressing basic headings is not a meaningful solution if it results in a more heterogeneous basic heading. Weights for prices would be less accurate and based on the number of prices and their overlap. In the OECD-Eurostat PPP Programme the best way to improve the situation without increasing costs is to develop a PPP estimation model. In Europe the participating countries are now divided into three groups but the grouping of countries is not reflected in the calculation methods. The grouping of countries ensures a better representativity of product lists to be used for the larger group of countries now included in the Project but the problem is how to ensure a solid overlapping between groups. The present method is not optimal in the new situation because for each basic heading only one third of Fisher indices are based on a large set of prices.

19. The measurement of Housing cannot be improved without drawing on dwelling stock data in countries. Such work has already started. This should result in closer consistency between the PPP results and the national accounts.

20. For services like Communications there is no easy way to establish a solid comparison. As an indication of the problems, estimation methods vary widely even in different countries' national accounts and, due to rapid changes, they may differ in consecutive years in individual countries. The increase in the number of prices to be collected can be difficult in practice because identical and representative prices are often not easy to find. One option to be considered is to use unit prices or to rely, as a last resort, even on quantity data.

Government consumption expenditure and other non-market services

21. A lot of attention has been paid to non-market services without achieving a significant improvement and it is unlikely that the situation will improve in the near future. Accuracy and consistency of results over time can be improved but the main underlying problems remain.

Gross fixed capital formation

22. Machinery and equipment is a category where a proper overlap between prices is often difficult to achieve. However, the results are quite solid because the price levels in countries are closer to each other than in any other part of GDP (See Annex 3). The closeness of price levels is understandable because the share of imported machinery is very high for most countries and differences in prices stem from the domestic part of costs, services and taxes. The statement can be also turned around: PPPs for the supply of machinery in imports are based on exchange rates and thus any deviations from exchange rates in the use side that are not of domestic origin cause inconsistencies in GDP. In conclusion, maybe it would be useful to investigate whether there are easier ways to measure PPPs for machinery without sacrificing the reliability of results. Expenditure on machinery might appropriately be divided into domestic and imported rather than only by type of machinery.

23. It is also noteworthy that asterisks are used for machinery in the same way as for goods and services consumed by households. However, a significant part of machinery is not sold in large quantities and it is not clear what principles should be applied when assigning asterisks. The use of asterisks may cause more harm than good because the overlapping of prices gets thinner.

24. The collection of construction prices is a resource absorbing and costly task in the PPP comparisons. Still the results are often doubtful and depend heavily on the judgement of price collectors. Consideration could be given to collecting some quantity data on construction for verifying whether differences in volumes are realistic, that is whether they can be explained by differences in the quality of construction.

Foreign trade

25. It is hardly realistic, in practice at least, to measure foreign trade in any other way than by using exchange rates. Of course, it may be possible to improve the estimation by taking into account the country structure or monthly timing of exports and imports for weighting various exchange rates but that is unlikely to change the results significantly.

26. As shown before, the current measurement of PPPs for foreign trade results in jumps in GDP for some countries. However, this stems from the characteristics of the PPP comparisons rather than from deficiencies in the methods. This should be explained clearly to users.

Final remarks

27. It is of crucial importance to make efforts to analyse the differences between the national accounts data and time series of PPP results. For facilitating the analysis, the following steps will be taken in near future:

- More countries will be included in the tests when data becomes available.
- The tests will be expanded to the benchmark comparison for 1999.
- National price indices, particularly CPIs, will be included in the tests.

ANNEX 1

Real GDP for 1993 and 1996 compared to results derived by updating PPPs in the previous benchmark by implicit price indices; differences in per cent

	DNK			FIN			FRA			IRE			ITA			JAP			NZL			UK			CAN	GER
	90/93	93/96	90/96	90/93	93/96	90/96	90/93	93/96	90/96	90/93	93/96	90/96	90/93	93/96	90/96	90/93	93/96	90/96	90/93	93/96	90/96	90/93	93/96	90/96	93/96	93/96
11 Final consumption expenditure of households	1	8	9	4	0	4	-2	-3	-5	0	-5	-6	-1	2	1	-4	2	-2	5	-1	4	-2	-2	-4	1	2
1101 Food and non-alcoholic beverages	2	5	8	-3	8	4	1	-1	0	2	3	5	-2	-1	-3	-1	1	0	1	-5	-5	0	-9	-9	3	1
110110 Food	2	1	3	-2	3	1				2	1	3	-1	-5	-6											-2
110120 Non-alcoholic beverages	5	6	11	-11	14	2				8	-15	-8	-1	-3	-4											-2
1102 Alcoholic beverages, tobacco and alcohol	3	-1	1	15	2	18	-5	9	4	4	-9	-6	-17	3	-15							4	-3	0	2	11
110210 Alcoholic beverages	5	-3	1	30	4	35				7	-12	-5	-31	13	-23											-7
110220 Tobacco	0	0	0	-3	5	2				4	3	7	-1	-7	-8											19
1103 Clothing and footwear	15	13	30	6	-3	4	8	6	15	0	-6	-6	-4	18	13	-17	18	-2	-5	-21	-26	0	-17	-17	-11	11
110310 Clothing	12	6	19	0	-4	-5				-1	-13	-14	-10	13	2											-12
110320 Footwear	5	13	19	15	-20	-8				-16	0	-16	-2	11	9											-22
1104 Housing, water, electricity, gas and other fuels	-12	25	11	4	-3	1	-10	-9	-18	0	-16	-16	-4	7	2	16	-9	6	8	5	13	1	5	7	-1	-3
Of that:																										
110411 Actual rentals for housing	-6	45	36	17	12	31				-1	-41	-41	-9	5	-4											14
110421 Imputed rentals for housing	-4	28	23	11	-10	-1				4	-19	-16	-9	7	-2											-7
110450 Electricity, gas and other fuels	-17	4	-13	-6	0	-6				11	3	14	15	-6	8											-1
1105 Furnishings, households equipment and transport	20	7	29	2	12	13	7	0	7	1	-2	-1	5	-5	0	-14	-20	-30	-4	-2	-6	-13	14	-1	14	-2
1107 Transport	7	0	8	0	-3	-4	-2	2	1	-3	-4	-6	-3	3	0	-16	25	4	18	-19	-4	2	0	3	-7	9
110710 Purchase of vehicles	5	3	8	1	3	4				-4	-2	-6	-3	-3	-6											-3
110720 Operation of personal transport equipment	16	-1	15	-6	-4	-10				-6	-3	-9	-2	8	6											-11
110730 Transport services	-6	11	4	1	-6	-5				3	-1	1	2	-3	-1											6
1108 Communications	-3	15	11	-34	10	-28	7	-14	-8	-3	19	16	6	-8	-2							43	-17	19	31	11
1109 Recreation and culture	5	-3	1	17	-4	12	-2	1	-1	-6	0	-6	6	1	7	-19	17	-6	10	0	9	-5	-9	-14	-6	12
1110 Education	-19	8	-12	-15	34	14				20	-39	-27	20	14	37											-18
1111 Restaurants and hotels	1	-5	-4	13	-4	8	-7	-4	-11	-9	0	-8	-2	-1	-4				14	20	37	-7	-3	-10	16	-2
111110 Catering services	4	-2	2	14	-2	12				-8	4	-4	-8	0	-8											18
111120 Accommodation services	-11	-3	-13	10	-1	9				-15	-1	-15	20	4	25											16
1112 Miscellaneous goods and services	5	10	15	7	-4	3	-2	3	0	2	-3	-1	7	3	10	-11	-5	-16	0	-4	-4	-6	1	-5	-9	0
12 Final consumption expenditure of government	6	11	18	6	1	8	0	-5	-4	4	-3	1	-2	-2	-4	2	4	6	-4	-10	-13	-12	4	-9	2	5
13 Individual consumption expenditure of government	-1	0	-1	14	-6	8	-1	-6	-7	13	6	20	-8	8	-1							-14	-2	-15		-2
14 Collective consumption expenditure of government	2	-1	2	7	-2	4	-3	-2	-4	17	-4	13	-8	9	0							-13	0	-13		-2
15 Gross fixed capital formation	4	-7	-3	-7	1	-6	-7	3	-4	15	0	15	3	-2	1	-6	7	1	-2	-5	-7	1	5	6	0	2
Of that:																										
150210 Metal products and machinery	8	-3	5	-13	-2	-14	-4	13	9	4	8	13	9	2	12				-2	-15	-16	-1	-2	-4		3
150220 Transport equipment	31	-31	-10	-12	32	16	-11	11	-2	4	-11	-7	-9	10	0				5	-2	4	-3	3	0	12	3
150310 Residential buildings	1	-4	-3	-17	0	-17	-9	-3	-12	28	2	31	-2	-4	-6				-5	12	6	11	-2	8	9	2
150320 Other constructions	-2	1	-2	9	-2	7	-8	-3	-11	17	-7	10	0	-8	-8				-8	-3	-10	-6	25	18	2	0
TOTAL	3	4	7	-1	1	0	-3	-2	-4	4	-4	0	-2	3	1	-2	0	-2	2	-1	1	-2	-1	-3	2	2

ANNEX 2

See explanations on the last page

AUS

	Change of prices from the previous year									Structure of GDP, average	Change of volumes from the previous year								
	1991	1992	1993	1994	1995	1996	1997	1998	1999		1991	1992	1993	1994	1995	1996	1997	1998	1999
Gross domestic product (expenditure approach)	1.02	1.01	1.01	1.01	1.02	1.01	1.01	1.00		100	1.00	1.04	1.04	1.05	1.05	1.04	1.05	1.05	0.00
Final consumption expenditure	1.03	1.02	1.02	1.01	1.02	1.02	1.01	1.01		78	1.02	1.02	1.02	1.05	1.04	1.02	1.05	1.04	0.00
Gross capital formation	1.00	1.01	1.02	0.99	1.02	0.98	1.01	1.01		23	0.95	1.11	1.07	1.13	0.99	1.09	1.10	1.08	0.00
Exports of goods and services	0.97	1.03	0.98	1.01	1.02	0.96	1.04	0.96		19	1.09	1.07	1.10	1.05	1.10	1.10	1.04	1.02	0.00
Imports of goods and services	1.00	1.07	1.01	0.98	1.00	0.93	1.04	1.02		19	1.04	1.06	1.07	1.17	1.04	1.10	1.10	1.05	0.00
Statistical discrepancy	1.02	1.01	1.01							0	-0.71	1.37	0.43	0.00					0.00
GDP - Stat. discr.	1.02	1.01	1.01	1.01	1.02	1.01	1.01	1.00			1.01	1.04	1.04	1.04	1.05	1.04	1.05	1.04	0.00
Exchange rates/GDP by PPP method	0.94	1.04	0.96	0.90	1.01	0.90	0.93	1.09	0.93		1.01	1.03	1.03	1.05	1.05	1.04	1.05	1.03	0.00
PPP result minus NA, per cent											-0.6	-0.7	-0.7	0.4	0.3	0.6	-0.1	-0.9	0.0

AUT

Gross domestic product (expenditure approach)	1.04	1.04	1.03	1.03	1.02	1.01	1.01	1.01	1.01	100	1.03	1.02	1.00	1.03	1.02	1.02	1.01	1.03	1.03
Final consumption expenditure	1.04	1.04	1.04	1.03	1.02	1.02	1.01	1.01	1.01	76	1.03	1.03	1.02	1.03	1.02	1.03	1.01	1.03	1.03
Gross capital formation	1.02	1.03	1.02	1.02	1.02	1.01	1.02	1.01	1.01	24	1.05	0.99	0.98	1.06	1.05	1.00	1.02	1.02	1.02
Exports of goods and services	1.01	1.00	1.00	1.01	1.02	1.01	1.01	1.00	1.00	40	1.05	1.01	0.99	1.06	1.07	1.06	1.10	1.06	1.08
Imports of goods and services	1.01	1.00	1.01	1.01	1.00	1.02	1.02	1.00	1.00	40	1.06	1.01	0.99	1.08	1.09	1.06	1.10	1.04	1.07
Statistical discrepancy	3.12	0.34	1.17	0.70	0.84	0.37	8.13	0.34	-0.58	0	-0.43	2.82	0.23	5.89	-0.37	1.16	-1.02	-1.60	0.09
GDP - Stat. discr.	1.03	1.04	1.03	1.03	1.03	1.01	1.01	1.01	1.01		1.03	1.02	1.01	1.02	1.02	1.02	1.01	1.04	1.03
Exchange rates/GDP by PPP method	0.97	0.93	0.94	0.95	0.91	0.99	1.02	0.94	1.00		1.03	1.02	1.00	1.02	1.02	1.02	1.01	1.04	1.03
PPP result minus NA, per cent											-0.2	0.1	-0.2	0.0	0.4	-0.4	-0.5	0.1	-0.1

BEL

Gross domestic product (expenditure approach)	1.03	1.04	1.04	1.02	1.02	1.01	1.01	1.02	1.01	100	1.02	1.02	0.98	1.03	1.03	1.01	1.03	1.02	1.03
Final consumption expenditure	1.03	1.02	1.03	1.03	1.02	1.02	1.02	1.01	1.01	76	1.03	1.02	0.99	1.02	1.01	1.01	1.01	1.03	1.02
Gross capital formation	1.02	1.03	1.01	1.01	1.03	1.00	1.01	0.99	1.04	21	0.97	1.01	0.96	1.03	1.05	1.00	1.07	1.08	1.01
Exports of goods and services	0.99	0.99	0.99	1.01	1.01	1.03	1.05	1.00	1.00	71	1.03	1.04	1.00	1.08	1.06	1.01	1.07	1.04	1.05
Imports of goods and services	0.99	0.97	0.97	1.02	1.02	1.03	1.05	0.98	1.01	68	1.03	1.04	1.00	1.07	1.05	1.01	1.06	1.07	1.04
Statistical discrepancy										0									
GDP - Stat. discr.	1.03	1.04	1.04	1.02	1.02	1.01	1.01	1.02	1.01		1.02	1.02	0.98	1.03	1.03	1.01	1.03	1.02	1.03
Exchange rates/GDP by PPP method	0.96	0.93	0.96	0.93	0.90	0.99	1.02	0.94	1.00		1.02	1.03	1.00	1.03	1.02	1.01	1.03	1.04	1.02
PPP result minus NA, per cent											0.0	1.3	1.1	0.0	-0.1	-0.2	-0.3	1.1	-0.7

CAN

Gross domestic product (expenditure approach)	1.03	1.01	1.01	1.01	1.02	1.02	1.01	0.99	1.02	100	0.98	1.01	1.02	1.05	1.03	1.02	1.04	1.03	1.05
Final consumption expenditure	1.05	1.02	1.02	1.01	1.01	1.01	1.02	1.01	1.01	80	1.00	1.02	1.01	1.02	1.01	1.01	1.03	1.03	1.03
Gross capital formation	0.96	0.99	1.02	1.02	1.01	0.99	1.01	1.00	0.97	19	0.93	0.98	1.02	1.09	1.03	1.01	1.21	1.01	1.09
Exports of goods and services	0.96	1.02	1.04	1.06	1.06	1.00	0.99	0.99	1.01	35	1.02	1.08	1.11	1.13	1.09	1.06	1.09	1.09	1.10
Imports of goods and services	0.98	1.03	1.06	1.06	1.03	0.98	1.00	1.02	0.98	33	1.03	1.06	1.07	1.08	1.06	1.06	1.15	1.06	1.09
Statistical discrepancy	3.07	0.85	1.02	1.00	1.02	0.97	1.10	0.99	0.99	0	0.21	-139.27	1.26	0.59	0.69	0.78	-0.36	1.50	1.53
GDP - Stat. discr.	1.03	1.01	1.01	1.01	1.02	1.02	1.01	0.99	1.02		0.98	1.01	1.02	1.05	1.03	1.02	1.04	1.03	1.05
Exchange rates/GDP by PPP method	0.93	1.03	0.95	1.02	1.03	0.94	0.90	0.99	0.96		0.98	1.01	1.02	1.04	1.04	1.03	1.04	1.02	1.06
PPP result minus NA, per cent											-0.4	0.0	-0.6	-0.2	1.1	1.0	-0.4	-1.4	1.4

CZE

Gross domestic product (expenditure approach)	1.36	1.12	1.21	1.13	1.10	1.09	1.07	1.10	1.02	100	0.88	0.99	1.00	1.02	1.06	1.05	0.99	0.98	1.00
Final consumption expenditure	1.43	1.13	1.17	1.12	1.10	1.09	1.07	1.08	1.03	72	0.82	1.03	1.02	1.05	1.03	1.06	1.02	0.98	1.01
Gross capital formation	1.55	1.18	1.23	1.06	1.09	1.05	1.06	1.02	1.01	29	0.71	1.08	1.03	1.19	1.22	1.12	0.94	0.95	0.97
Exports of goods and services	1.50	1.06	1.05	1.05	1.06	1.03	1.06	1.04	1.00	55	0.94	1.10	1.16	1.02	1.17	1.09	1.08	1.11	1.07
Imports of goods and services	1.93	1.01	0.98	0.99	1.06	1.01	1.05	0.99	1.01	56	0.67	1.30	1.24	1.15	1.21	1.14	1.07	1.08	1.06
Statistical discrepancy										0									
GDP - Stat. discr.	1.36	1.12	1.21	1.13	1.10	1.09	1.07	1.10	1.02		0.88	0.99	1.00	1.02	1.06	1.05	0.99	0.98	1.00
Exchange rates/GDP by PPP method	1.25	1.00	0.91	0.95	0.95	0.97	1.03	0.94	1.03		0.84	0.98	1.02	1.04	1.05	1.05	0.99	1.01	1.00
PPP result minus NA, per cent											-4.9	-1.2	2.3	2.2	-0.4	0.7	0.3	3.4	-0.2

DNK

Gross domestic product (expenditure approach)	1.03	1.03	1.01	1.02	1.02	1.02	1.02	1.02	1.03	100	1.01	1.01	1.00	1.05	1.03	1.03	1.03	1.03	1.02
Final consumption expenditure	1.03	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.03	76	1.01	1.02	1.02	1.05	1.02	1.03	1.03	1.03	1.01
Gross capital formation	1.03	1.00	1.01	1.00	1.01	1.01	1.01	1.02	1.02	19	0.94	0.98	0.91	1.15	1.16	1.00	1.10	1.08	0.95
Exports of goods and services	1.02	1.03	1.00	1.01	1.01	1.02	1.03	0.99	1.01	36	1.06	0.99	0.99	1.07	1.03	1.04	1.04	1.02	1.08
Imports of goods and services	1.03	0.99	1.00	1.01	1.01	1.00	1.04	0.99	1.00	31	1.03	1.00	0.97	1.12	1.07	1.04	1.08	1.07	1.02
Statistical discrepancy										0									
GDP - Stat. discr.	1.03	1.03	1.01	1.02	1.02	1.02	1.02	1.02	1.03		1.01	1.01	1.00	1.05	1.03	1.03	1.03	1.03	1.02
Exchange rates/GDP by PPP method	0.98	0.93	0.95	0.95	0.90	0.98	1.00	0.94	1.00		1.01	1.02	1.00	1.06	1.03	1.03	1.03	1.03	1.02
PPP result minus NA, per cent											-0.1	1.7	0.3	0.3	0.6	0.8	-0.2	0.3	0.4

FIN

Gross domestic product (expenditure approach)	1.02	1.01	1.02	1.02	1.04	1.00	1.02	1.03	1.01	100	0.94	0.97	0.99	1.04	1.04	1.04	1.06	1.05	1.04
Final consumption expenditure	1.06	1.04	1.03	1.01	1.01	1.02	1.01	1.02	1.02	75	0.98	0.96	0.97	1.02	1.04	1.04	1.04	1.04	1.03
Gross capital formation	1.01	0.94	1.01	1.01	1.04	1.00	1.02	1.03	1.03	19	0.73	0.86	0.85	1.13	1.08	0.99	1.16	1.13	1.02

Exports of goods and services	1.00	1.06	1.06	1.01	1.05	0.99	0.99	0.99	0.95	33	0.93	1.10	1.17	1.13	1.09	1.06	1.14	1.09	1.06
Imports of goods and services	1.03	1.08	1.08	1.00	1.00	1.00	1.01	0.97	1.00	28	0.87	1.01	1.01	1.13	1.08	1.06	1.11	1.08	1.03
Statistical discrepancy	-0.06	-0.82	7.28	1.40	2.41	-0.12	6.03	-0.32	-2.21	0	1.92	1.10	1.05	0.72	-0.01	-79.51	-0.09	10.04	1.17
GDP - Stat. discr.	1.03	1.01	1.02	1.02	1.03	1.01	1.01	1.03	1.00		0.93	0.97	0.99	1.04	1.05	1.03	1.08	1.06	1.04
Exchange rates/GDP by PPP method	1.00	1.09	1.13	0.88	0.86	0.99	1.00	0.95	1.00		0.92	0.96	0.98	1.06	1.08	1.03	1.07	1.07	1.02
PPP result minus NA, per cent											-1.6	-0.8	-1.0	1.3	3.2	-0.3	-0.7	1.0	-1.9
FRA																			
Gross domestic product (expenditure approach)	1.03	1.02	1.02	1.02	1.02	1.01	1.01	1.01	1.00	100	1.01	1.01	0.99	1.02	1.02	1.01	1.02	1.03	1.03
Final consumption expenditure	1.03	1.02	1.03	1.02	1.02	1.02	1.01	1.01	1.01	79	1.01	1.02	1.01	1.01	1.01	1.02	1.01	1.02	1.02
Gross capital formation	1.02	0.99	1.01	1.01	1.00	1.01	1.00	1.00	0.99	20	0.98	0.97	0.88	1.07	1.05	0.97	1.00	1.10	1.06
Exports of goods and services	0.99	0.98	0.98	1.00	1.01	1.02	1.02	0.99	1.00	23	1.06	1.05	1.00	1.08	1.08	1.03	1.12	1.08	1.04
Imports of goods and services	1.00	0.97	0.97	1.00	1.00	1.02	1.02	0.98	1.00	22	1.03	1.02	0.96	1.08	1.08	1.02	1.07	1.11	1.04
Statistical discrepancy										0									
GDP - Stat. discr.	1.03	1.02	1.02	1.02	1.02	1.01	1.01	1.01	1.00		1.01	1.01	0.99	1.02	1.02	1.01	1.02	1.03	1.03
Exchange rates/GDP by PPP method	0.98	0.92	0.95	0.95	0.92	0.97	1.01	0.94	1.00		1.01	1.02	0.99	1.02	1.02	1.01	1.02	1.04	1.03
PPP result minus NA, per cent											-0.1	0.3	0.3	-0.1	0.2	-0.1	0.2	0.5	-0.2
DEU																			
Gross domestic product (expenditure approach)		1.05	1.04	1.03	1.02	1.01	1.01	1.01	1.01	100		1.02	0.99	1.02	1.02	1.01	1.01	1.02	1.02
Final consumption expenditure		1.05	1.04	1.02	1.02	1.01	1.02	1.01	1.01	77		1.03	1.00	1.01	1.02	1.01	1.00	1.02	1.02
Gross capital formation		1.04	1.02	1.03	1.01	1.00	1.00	1.00	1.00	23		1.01	0.95	1.05	1.01	0.97	1.02	1.05	1.04
Exports of goods and services		1.01	1.01	1.01	1.02	1.00	1.01	1.00	0.99	26		0.99	0.95	1.08	1.06	1.05	1.11	1.07	1.05
Imports of goods and services		0.99	0.99	1.01	1.01	1.01	1.03	0.98	0.99	25		1.02	0.94	1.07	1.06	1.03	1.08	1.09	1.08
Statistical discrepancy										0									
GDP - Stat. discr.		1.05	1.04	1.03	1.02	1.01	1.01	1.01	1.01			1.02	0.99	1.02	1.02	1.01	1.01	1.02	1.02
Exchange rates/GDP by PPP method	0.97	0.92	0.94	0.95	0.91	0.99	1.02	0.94	1.00			1.03	0.99	1.02	1.02	1.01	1.01	1.03	1.02
PPP result minus NA, per cent												0.5	0.4	0.1	0.4	-0.1	-0.5	0.6	0.2
GRC																			
Gross domestic product (expenditure approach)						1.07	1.07	1.05	1.03	100						1.02	1.04	1.03	1.03
Final consumption expenditure						1.07	1.07	1.05	1.03	87						1.02	1.03	1.03	1.02
Gross capital formation						1.06	1.05	1.05	1.03	21						1.09	1.07	1.12	1.05
Exports of goods and services						1.06	1.04	1.05	1.01	19						1.03	1.18	1.06	1.07
Imports of goods and services						1.05	1.03	1.04	1.01	27						1.07	1.14	1.11	1.04
Statistical discrepancy										0									
GDP - Stat. discr.						1.07	1.07	1.05	1.03							1.02	1.04	1.03	1.03
Exchange rates/GDP by PPP method	1.09	1.03	1.07	1.02	0.98	0.98	1.00	1.00	0.99							1.02	1.04	1.03	1.03
PPP result minus NA, per cent																-0.5	0.0	-0.3	-0.2
HUN																			
Gross domestic product (expenditure approach)						1.21	1.18	1.13		100						1.01	1.05	1.05	0.00
Final consumption expenditure						1.22	1.18	1.14		74						0.96	1.02	1.04	0.00
Gross capital formation						1.23	1.16	1.08		27						1.14	1.09	1.17	0.00
Exports of goods and services						1.19	1.15	1.13		43						1.08	1.26	1.17	0.00
Imports of goods and services						1.21	1.13	1.12		44						1.06	1.25	1.23	0.00
Statistical discrepancy										0									
GDP - Stat. discr.						1.21	1.18	1.13								1.01	1.05	1.05	0.00
Exchange rates/GDP by PPP method	1.12	1.04	1.03	1.10	1.23	1.15	1.08	1.06	1.06							1.01	1.05	1.05	0.00
PPP result minus NA, per cent																-0.6	0.6	0.5	0.0
ISL																			
Gross domestic product (expenditure approach)	1.08	1.04	1.02	1.02	1.03	1.02	1.03	1.05	1.04	100	1.01	0.97	1.01	1.04	1.00	1.05	1.05	1.05	1.04
Final consumption expenditure	1.07	1.04	1.04	1.02	1.02	1.03	1.02	1.03	1.04	80	1.03	0.97	0.97	1.03	1.02	1.04	1.05	1.08	1.06
Gross capital formation	1.04	1.05	1.05	1.03	1.02	1.03	1.03	1.03	1.01	20	1.11	0.88	0.91	0.99	1.03	1.21	1.10	1.27	0.99
Exports of goods and services	1.07	0.99	1.04	1.06	1.05	1.00	1.02	1.04	1.00	34	0.94	0.98	1.07	1.10	0.98	1.10	1.06	1.02	1.05
Imports of goods and services	1.03	0.99	1.09	1.05	1.03	1.03	1.00	0.99	0.99	34	1.05	0.94	0.92	1.04	1.04	1.17	1.08	1.23	1.06
Statistical discrepancy										0									
GDP - Stat. discr.	1.08	1.04	1.02	1.02	1.03	1.02	1.03	1.05	1.04		1.01	0.97	1.01	1.04	1.00	1.05	1.05	1.05	1.04
Exchange rates/GDP by PPP method	0.97	1.06	0.88	0.88	0.92	0.90	0.92	1.15	0.97		1.02	0.97	1.00	1.05	1.01	1.04	1.06	1.07	1.04
PPP result minus NA, per cent											1.0	-0.1	-0.9	1.0	0.8	-1.1	1.0	2.7	0.0
IRL																			
Gross domestic product (expenditure approach)	1.02	1.03	1.05	1.02	1.03	1.02	1.04	1.06	1.04	100	1.02	1.03	1.03	1.06	1.10	1.08	1.11	1.09	1.10
Final consumption expenditure	1.04	1.04	1.03	1.03	1.03	1.03	1.03	1.04	1.03	71	1.02	1.03	1.02	1.04	1.04	1.06	1.07	1.07	1.07
Gross capital formation	1.02	1.03	1.05	1.02	1.04	1.03	1.06	1.08	1.10	19	0.93	0.87	0.96	1.12	1.22	1.16	1.20	1.16	1.04
Exports of goods and services	1.00	0.98	1.07	1.00	1.02	1.00	1.01	1.03	1.02	72	1.06	1.14	1.10	1.15	1.20	1.12	1.17	1.21	1.12
Imports of goods and services	1.02	0.99	1.05	1.02	1.04	0.99	1.01	1.02	1.03	62	1.02	1.08	1.08	1.15	1.16	1.12	1.17	1.26	1.09
Statistical discrepancy	0.93	0.73	1.36	2.68	-0.23	1.11	0.60	-1.43	-0.08	-1	1.05	1.30	0.85	0.37	-2.40	1.96	1.61	0.52	1.53
GDP - Stat. discr.	1.02	1.03	1.05	1.01	1.02	1.02	1.04	1.05	1.04		1.02	1.03	1.03	1.06	1.11	1.08	1.11	1.08	1.10
Exchange rates/GDP by PPP method	0.98	0.94	1.02	0.95	0.95	0.96	0.92	0.98	1.01		1.01	1.03	1.05	1.06	1.10	1.09	1.13	1.09	1.10
PPP result minus NA, per cent											-1.1	0.3	1.7	-0.6	-0.3	0.6	1.7	1.0	-0.5

ITA																			
Gross domestic product (expenditure approach)	1.08	1.05	1.04	1.03	1.05	1.05	1.02	1.03	1.01	100	1.01	1.01	0.99	1.02	1.03	1.01	1.02	1.02	1.01
Final consumption expenditure	1.07	1.05	1.05	1.04	1.05	1.05	1.03	1.02	1.02	78	1.03	1.02	0.97	1.01	1.01	1.01	1.02	1.02	1.01
Gross capital formation	1.06	1.03	1.06	1.02	1.06	1.03	1.03	1.01	1.00	20	1.00	0.98	0.86	1.05	1.07	1.00	1.03	1.07	1.06
Exports of goods and services	1.04	1.01	1.10	1.03	1.09	1.01	1.00	1.01	1.00	23	0.99	1.07	1.09	1.10	1.13	1.01	1.06	1.03	1.00
Imports of goods and services	1.01	1.01	1.15	1.05	1.11	0.97	1.01	0.99	1.01	21	1.02	1.07	0.89	1.08	1.10	1.00	1.10	1.09	1.03
Statistical discrepancy										0									
GDP - Stat. discr.	1.08	1.05	1.04	1.03	1.05	1.05	1.02	1.03	1.01		1.01	1.01	0.99	1.02	1.03	1.01	1.02	1.02	1.01
Exchange rates/GDP by PPP method	0.98	0.98	1.13	0.99	1.04	0.90	0.97	0.94	1.00		1.02	1.01	0.98	1.02	1.03	1.03	1.02	1.02	1.01
PPP result minus NA, per cent											0.7	0.0	-1.3	-0.1	-0.3	1.5	0.0	0.9	-0.3
JAP																			
Gross domestic product (expenditure approach)	1.03	1.02	1.01	1.00	0.99	0.99	1.00	1.00	0.99	100	1.04	1.01	1.00	1.01	1.01	1.05	1.02	0.97	1.00
Final consumption expenditure	1.03	1.02	1.01	1.01	1.00	1.00	1.02	1.00	0.99	69	1.02	1.02	1.01	1.02	1.02	1.03	1.01	1.00	1.01
Gross capital formation	1.02	1.01	1.00	0.99	0.98	0.97	0.99	0.99	0.98	29	1.04	0.97	0.98	0.99	1.02	1.12	0.99	0.91	0.99
Exports of goods and services	0.97	0.97	0.92	0.96	0.97	1.03	1.02	1.01	0.91	10	1.05	1.05	1.01	1.05	1.05	1.06	1.12	0.97	1.02
Imports of goods and services	0.94	0.95	0.91	0.95	0.97	1.10	1.06	0.98	0.90	9	0.97	0.99	1.00	1.09	1.14	1.12	1.01	0.92	1.05
Statistical discrepancy										0									
GDP - Stat. discr.	1.03	1.02	1.01	1.00	0.99	0.99	1.00	1.00	0.99		1.04	1.01	1.00	1.01	1.01	1.05	1.02	0.97	1.00
Exchange rates/GDP by PPP method	0.88	0.92	0.78	0.89	0.94	1.09	0.98	1.00	0.83		1.04	1.01	1.01	1.01	1.02	1.04	1.01	0.98	1.01
PPP result minus NA, per cent											0.4	0.2	0.6	0.4	0.2	-0.6	-0.7	0.4	0.4
KOR																			
Gross domestic product (expenditure approach)	1.11	1.08	1.07	1.08	1.07	1.04	1.03	1.05	0.98	100	1.09	1.05	1.05	1.08	1.09	1.07	1.05	0.93	1.11
Final consumption expenditure	1.12	1.09	1.08	1.10	1.07	1.06	1.06	1.08	1.00	65	1.08	1.06	1.05	1.07	1.08	1.07	1.03	0.90	1.09
Gross capital formation	1.11	1.07	1.04	1.05	1.07	1.04	1.06	0.98	1.06	34	1.15	0.99	1.03	1.14	1.11	1.09	0.93	0.62	1.30
Exports of goods and services	1.02	1.03	1.01	1.01	1.02	0.97	1.05	1.23	0.80	33	1.11	1.11	1.11	1.16	1.25	1.11	1.21	1.13	1.16
Imports of goods and services	1.02	1.03	1.00	1.01	1.04	1.03	1.12	1.28	0.83	32	1.19	1.05	1.06	1.22	1.22	1.14	1.03	0.78	1.29
Statistical discrepancy	6.64	-0.09	1.53	0.13	11.98	-2.79	-4.07	-0.21	0.72	0	0.10	-14.32	0.78	1.14	-0.08	1.45	-0.65	2.16	-3.75
GDP - Stat. discr.	1.12	1.09	1.07	1.08	1.06	1.04	1.03	1.06	0.97		1.09	1.04	1.06	1.08	1.10	1.07	1.05	0.93	1.11
Exchange rates/GDP by PPP method	0.98	1.05	0.91	0.97	0.99	0.99	1.04	1.36	0.81		1.08	1.05	1.06	1.08	1.09	1.05	1.02	0.91	1.08
PPP result minus NA, per cent											-0.4	0.1	0.4	0.1	-0.9	-2.0	-2.6	-2.4	-3.3
LUX																			
Gross domestic product (expenditure approach)						1.02	1.03	1.01	1.02	100						1.03	1.07	1.05	1.08
Final consumption expenditure						1.02	1.02	1.01	1.02	64						1.04	1.03	1.02	1.07
Gross capital formation						1.01	1.00	1.00	1.01	21						0.98	1.13	1.02	1.27
Exports of goods and services						1.01	1.04	1.00	1.02	110						1.04	1.10	1.10	1.08
Imports of goods and services						1.01	1.02	1.00	1.01	94						1.04	1.09	1.08	1.11
Statistical discrepancy										0									
GDP - Stat. discr.						1.02	1.03	1.01	1.02							1.03	1.07	1.05	1.08
Exchange rates/GDP by PPP method	0.96	0.93	0.96	0.93	0.90	0.99	1.02	0.94	1.00							1.03	1.09	1.07	1.08
PPP result minus NA, per cent																0.0	2.0	2.0	0.8
MEX																			
Gross domestic product (expenditure approach)	1.23	1.14	1.09	1.08	1.38	1.31	1.18	1.15		100	1.04	1.04	1.02	1.04	0.94	1.05	1.07	1.05	0.00
Final consumption expenditure	1.25	1.17	1.11	1.09	1.32	1.30	1.18	1.21		79	1.05	1.04	1.02	1.04	0.92	1.02	1.06	1.05	0.00
Gross capital formation	1.18	1.04	1.01	1.06	1.81	1.28	1.13	1.03		23	1.10	1.13	0.99	1.10	0.65	1.26	1.25	1.10	0.00
Exports of goods and services	1.08	1.05	1.03	1.06	1.80	1.23	1.07	1.10		23	1.05	1.05	1.08	1.18	1.30	1.18	1.11	1.12	0.00
Imports of goods and services	1.09	1.04	1.04	1.05	1.95	1.21	1.04	1.12		25	1.15	1.20	1.02	1.21	0.85	1.23	1.23	1.17	0.00
Statistical discrepancy										0									
GDP - Stat. discr.	1.23	1.14	1.09	1.08	1.38	1.31	1.18	1.15			1.04	1.04	1.02	1.04	0.94	1.05	1.07	1.05	0.00
Exchange rates/GDP by PPP method	1.01	1.01	0.90	1.04	1.95	1.12	0.92	1.07	1.00		1.03	1.04	1.01	1.04	0.92	1.06	1.08	1.04	0.00
PPP result minus NA, per cent											-0.8	-0.1	-0.7	0.1	-1.8	1.3	1.2	-0.9	0.0
NDL																			
Gross domestic product (expenditure approach)						1.01	1.02	1.02	1.01	100						1.03	1.04	1.04	1.04
Final consumption expenditure						1.02	1.02	1.02	1.02	73						1.03	1.03	1.04	1.04
Gross capital formation						1.02	1.02	1.02	1.01	22						1.04	1.06	1.05	1.04
Exports of goods and services						1.00	1.03	0.99	1.00	60						1.05	1.09	1.06	1.05
Imports of goods and services						1.01	1.03	0.99	1.01	54						1.04	1.09	1.08	1.05
Statistical discrepancy										0								1.62	0.82
GDP - Stat. discr.						1.01	1.02	1.02	1.01							1.03	1.04	1.04	1.04
Exchange rates/GDP by PPP method	0.97	0.93	0.94	0.94	0.91	0.99	1.02	0.94	1.00							1.03	1.04	1.04	1.03
PPP result minus NA, per cent																-0.3	0.1	0.5	-0.7
NZL																			
Gross domestic product (expenditure approach)	1.01	1.02	1.02	1.02	1.02	1.01	1.01	1.01	0.00	100	0.99	1.01	1.06	1.05	1.04	1.03	1.02	1.00	1.04
Final consumption expenditure	1.02	1.01	1.01	1.02	1.03	1.02	1.01	1.02	0.00	78	0.98	1.01	1.02	1.05	1.04	1.03	1.03	1.01	1.04
Gross capital formation	1.03	1.04	1.02	1.00	1.01	0.97	0.96	0.96	0.00	20	0.83	1.08	1.24	1.16	1.06	1.05	1.03	0.95	1.17
Exports of goods and services	0.99	1.07	0.98	0.99	0.98	0.97	0.99	1.04	0.00	30	1.09	1.03	1.08	1.08	1.03	1.04	1.04	1.02	1.06
Imports of goods and services	1.02	1.06	0.96	0.97	0.97	0.95	0.99	1.03	0.00	28	0.96	1.07	1.08	1.14	1.07	1.07	1.05	1.03	1.11
Statistical discrepancy										0									
GDP - Stat. discr.	1.01	1.02	1.02	1.02	1.03	1.01	1.00	1.01	0.00										
Exchange rates/GDP by PPP method																			
PPP result minus NA, per cent											0.99	1.01	1.06	1.05	1.04	1.03	1.02	1.00	1.04

Exchange rates/GDP by PPP method	0.97	1.06	0.88	0.88	0.92	0.90	0.92	1.15	0.97		0.98	1.01	1.07	1.06	1.03	1.03	1.03	1.00	1.05
PPP result minus NA, per cent											-0.5	0.5	1.1	0.9	0.6	0.7	0.2	0.4	0.7
NOR																			
Gross domestic product (expenditure approach)	1.02	1.00	1.02	1.00	1.03	1.04	1.03	0.99	1.07	100	1.03	1.03	1.03	1.05	1.04	1.05	1.05	1.02	1.01
Final consumption expenditure	1.04	1.02	1.02	1.02	1.03	1.02	1.03	1.03	1.03	70	1.02	1.03	1.02	1.03	1.02	1.05	1.03	1.03	1.02
Gross capital formation	1.01	1.03	1.03	1.02	1.03	1.02	1.02	1.03	1.02	23	0.96	0.96	1.07	1.07	1.10	1.03	1.16	1.11	0.90
Exports of goods and services	0.99	0.93	1.02	0.97	1.02	1.07	1.02	0.92	1.11	39	1.06	1.05	1.03	1.09	1.04	1.09	1.06	1.00	1.02
Imports of goods and services	1.00	0.99	1.02	1.02	1.01	1.02	1.01	1.02	1.00	33	1.00	1.01	1.04	1.05	1.06	1.08	1.11	1.09	0.97
Statistical discrepancy										0									
GDP - Stat. discr.	1.02	1.00	1.02	1.00	1.03	1.04	1.03	0.99	1.07		1.03	1.03	1.03	1.05	1.04	1.05	1.05	1.02	1.01
Exchange rates/GDP by PPP method	0.98	0.94	1.01	0.96	0.92	1.04	0.96	0.97	0.99		1.03	1.01	1.03	1.04	1.05	1.08	1.06	0.98	1.05
PPP result minus NA, per cent											-0.2	-2.4	0.1	-1.6	0.9	2.8	0.9	-4.0	4.3
POL																			
Gross domestic product (expenditure approach)	1.55	1.39	1.31	1.37	1.28	1.19	1.14	1.12	1.07	100	0.93	1.03	1.04	1.05	1.07	1.06	1.07	1.05	1.04
Final consumption expenditure	1.64	1.39	1.30	1.34	1.29	1.20	1.15	1.11	1.07	79	1.08	1.04	1.05	1.04	1.03	1.07	1.06	1.04	1.04
Gross capital formation	1.40	1.25	1.23	1.50	1.23	1.17	1.13	1.10	1.09	21	0.80	0.87	1.13	1.09	1.24	1.19	1.21	1.14	1.06
Exports of goods and services	1.21	1.29	1.27	1.32	1.20	1.08	1.14	1.13	1.05	25	0.98	1.11	1.03	1.13	1.23	1.12	1.12	1.14	0.98
Imports of goods and services	1.32	1.22	1.19	1.27	1.18	1.10	1.16	1.11	1.08	26	1.30	1.02	1.13	1.11	1.24	1.28	1.21	1.18	1.01
Statistical discrepancy										0	0.04	2.01	-0.09	-1.53	0.00			-29.23	0.53
GDP - Stat. discr.	1.49	1.39	1.30	1.37	1.28	1.19	1.14	1.12	1.07		0.97	1.02	1.04	1.05	1.07	1.06	1.07	1.05	1.04
Exchange rates/GDP by PPP method	1.05	1.26	1.18	1.21	1.09	1.06	1.07	0.98	1.09		0.90	1.04	1.05	1.06	1.08	1.05	1.06	1.05	1.04
PPP result minus NA, per cent											-6.8	1.7	1.3	1.0	0.7	-0.8	-0.7	-0.2	-0.4
PRT																			
Gross domestic product (expenditure approach)						1.03	1.03	1.04		100						1.04	1.04	1.03	0.00
Final consumption expenditure						1.04	1.03	1.03		83						1.03	1.03	1.05	0.00
Gross capital formation						1.03	1.03	1.02		24						1.03	1.11	1.09	0.00
Exports of goods and services						0.98	1.02	1.01		30						1.07	1.08	1.08	0.00
Imports of goods and services						1.02	1.02	0.99		38						1.05	1.11	1.14	0.00
Statistical discrepancy										0									
GDP - Stat. discr.						1.03	1.03	1.04								1.04	1.04	1.03	0.00
Exchange rates/GDP by PPP method	0.96	0.92	1.06	1.00	0.93	0.97	1.00	0.95	1.00							1.02	1.04	1.04	0.00
PPP result minus NA, per cent																-1.5	-0.2	0.2	0.0
ESP																			
Gross domestic product (expenditure approach)						1.04	1.02	1.02	1.03	100						1.02	1.04	1.04	1.04
Final consumption expenditure						1.04	1.02	1.02	1.03	77						1.02	1.03	1.04	1.04
Gross capital formation						1.02	1.03	1.02	1.04	23						1.02	1.05	1.10	1.09
Exports of goods and services						1.02	1.03	1.00	1.00	26						1.10	1.15	1.08	1.07
Imports of goods and services						1.01	1.03	1.00	1.00	26						1.08	1.13	1.13	1.12
Statistical discrepancy										0									
GDP - Stat. discr.						1.04	1.02	1.02	1.03							1.02	1.04	1.04	1.04
Exchange rates/GDP by PPP method	0.96	0.97	1.10	1.02	0.96	0.96	1.02	0.94	1.00							1.03	1.04	1.05	1.04
PPP result minus NA, per cent																0.2	0.0	0.3	0.0
SWE																			
Gross domestic product (expenditure approach)				1.02	1.04	1.01	1.01	1.01	1.01	100				1.04	1.04	1.01	1.02	1.03	1.04
Final consumption expenditure				1.03	1.03	1.03	1.02	1.01	1.02	78				1.01	1.00	1.01	1.01	1.02	1.03
Gross capital formation				0.99	1.01	1.00	1.00	1.01	1.01	16				1.16	1.11	0.98	1.01	1.11	1.05
Exports of goods and services				1.04	1.07	0.95	1.00	1.00	0.99	40				1.14	1.11	1.04	1.13	1.07	1.05
Imports of goods and services				1.04	1.06	0.96	1.01	1.00	1.01	34				1.12	1.07	1.03	1.12	1.10	1.05
Statistical discrepancy										0									
GDP - Stat. discr.				1.02	1.04	1.01	1.01	1.01	1.01					1.04	1.04	1.01	1.02	1.03	1.04
Exchange rates/GDP by PPP method	0.96	0.95	1.19	0.96	0.95	0.89	1.00	0.96	1.00					1.04	1.05	1.01	1.01	1.03	1.03
PPP result minus NA, per cent														0.3	1.3	0.4	-0.6	0.3	-0.9
CHE																			
Gross domestic product (expenditure approach)	1.06	1.03	1.03	1.02	1.01	1.00	1.00	1.00		100	0.99	1.00	1.00	1.01	1.01	1.00	1.02	1.02	0.00
Final consumption expenditure	1.06	1.04	1.03	1.01	1.01	1.01	1.00	1.00		74	1.02	1.00	0.99	1.01	1.00	1.01	1.01	1.02	0.00
Gross capital formation	1.02	1.00	0.98	0.97	0.97	0.97	0.99	0.97		22	0.93	0.89	0.98	1.07	1.06	0.99	1.02	1.11	0.00
Exports of goods and services	1.04	1.02	1.01	1.00	0.99	1.01	1.03	0.99		37	0.98	1.03	1.01	1.02	1.02	1.02	1.09	1.05	0.00
Imports of goods and services	1.01	1.03	0.98	0.95	0.97	1.00	1.04	0.96		33	0.98	0.96	1.00	1.08	1.05	1.03	1.08	1.09	0.00
Statistical discrepancy										0						0.00		0.00	
GDP - Stat. discr.	1.06	1.03	1.03	1.02	1.01	1.00	1.00	1.00			0.99	1.00	1.00	1.01	1.01	1.00	1.02	1.02	0.00
Exchange rates/GDP by PPP method	0.97	0.97	0.93	0.89	0.88	0.99	1.03	0.93	0.99		1.00	1.00	1.01	1.03	1.02	1.01	1.01	1.03	0.00
PPP result minus NA, per cent											1.1	-0.1	1.4	2.1	1.2	0.3	-0.2	1.3	0.0
TUR																			
Gross domestic product (expenditure approach)	1.59	1.64	1.68	2.06	1.87	1.78	1.82	1.76	1.56	100	1.01	1.06	1.08	0.95	1.07	1.07	1.08	1.03	0.95
Final consumption expenditure	1.63	1.67	1.66	2.05	1.90	1.71	1.84	1.82	1.63	82	1.03	1.03	1.09	0.95	1.05	1.08	1.08	1.01	0.98
Gross capital formation	1.67	1.61	1.61	2.16	1.80	1.74	1.78	1.76	1.57	24	0.90	1.13	1.31	0.70	1.32	1.05	1.12	0.99	0.91

Exports of goods and services	1.61	1.63	1.60	2.65	1.73	1.69	1.87	1.60	1.52	19	1.04	1.11	1.08	1.15	1.08	1.22	1.19	1.12	0.93
Imports of goods and services	1.60	1.63	1.49	2.63	1.85	1.80	1.74	1.63	1.48	23	0.95	1.11	1.36	0.78	1.30	1.21	1.22	1.02	0.96
Statistical discrepancy	-30.04	0.32	5.66	-1.40	-1.84	2.11	0.20	-6.87	5.52	-2	0.39	6.27	0.39	-1.40	-0.57	-1.23	1.34	1.64	0.81
GDP - Stat. discr.	1.64	1.65	1.68	2.05	1.85	1.69	1.86	1.81	1.64		1.01	1.05	1.08	0.95	1.07	1.07	1.08	1.03	0.95
Exchange rates/GDP by PPP method	1.51	1.62	1.42	2.60	1.59	1.68	1.65	1.59	1.54		1.01	1.05	1.10	0.94	1.04	1.05	1.09	1.03	0.96
PPP result minus NA, per cent											0.0	-0.3	1.3	-1.0	-2.5	-1.9	1.3	-0.7	1.3
GBR																			
Gross domestic product (expenditure approach)	1.07	1.04	1.03	1.02	1.03	1.03	1.03	1.03	1.02	100	0.99	1.00	1.02	1.04	1.03	1.03	1.04	1.03	1.02
Final consumption expenditure	1.08	1.05	1.03	1.02	1.03	1.03	1.03	1.03	1.02	84	0.99	1.00	1.02	1.03	1.02	1.03	1.03	1.03	1.04
Gross capital formation	1.00	0.96	1.00	1.02	1.06	1.03	1.00	1.00	1.00	17	0.89	1.02	1.03	1.07	1.02	1.02	1.09	1.10	1.02
Exports of goods and services	1.02	1.02	1.09	1.01	1.03	1.01	0.96	0.96	0.99	26	1.00	1.04	1.04	1.09	1.09	1.08	1.09	1.03	1.03
Imports of goods and services	1.00	1.00	1.09	1.03	1.06	1.00	0.93	0.94	0.97	27	0.95	1.07	1.03	1.05	1.05	1.09	1.09	1.09	1.08
Statistical discrepancy										0									
GDP - Stat. discr.	1.07	1.04	1.03	1.02	1.03	1.03	1.03	1.03	1.02		0.99	1.00	1.02	1.04	1.03	1.03	1.04	1.03	1.02
Exchange rates/GDP by PPP method	0.96	0.98	1.04	0.94	1.00	0.96	0.84	0.91	0.99		0.99	1.00	1.02	1.04	1.02	1.03	1.04	1.03	1.03
PPP result minus NA, per cent											0.3	0.4	0.0	-0.8	-0.7	0.3	0.9	0.8	0.7
USA																			
Gross domestic product (expenditure approach)	1.04	1.02	1.02	1.02	1.02	1.02	1.02	1.01		100	1.00	1.03	1.03	1.04	1.03	1.04	1.04	1.04	0.00
Final consumption expenditure	1.04	1.03	1.02	1.02	1.02	1.02	1.02	1.01		83	1.00	1.02	1.03	1.03	1.02	1.03	1.03	1.04	0.00
Gross capital formation	1.02	1.00	1.03	1.02	1.02	1.00	1.00	0.99		18	0.93	1.07	1.06	1.11	1.02	1.08	1.11	1.11	0.00
Exports of goods and services	1.01	1.00	1.00	1.01	1.02	0.99	0.99	0.98		11	1.07	1.06	1.03	1.09	1.10	1.08	1.12	1.02	0.00
Imports of goods and services	1.00	1.00	0.99	1.01	1.03	0.98	0.96	0.94		12	0.99	1.07	1.09	1.12	1.08	1.09	1.14	1.12	0.00
Statistical discrepancy										0	1.27	0.86	0.65	1.02	0.13	0.00		2.92	0.00
GDP - Stat. discr.	1.04	1.02	1.02	1.02	1.02	1.02	1.02	1.01			1.00	1.03	1.03	1.04	1.03	1.04	1.04	1.04	0.00
Exchange rates/GDP by PPP method	0.94	0.98	0.89	0.96	1.03	0.95	0.88	0.93	0.96		1.00	1.03	1.03	1.04	1.03	1.04	1.05	1.05	0.00
PPP result minus NA, per cent											0.2	0.0	-0.1	0.0	0.0	0.0	0.2	0.4	0.0

The estimation:

- Volume change of GDP is estimated at previous year prices by using time series data on main aggregates of GDP expenditures at current and 95 prices. Statistical discrepancy has been excluded in the calculation.
- The estimation of GDP (excluding stat. discrepancy) has been repeated but replacing the change of exports and imports prices by the change of exchange rates, that is following the procedure that is in effect applied in the ICP. Exchange rates are based on US dollars.
- GDP by the NA (1) is subtracted from GDP based on the PPP methodology (2) and the result is multiplied by 100. The results are seen on the right side of the table (bordered areas).

ANNEX 3

Standard deviation of price level indices in the OECD comparison 1996.

11	FINAL CONSUMPTION of POPULATION (national)	30
111	FOOD, BEVERAGES, TOBACCO	31
1111	Food	34
111101	-Bread and cereals	35
111102	-Meat	50
111103	-Fish	26
111104	-Milk, cheese and eggs	28
111105	-Oils and fats	36
111106	-Fruits, vegetables, potatoes	36
111107	-Other food	28
1112	Beverages	41
111201	-Non-alcoholic beverages	37
111202	-Alcoholic beverages	45
1113	Tobacco	45
112	CLOTHING and FOOTWEAR	21
1121	Clothing	22
1122	Footwear	21
113	GROSS RENTS, FUEL and POWER	50
1131	Gross rents (incl. indoor repair)	59
1132	Fuel and power	36
114	HOUSEHOLD EQUIPMENT and OPERATION	24
1141	Furniture	30
1142	Household textiles	28
1143	Appliances	25
1144	Other household goods & services	30
115	MEDICAL CARE	38
116	TRANSPORT and COMMUNICATION	26
1161	Transport equipments	24
1162	Operation of equipments	30
1163	Purchased transport services	41
1164	Communication	30
117	RECREATION, EDUCATION	37
1171	Equipment for recreation	22
1172	Recreational, cultural services	35
1173	Books, newspapers, magazines	30
1174	Education	54
118	MISCELLANEOUS GOODS & SERVICES	34
1181	Restaurants, cafes, hotels	39
1182	Other goods & services (+NPI nec.)	34
119	NET PURCHASES ABROAD	0
13	COLLECTIVE CONSUMPTION of GOVERNMENT	46
14	GROSS FIXED CAPITAL FORMATION	21
141	CONSTRUCTION	33
1411	Residential buildings	41
1412	Non-residential buildings	30
1413	Other construction, etc.	33
142	MACHINERY and EQUIPMENT	11
1421	Transport equipment	18
1422	Non-electrical machinery	12
1423	Electrical machinery	13
15	CHANGES in STOCKS	21
16	BALANCE of IMPORTS and EXPORTS	0
	GROSS DOMESTIC PRODUCT	28