

Box 2

The impact of the changeover to the ESA 95 on GDP data

Changes reflect a number of factors

Eurostat recently published estimates for euro area GDP and its expenditure components which are, for the first time, based on the new framework for national accounts, the European System of Accounts 1995 (ESA 95). When comparing the new area-wide data with those available at the end of April 1999, labelled “ESA 79 data”¹ for convenience, account has to be taken of the fact that the application of the new ESA 95 accounting rules is only one reason for the differences. To the extent that the new system includes items which were not previously included under expenditure or production, GDP will increase. Changes in levels can also be due to a more harmonised and improved coverage of economic activities, an exercise to which extensive work has recently been devoted. In most cases, differences between ESA 95 data and ESA 79 data also stem from those revisions which are regularly undertaken to incorporate additional or improved source statistics. Statistical offices in the Member States used the changeover to the ESA 95 as an opportunity to re-evaluate their national accounts in this respect. Changes resulting from such revisions can also have a significant impact on the growth rates of GDP data. In addition, some effect on real rates of growth may result from the re-basing of constant price estimates.

1 The Eurostat euro area aggregates used for this comparison were based on national data which only partially followed ESA 79 principles, and on ESA 95 data for Finland. It should also be noted that the current estimates for the euro area still rely on non-ESA 95 data for Luxembourg, Austria and Portugal.

Overall, a number of factors contribute to the differences between ESA 95 data and ESA 79 data discussed in the sections below, and it is not generally possible to identify the individual effects. On the basis of preliminary information on the individual Member States published by Eurostat for 1995, only slightly more than half of the rise in euro area GDP levels is due to conceptual changes, while the remainder of the rise is accounted for by improvements in the source statistics. More than 20 conceptual changes which potentially affect the level of GDP have been identified, and Member States have been asked to provide more detailed information on these effects. Along the same lines, further work has been initiated with regard to other national accounts indicators. Assessing the full impact of the changeover to the ESA 95 will have to wait until these more detailed studies have been carried out. For presentational purposes, in this Box conceptual changes are discussed in connection with the difference in the GDP level, but this does not preclude other effects in terms of the rates of growth. The comparisons in terms of levels, growth rates and quarterly data are based on data for 1991 to 1998 and focus on the main causes of the differences at the euro area level, acknowledging that these explanations do not necessarily hold true for every individual Member State. On average, the new ESA 95 data do not give rise to a significant change in the picture of the business cycle.

Some increase in overall GDP levels

The effect of the revisions in connection with the ESA 95 on overall GDP at current prices was to slightly, but consistently, raise the level by around 2% in the period under review (see the table below). This is mainly due to a wider definition of gross fixed capital formation, while conceptual changes to the individual components of both final consumption and external trade have tended to offset one another in terms of their effect on overall GDP.

Differences in euro area GDP and components (ESA 95 minus ESA 79)

(percentages, in current prices; annual data)

	1991 - 1998	1991 - 1995	1995 - 1998
Gross domestic product	1.9	2.0	1.8
Private consumption	-6.7	-6.4	-7.0
Government consumption	31.9	31.2	33.2
Gross fixed capital formation	6.9	6.4	7.5
Changes in inventories	-12.2	0.5	-13.6
Exports	2.3	2.3	2.3
Imports	3.9	3.8	3.9

Sources: Eurostat and ECB calculations.

The value of fixed capital formation is about 7% higher than that recorded before, contributing around 1½ percentage points to the overall increase in GDP levels, and the share of investment in GDP has risen to slightly more than 20%. The definition of investment has been extended by making allowance for categories that were not previously recorded under fixed capital formation, reclassifying some intermediate consumption as capital expenditure. Reclassifications of this kind automatically increase GDP. Inter alia, fixed capital formation now includes expenditure on certain intangible assets, such as computer software bought or produced on own account, and expenditure on mineral exploration. Military equipment, such as airports and hospitals, which can potentially be used for civilian purposes, are also treated as capital formation, whereas they were formerly recorded under government consumption.

According to the new ESA 95 data, the level of private consumption is almost 7% lower and that of government consumption is 32% higher than before. Overall, final consumption has increased by 1%,

explaining slightly more than ½ percentage point of the rise in overall GDP levels. The shift from private to government consumption is largely explained by the fact that private consumption now consists exclusively of expenditure which is directly financed by households, while goods and services consumed by households but provided by the government as social transfers in kind are recorded as government consumption.

Compared with the ESA 79 data, exports and imports are 2½% and 4% higher respectively, the net effect on the level of overall GDP being a small decrease. The higher values for external trade are mainly due to the fact that cross-border flows are now consistently recorded on a gross basis. While this concept continues to exclude simple transit trade, flows of goods which are sent abroad only for intermediate processing and repair are now treated as exports and imports.

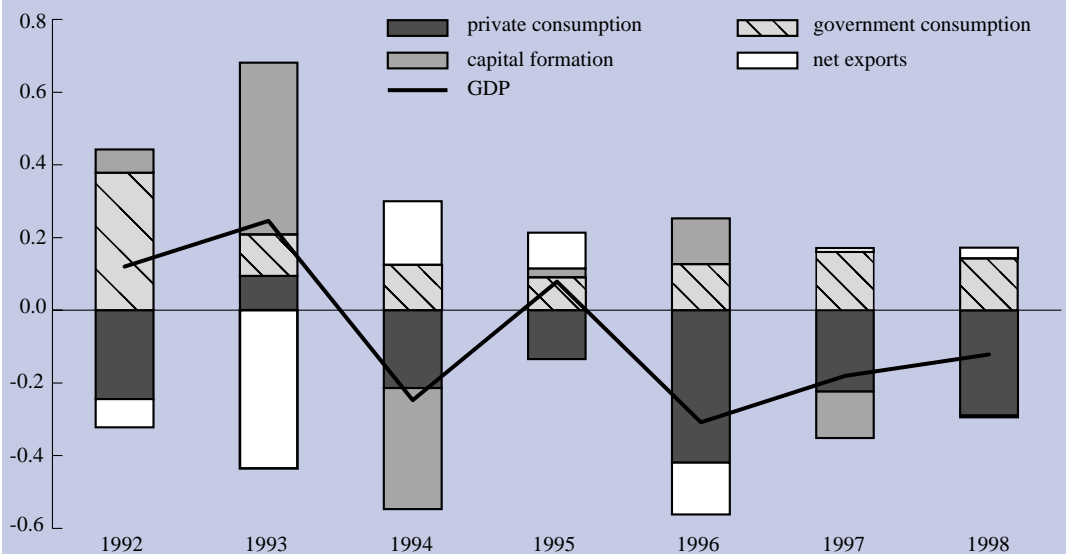
Finally, changes in inventories tend to be lower on average than under the ESA 79, but this is not a consistent feature across years. As this component to some degree also reflects statistical uncertainties and discrepancies, the revisions for more recent years are likely to be due mainly to the incorporation of additional and better source statistics.

Somewhat lower real GDP growth in recent years

The main effect of the revisions to overall GDP at constant prices is a somewhat lower annual rate of growth in the second half of the period under review and a marginally higher rate of growth in the first half, without much changing the broad picture of the business cycle in the 1990s. Comparing the ESA 95 data with the previously published figures, the difference in euro area real GDP growth in the period under review does not exceed 0.3 percentage point, although some Member States show larger changes. Slightly larger differences of up to 0.5 percentage point can be observed with regard to the contributions by individual components to overall GDP growth (see the chart below). While growth in government consumption is generally higher and private consumption growth is lower than in the corresponding ESA 79 results, the direction of change is less consistent in the case of other components.

GDP growth rates and contributions to growth (ESA 95 minus ESA 79)

(differences in annual percentage point contributions)



Sources: Eurostat and ECB calculations.

The differences in overall GDP growth rates are particularly marked for 1993 and 1996. On the basis of ESA 95 data, the recession in 1993 is now slightly less severe, while the dip in growth in 1996 has become more pronounced. This is reflected in marked differences with regard to the contributions of domestic demand, net exports and changes in inventories to real GDP growth, which, however, partly move in opposite directions (see the table below). For both 1993 and 1996, the relatively poor growth performance is now explained to a larger extent by lower contributions of net exports. For 1993, this has been more than offset by upward revisions in terms of contributions of domestic demand (excluding changes in inventories) and inventory changes. By contrast, for 1996, the contributions of domestic demand are lower under the ESA 95, while changes in inventories appear, at the same time, to have been less of a drag on growth. Overall, for the period under review, the new ESA 95 data give rise to a stronger role for domestic demand and a somewhat smaller role for net exports in explaining GDP growth.

Comparison of real GDP growth and contributions to growth

(annual percentage point contributions, unless otherwise stated)

	1992	1993	1994	1995	1996	1997	1998
Real gross domestic product ¹⁾							
ESA 95	1.5	-0.8	2.4	2.2	1.3	2.3	2.8
ESA 79	1.4	-1.1	2.6	2.1	1.7	2.5	2.9
Domestic demand (excl. changes in inventories)							
ESA 95	2.0	-1.5	1.5	1.7	1.3	1.4	2.7
ESA 79	1.6	-2.0	1.5	1.8	1.6	1.4	2.8
Changes in inventories							
ESA 95	-0.4	-0.5	0.6	0.3	-0.4	0.4	0.6
ESA 79	-0.2	-0.8	1.0	0.2	-0.5	0.6	0.7
Net exports							
ESA 95	0.0	1.2	0.3	0.2	0.4	0.6	-0.5
ESA 79	0.1	1.7	0.1	0.1	0.6	0.5	-0.5

Sources: Eurostat and ECB calculations.

1) Annual percentage changes.

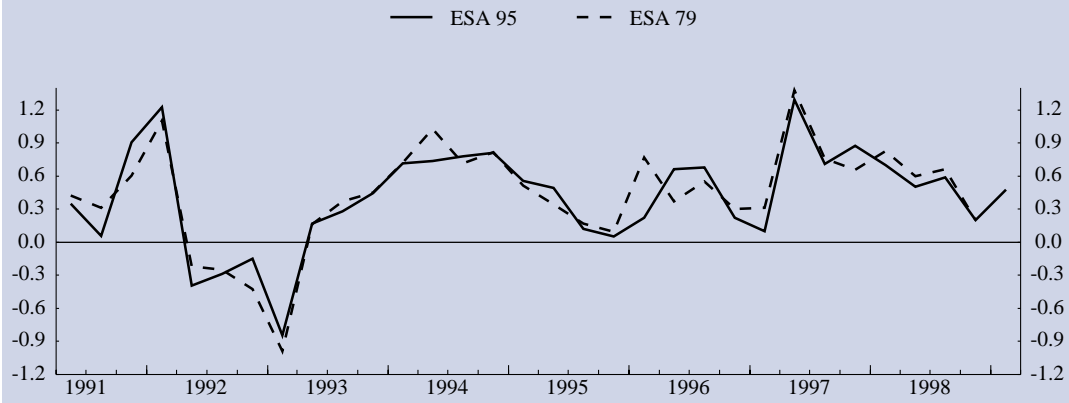
Some changes in the quarterly pattern of real GDP growth

An important improvement made by the new ESA 95 data in analytical terms relates to the fact that quarterly euro area GDP estimates can draw on a wider set of corresponding national data. As in the case of annual figures, some differences compared with ESA 79 data may result, for instance, from revisions in connection with improved source statistics. An important source of differences lies in the adjustment procedures carried out on the raw data. The estimates for the euro area national accounts are compiled from national data which are adjusted for seasonal variations and, in some cases, calendar effects. In connection with the changeover to the ESA 95, some Member States have changed their methods of adjusting data for seasonal effects and some have introduced an adjustment for the number of working days in a particular quarter. Taken together, this may give rise to a different quarterly pattern. Moreover, as the new ESA 95 series are generally far shorter than the former series, this may have an impact on the estimated seasonal factors, and thus on the quarterly pattern.

Overall, while there are differences in quarterly real GDP growth (see the chart below), they do not give rise to a different assessment with regard to turning-points in the growth path. This holds true not only for more recent developments, but also for the recession in 1993, where the onset of the downturn will continue to be dated in the second quarter of 1992 and the recession trough at the beginning of 1993.

Real GDP growth in the euro area according to ESA 95 and ESA 79 data

(percentage change compared with the previous period; quarterly data; seasonally adjusted)



Source: Eurostat.