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National Accounts and Economic Statistics

THE QUARTERLY NATIONAL ACCOUNTS (QNA) DATABASE

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THE QUARTERLY NATIONAL ACCOUNTS (QNA) DATABASE

1.   The OECD maintains an internal database containing most of the quarterly national accounts produced by OECD Member countries that publish quarterly accounts. The database is used by many OECD Secretariat, particularly those in the Economics Department. Not all countries compile a full set of quarterly accounts. Thus the content of the database differs from one country to another. It is worth noting that since the beginning of 2005, the QNA database has become more homogeneous, especially for European countries mainly due to modifications required by Eurostat. The requirements of internal users of the quarterly national accounts database are: full scope of what is published by the national statistical institute (NSI), accuracy, comparability and timeliness. Therefore, sets of tables of the OECD-Eurostat common questionnaire are supplemented by other data published by NSIs.

2.   The content of the database includes, when available: GDP - expenditure and output approach (current and constant prices), GDP income approach, Finance of accumulation, Gross fixed capital formation (current and constant prices) broken down by type of product, by institutional sector and by type of asset, Disposable income and Real disposable income components, Household final expenditures (current and constant prices) broken down by type of product, Institutional sectors accounts and specific accounts for some countries.

3.   For European countries that respond to the ESA 95 questionnaire, data from the Excel or Gesmes files supplied are used, and when additional data are available data they are obtained from the reported national files or by direct access to national databases. It is recommended that European countries send the tables at the same time to both Eurostat and the OECD (SNA.Contact@OECD.org). For non-EU countries, data are either taken directly from national databases or from national files sent to the OECD, no specific questionnaire is used.

4.   A homogeneous set of selected series for each country from the QNA database is published in the OECD quarterly national accounts publications. Both electronic and paper versions are released on the same day, at approximately T+120 days. For example, the next paper and electronic versions of 2005/3 publication will be released on November 3, 2005. The data will extend up to 2005Q2, except for the United States (for which 2005Q3 will be available).

5.   The electronic publication, available on OLIS and Source OECD, is updated in the first week of each month. An extract of this publication, covering the main components of GDP by expenditure, at current and constant prices, is freely available on the OECD web page. Finally, a weekly updated table showing quarterly growth rates for GDP at constant prices is presented on the OECD statistics portal (see : http://www.oecd.org/topicstatsportal/0,2647,en_2825_495684_1_1_1_1_1,00.html#500258).

6.   OECD publishes a news release on quarterly GDP volume growth for the OECD area disseminated on a quarterly basis.

Data transmission to the OECD

7.   Almost all the countries announce in advance the release day for their quarterly national accounts. The release calendar is available directly on national websites, or on the IMF's Dissemination

Table 1 Data release and data transmission

	First release of Q1 2005 - Number of days after the end of the quarter[1]	Advanced release calendar available	Reception of data on the release day for Q1 and Q2 2005
Australia	61	Yes	
Austria	74	Yes-DSBB[2]	
Belgium	68	Yes	No for Q1 (national file)
Canada	60	Yes	
Czech Republic	71	Yes	
Denmark	61	Yes	
Finland	70	Yes	No for Q2
France	51[3]	Yes	
Germany	54[3]	Yes	
Greece	43	Yes	No for Q1
Hungary	70	Yes	
Iceland	74	Yes	
Ireland	120[3]	Yes(NLT[4])	
Italy	71	Yes	
Japan	48	Yes	
Korea	62	Yes(NLT[4])-DSBB	
Luxembourg	111[3]	Yes	
Mexico	48	Yes	
Netherlands	63	Yes	
New Zealand	85	Yes	
Norway	68	Yes	
Poland	62	Yes-DSBB	
Portugal	70	Yes	No for Q1 and Q2
Slovak Republic	70	Yes	
Spain	56[3]	Yes	
Sweden	69	Yes	No for Q2 (national file)
Switzerland	63	Yes	
Turkey	91	Yes	
United Kingdom	56	Yes	
United States	28	Yes	

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[1] The number of days indicated refers to the complete release of GDP and its components (expenditure or production approach, at constant prices), GDP flash estimates are not taken into account.

[2] Release date available on IMF's Dissemination Standards Bulletin Board.

[3] Introduction of the allocation of FISIM and /or chain-linked constant price estimates.

[4] No specific release date, but a date for which the release will not be later than.

Standard Bulletin Board (DSBB). Given the requirements of our users, it is recommended that countries should send their data to the OECD as soon as possible on the release day of their QNA. Most countries now do so (except, in some cases, for Belgium, Finland, Greece, Portugal, and Sweden). This year has proved to be difficult for some countries, particularly those European countries that are allocating FISIM for the first time and/or introducing chain-linked constant price estimates. A few countries have delayed the release of their data, and/or not published release dates or changed them. Table 1 shows some characteristics of data release and data transmission for OECD Member countries.

Introduction of chain-linked constant price estimates and FISIM: 2005-2006

8.	EU countries are required to implement major changes in their national accounts: the main ones are, a change from fixed-weighted (i.e. fixed base year), constant price estimates to annually re-weighted, chain-linked constant price estimates, and the allocation of FISIM at an industries/activities level.

Chain linking

9.	Most European countries used to rebase their constant price estimates every five years. These estimates were then linked to provide long, continuous time series. They are now adopting annually re-weighted, chain-linked constant price estimates using the Laspeyres formula. This is equivalent to linking each year constant price estimates expressed in the prices of the previous year. Most countries have chosen to use this method, but there are two major exceptions: the US and Canada, which have chosen to use the Fisher formula. The US estimates are derived using annual weights except at the end of the series where it is not possible to apply the Fisher formula using annual weights and quarterly data. To get over this problem quarterly weights are used to calculate the latest volume estimates. The Canadian chain-linked estimates are derived only for quarterly seasonally adjusted expenditure data, using quarterly weights throughout.

Three methods to compile chain-linked estimates in QNA

10.	While it is straightforward to chain-link annual data, it is not so straightforward to link quarterly constant price estimates derived using annual weights. Using the Laspeyres formula, for each year the values of the four quarters are expressed in the prices of the previous year. Thus, the difference between the fourth quarter of year t-1 and the first quarter of year t is a combination of the change in volume between the two quarters and the change in the average prices of year t-1 and the average prices of year t. In order to create a chain-linked constant price series it is necessary to adjust the quarterly values to remove the effect of the annual price change. Within the OECD three different methods have been used: the annual overlap method, the one quarter overlap method and the over-the-year method. The first two methods involve calculating and applying a link factor that is used to remove the effect of the annual price change.

The annual overlap method: a link factor is derived by dividing the current price value for year t by the corresponding value for year t in the prices of year t-1.

The one quarter overlap method: a link factor is derived by dividing the current price value of the first quarter of year t by the corresponding value for the same quarter in the prices of year t-1[5].

5	Or, alternatively, the link factor is derived by dividing the value of the fourth quarter of year t-1 expressed in the prices of year t by its current price value.

The over-the-year method: for all but the latest year**,** all quarters are compiled at the average prices of both the current year and the previous year. For the latest year, the quarters are just calculated at the average prices of the previous year. The year-on-year growth rates are then calculated for each of the four quarters in the prices of the previous year, e.g. for the first quarter the growth rate is calculated from the first quarter of year t-1, valued at the average prices of year t-1, to the first quarter of year t, also valued at the average prices of year t-1.

11. The advantage of the annual overlap method is that it ensures consistency with annual constant price estimates since it uses the same link factors. The disadvantage is that the growth rate from the latest quarter to which the annual link factor is applied to the next quarter is 'damaged' by the linking process. The extent of the damage is determined by the difference between the one quarter link factor and the annual link factor. In cases where price or volume relativities are stable the difference is small, but if neither are stable then the damage to the quarterly growth rate at the link quarter can be significant.

12. The advantage of the one quarter overlap method is that no quarterly growth rates are damaged, but the disadvantage is that the quarterly chain-linked estimates are inconsistent with the annual chain-linked data. To remedy this problem, countries using this method generally use an optimal benchmarking technique to force the quarterly data to be consistent with the annual data, whilst minimising the disturbance to the quarterly growth rates. This, of course, means an extra computational step. However, the step can also serve to benchmark quarterly estimates to annual estimates that have been derived independently, such as from annual supply and use tables.

13. The over-the-year method is the least satisfactory and is not recommended.

14. The one quarter overlap method was recommended by Eurostat and it expressed its intention to use this method to derive EU aggregates. However, unfortunately, most EU countries have chosen to use the annual overlap method, and in recognition of this fact Eurostat has decided to use the annual overlap method to derive EU aggregates. See table 2 for a list of the methods used by countries and when they are planning to change (if scheduled) over to chain linking.

15. The OECD Secretariat has also decided to use the one year overlap method to derive chain-linked estimates of OECD aggregates. Analysis has shown that price and volume relativities are quite stable between countries for the same aggregate, and so there is little to be gained from using the one quarter overlap method.

Difficulties caused by chain-linking for OECD economic analysis and forecasting

16. One of the major outputs of the OECD Secretariat is its economic assessments of countries and forecasts of their future economic growth. In doing this, it is important that the figures used correspond to those published by countries. The contribution to GDP growth of changes in inventories and net exports are two of the important statistics used, but many countries are not supplying these data. While it is possible for the OECD to estimate the contribution to GDP growth of next exports by differencing the contributions of exports and imports there is no guarantee that it will get exactly the same result as the Member country. In the case of changes in inventories, it is simply not possible for the OECD to derive reasonable estimates with the data available. Therefore, the OECD asks countries to supply the contributions to GDP growth of these two aggregates in files sent with every update or to make them available for downloading in their databases or on their web page. Methods that can be used for deriving these aggregates are discussed in the paper *Collection and dissemination of annual national accounts* in item 18 of the agenda.

Table 2 Chain-linking of QNA – State of play

	Producing chain-linked estimates	Plans to disseminate chain-linked estimates	Reference/ Base year	Chain linking Method
Australia	Yes		2003-2004[1]	Quarter overlap
Austria	Yes		2000	Annual overlap
Belgium	Forthcoming	December 2006		?
Canada	Yes-Fisher		1997	Quarter overlap
Czech Republic	Yes		1995	Annual overlap
Denmark	Forthcoming	October 2005	?	Quarter overlap
Finland	Forthcoming	February 2006	?	?
France	Forthcoming	May 2006[2]	?	?
Germany	Yes		2000	Annual overlap
Greece	Yes	June 2007	1995	Indirect method[3]
Hungary	Forthcoming	2006	2000	?
Iceland	Yes		2000	Annual overlap
Ireland	Yes		2003	Annual overlap
Italy	Forthcoming	?	?	Annual overlap
Japan	Yes		2000	Annual overlap
Korea	No	No		
Luxembourg	Yes		1995	Annual overlap
Mexico	No	No		
Netherlands	Yes		2001	Over the year
New Zealand	Yes		1995-96	Annual overlap
Norway	Yes		2002	Annual overlap
Poland	Yes[4]		2000	Annual overlap
Portugal	Yes		2000	Indirect method[3]
Slovak Republic	Forthcoming	Mars 2006	?	Over the year
Spain	Yes		2000[1]	Quarter overlap
Sweden	Yes		2000	Over the year
Switzerland	Yes		2000	Annual overlap
Turkey	?	?	?	?
United Kingdom	Yes		2002[1]	Quarter overlap
United States	Yes-Fisher		2000	Quarter overlap

1: The reference year is updated each year
2: Experimental estimates
3: QNA are derived from chain-linked annual accounts using an indirect method.
4: Poland reports quarterly data at previous year prices and the OECD Secretariat applies the annual
   overlap method to calculate chain-linked estimates.

Allocation of FISIM (Financial intermediation services indirectly measured) to industries/sectors.

17.   The issue of the allocation of FISIM has been already raised regarding annual national accounts. The following paragraphs concern the specific case of quarterly accounts. Financial intermediation services indirectly measured (FISIM) is generated by charging or paying different rates of interest to borrowers and lenders. Until now, for most European countries and Japan and Mexico FISIM has not been allocated to the

user sectors/industries. This non allocation has implied that FISIM has been treated as intermediate consumption by the economy as a whole. The allocation of FISIM to all users allows it to be recorded as intermediate consumption for businesses and as final consumption for households, general government and non profit institution serving households, or as net exports. This will imply an increase to GDP of EU countries, which is expected to be approximately 1.5 % overall.

18.   Several non-European countries have been allocating FISIM to all sectors for many years: Australia, Canada, Korea, and the United States. Since the beginning of 2005, the following European countries have implemented it in their quarterly accounts: Austria, Denmark, Finland, France, Germany, Ireland, Netherlands and Spain. Table 3 lists those countries that have started allocating FISIM and those that are planning to do so.

Table 3 Allocation of FISIM		
	Allocation of FISIM	**Plans to introduce FISIM**
Australia	Yes	
Austria	Yes	
Belgium	Forthcoming	December 2006
Canada	Yes	
Czech Republic	Forthcoming	March 2006
Denmark	Forthcoming	October 2005
Finland	Yes	
France	Yes	
Germany	Yes	
Greece	Forthcoming	June 2007
Hungary	Forthcoming	June 2006
Iceland	Forthcoming	?
Ireland	Yes	
Italy	Forthcoming	Mid 2006
Japan	No	?
Korea	Yes	
Luxembourg	Yes	
Mexico	No	?
Netherlands	Yes	
New Zealand	No	?
Norway	Forthcoming	December 2006
Poland	Forthcoming	?
Portugal	Forthcoming	December 2005
Slovak Republic	Forthcoming	2006
Spain	Yes	
Sweden	Forthcoming	December 2005
Switzerland	No	?
Turkey	No	March 2006
United Kingdom	Forthcoming	December 2005
United States	Yes	

19.   What is the impact on GDP growth of allocating FISIM? The OECD Secretariat cannot answer this question definitively with the data at its disposal, in particular for quarterly accounts. However, for those three EU countries that have recently introduced the allocation of FISIM and also provide estimates

of household final consumption expenditure on financial services, the OECD has subtracted the old estimates that exclude FISIM from the new estimates that include FISIM to give a partial answer. It must be remembered that this covers only part, albeit a substantial part of allocated FISIM, and there could be factors other than the inclusion of FISIM that have contributed to the revised estimates of household expenditure on financial services at current prices.

Table 4 – Change in final consumption expenditure of resident households on financial services (CP126) after allocation of FISIM, as a percentage of GDP at current prices

	1995	1996	1997	1998	1999	2000	2001	2002	2003
Austria	0.5	0.5	0.5	0.4	0.5	0.7	0.6	0.4	0.6
Finland	1.0	0.7	0.7	0.8	0.7	0.7	0.8	0.6	0.5
France	1.2	1.2	1.0	0.9	0.4	0.9	1.0	0.7	0.3

Source : OECD Annual national accounts database

20.   These figures suggest that the allocation of FISIM has had a significant impact on annual levels at current prices in Austria, Finland and France. In France, the volatility of the figure for 1999 and 2003 is apparent, and has implications for the implicit price indexes of household consumption and GDP.

Conclusion

- **Member countries are reminded that the principle governing the transmission of data is:** *transmit data to OECD (and Eurostat) as quickly as possible after the release of the data at a national level.*

- **Major changes and improvements in the quarterly national accounts system are being or have been implemented. However, the move to chain-linked constant price estimates has led to some problems in the supply of data relating to net exports and changes in inventories. In order to identify which methods are used by countries to estimate chain-linked net exports and changes in inventories an inquiry will be conducted in 2006. The results will be presented at the October 2006 meeting of the national accounts working group. In addition, the OECD will collect the contribution of changes in stocks and the contribution of net exports to GDP change.**

- **As delegates may have noted, some information is missing in the tables in this paper. It would be useful if the following countries could give us the answers to:**

    o   **Chain linking: Could Mexico, Korea and Turkey indicate if and when they expect to introduce chain linking? Can those EU countries that have not yet adopted chain linking confirm the date in table 2 when they plan to do so. In addition, could those EU countries for which there are question marks in table 2, please provide the missing information.**

    o   **Allocation of FISIM: see paper on annual accounts STD/NAES(2005)18.**