

Swiss Quarterly National Accounts (QNA)
current state of the revision process (implementation of ESA95)
and integration of new international guidelines (IMF¹)

1. The Swiss National Accounts (annual and quarterly) underwent a major and general revision between 2003 and 2005, for the implementation of the new ESA95 and other important international guidelines.
2. The Federal Statistical Office (FSO) published revised yearly data in 2003 (new annual data covering the period 1980 – 2002), and National Accounts in accordance with and revised to take account of the ESA95 are now updated annually. Since late 2003, important revision work has been carried out within the QNA (the State Secretariat of Economic Affairs is in charge of the QNA in Switzerland).
3. Although the Swiss QNA can still generally be described as an extrapolation of data from the last available year by use of various short-term indicators (the last available year is T-1 or T-2), coverage and reliability of the QNA has been considerably increased during the last revision. The revision of the QNA in 2004 primarily involved the implementation of ESA95, but the opportunity was also taken to continue with other methodological improvements and make better use of new statistical source data.
4. For the re-estimation of historical quarterly national accounts figures dating back to 1980, a transitional period was put in place (2003-2004) during the revision process. In this transitional period, the former quarterly distribution was used on revised annual figures, i.e. no re-estimation of the historical quarterly data was made during this period.
5. During the first several months of 2005, the revision and implementation of ESA95 has been carried out for a large part of the expenditure components of GDP² (final consumption expenditure of households and non-profit institutions serving households, gross fixed capital formation, i.e. fixed assets, software and construction, exports and imports of goods, exports of services).
6. With the publication of the results of the 4th quarter 2004, new historical time series for the revised aggregates have been made available. All these historical time series have been retroactively recalculated within the new framework for all of the years for which statistical information was available. A methodology has been developed to adjust the former quarterly series to the revised annual figures and to guarantee the best compatibility with the new quarterly framework for the decade 1980-1990 and for some aggregates or sub-components of aggregates where data on the new basis were unavailable.
7. As in other countries, the expenditure and the production approach of GDP is more developed in Switzerland than the income approach (basically, expenditure is measured more directly than income, the expenditure components for GDP are also those most closely followed by financial markets). Up to the last revision, only a very basic production approach of GDP was performed on a quarterly basis. With the implementation of ESA95 a thorough quarterly production account has been developed. While using this approach GDP is derived from the sum of gross added values by industry, net tax on products and services (tax decreased by the subventions) and less the financial intermediation services indirectly measured (FISIM). Currently allocation of FISIM to user industries of final consumers is not performed in Switzerland (either on a yearly or on a quarterly basis).
8. The estimation of quarterly national accounts data at constant prices was harmonised with the procedure used in annual national accounts. Up to the last revision, quarterly and yearly constant price estimates were expressed in terms of a fixed base year to derive real growth rates. With the

¹ Adriaan M. Bloem, Robert J. Dippelsman, and Nils O. Maehle, 2001, **Quarterly National Accounts Manual, Concepts, Data Sources, and Compilation**, IMF publication, in particular chap. IX, Price and Volume Measures: Specific QNA-ANA Issues.

² The implementation of ESA95 for general government final consumption expenditure and for imports of services will be achieved since the summer 2005.

implementation of ESA95 for the yearly and quarterly accounts, another approach has been taken. All aggregates at current prices are first converted into the previous year's average prices to derive aggregates at constant prices (the previous year is always the basic year, the base is changed for every year). The chain-linking of quarterly data at the previous year's average prices is provided in a second stage by means of annual average prices (annual overlap technique). The reference year for the new yearly and quarterly series is 2000. The annual overlap technique is well described in the Quarterly National Accounts Manual of the IMF (chap. IX).

9. Quarterly estimates of national accounts expressed at previous year average prices are additive, but cannot be considered as typical time series and are not suitable for the calculation of quarterly rates of change. Quarterly estimates at constant prices obtained by chain-linking (with the reference prices of 2000 in the case of Switzerland) are not additive, but represent typical time series that allow the calculation of quarterly rates of change to the previous quarter or to the same quarter of the previous year. The chain-linked volume index of a particular aggregate between 1990:1 and 2004:4 for example, is calculated as the product of individual year-on-year volume indices for the whole period 1990-2004 (annual overlap technique). As a result of using this technique, aggregates at constant prices are not additive: i.e. the values of aggregates at constant prices do not agree with sums of individual components at the same constant prices. However, a linear relationship does exist between quarterly data expressed at previous year average prices, chain-linked quarterly data and annual nominal and constant data expressed at previous year average prices. This relationship allows (in a rather simple way) the derivation of quarterly data expressed at previous year average prices directly from the chain-linked volume series, which can be modelled and treated as typical time series. The calculation of quarterly aggregates by the summation of its components is still possible, but a transformation of the data represents a necessary prerequisite (more information on this subject can be downloaded from the following internet-address: <http://www.seco.admin.ch/themen/zahlen/bip/index.html?lang=de> (rubric "methods")).
10. The publications of the Swiss Quarterly National Accounts include data at current and constant price, for GDP and GDP components; raw and seasonally adjusted data are made available. The seasonal adjustment is carried out with the Census-X12 Program, which consists of decomposing the time series into trend (plus cyclical) seasonal and irregular components. The seasonal component is excluded and the remaining three are put together to form a seasonally adjusted time series. The seasonally adjusted time series are retroactively recalculated every quarter with regard to the extension and revision of the original non-adjusted time series.
11. The latest revision of the QNA produced very large changes in the main aggregates, particularly caused by the use of new statistical data sources and also due to definitional changes. The introduction of the new method for deriving quarterly accounts at constant prices had a modest impact on the movement of the time series.
12. Up to the last revision, the need for best possible quarterly rate of change (growth rates) overruled the need for best possible level of the quarterly series. One of the main lessons learned from the last revision is that the relative importance of the level and quarterly rates of change cannot be distinguished, and that due attention has to be paid to the current level of the quarterly series as well (including change in the seasonal cycle).
13. The development of a thorough production account on a quarterly basis increases the need to perform a balancing process for the quarterly accounts. Even though GDP may be estimated independently from production and expenditure sources, there should be a single measure of economic activity for every quarter, i.e. once estimates have been performed on a quarterly basis, the various accounts (production and expenditure) should be fully balanced. As mentioned by Eurostat³, on the one hand the adjustment process is often viewed as being largely arbitrary for users outside the government and on the other, accounts that contain residuals and that are not balanced might be considered 'unfinished'. With the implementation of ESA95, there is an increasing need to enhance the quality of the quarterly balancing process. The principles recommended by Eurostat and in other international guidelines (IMF) will be followed as much as possible, together with the principles already in use for the balancing of the annual data.

³ Eurostat, 1999, **Handbook on Quarterly Accounts**, chap. 11. the Balancing of Quarterly Accounts.