



The 2017 revision of the Swiss Quarterly National Accounts

SECO, Short-Term Economic Analyses Unit

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Overview

The Swiss annual and quarterly national accounts underwent an extended revision in summer 2017. As every year, the Swiss Federal Statistical Office (SFSO) compiled new annual figures for the most recent year, 2016, and revised the figures from the two years before, 2015 and 2014.¹ When deriving the new set of quarterly national accounts (QNA) figures, SECO always takes the SFSO's annual revision into account and also reviews its methods of deriving quarterly estimates and the methods of seasonal adjustment. The 2017 revision went further and covered the entire period from 1995 onwards. As a result, the impact of the annual revision in 2017 on the Swiss QNA was larger than usual.

The extended national accounts revision affected both the levels and growth rates of various time series on an annual and quarterly basis. The largest changes can be found in the data on government consumption, while private consumption and, to a lesser degree, investment in equipment and construction as well as foreign trade were also affected by the revision. On the production side, figures from government-related sectors and various other industries were also revised for the entire period from 1995 onwards. Moreover, the gross domestic product (GDP) time series was influenced by the extended revision as well.

What is more, SECO reviewed and adapted the retropolation of the QNA figures for the period 1980-1994, which were generated in 2014.² This became necessary partly due to the changes in the revised data from 1995 onwards (avoiding breaks in various time series) and partly due to some newly available and revised historical data.

This technical note outlines the key adjustments and their impact on the Swiss QNA.

Impact on the quarterly national accounts volume data

GDP and production account

The 2017 national accounts revision affected the entire GDP time series. The level of the time series increased slightly over the entire time period. In addition, the growth rates for 2014-2015 underwent a significant upward revision, while those of the years before and of the most recent year were subject to only minor changes (figure 1).

¹See SFSO press release no. 2017-0268 of 28 August 2017, <https://www.bfs.admin.ch/bfs/en/home/statistics/national-economy.assetdetail.3282749.html>

²See the technical note of 30 September 2014, available at <https://www.seco.admin.ch/gdp> under the heading «Further information - Auxiliares»

Both the levels and the growth rates were revised on an annual basis for various production sectors. SECO's methods for quarterly estimation and seasonal adjustment were reviewed for all sectors and amended where necessary.

The revision had a particularly profound effect on the sectors « Private households as employers and producers for own use » (General Classification of Economic Activities, NOGA 97-98) and « Real estate; professional, scientific, technical and other services » (NOGA 68-75; 77-82). In order to comply with international guidelines, the value added by private households renting residential properties was transferred from the former sector to the latter.

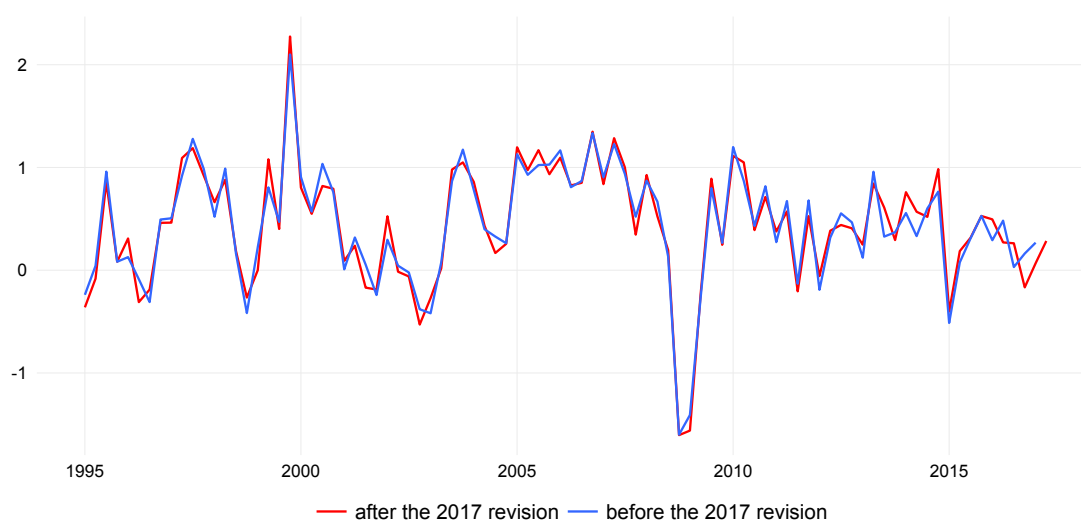
The government sector was also subject to considerable adjustments. The Swiss Federal Finance Administration (FFA) and the SFSO have harmonized their corresponding databases and statistics, affecting both government consumption (see below) and value added of the public administration (NOGA 84) at an annual level. The quarterly time series therefore reflect the corresponding revisions, although the method of quarterly estimation has essentially remained the same.

Finally, there have also been some minor adjustments to the levels and growth rates in a few other sectors throughout the entire time period. Noteworthy are the integration of newly available or revised basis statistics concerning research and development, which also affect investment in equipment (see below), as well as an amendment to the method for collecting basis statistics on pension funds, particularly affecting the insurance sector (NOGA 65). Although these changes had only minor implications for the methods of quarterly estimation and seasonal adjustment, they still had an impact on the quarterly figures due to the revised annual figures.

In addition, the updates and improvements made to certain methods for estimating the quarterly figures led to a few more changes. In particular, the « Art, entertainment, recreation and other services » sector (NOGA 90-96) now takes better account of sporting events, which in turn has a noticeable impact on the figures for these sectors at an annual and quarterly level. The methods of quarterly estimation in the health sector were also reviewed, with a noticeable impact on the quarterly figures for this sector.

Figure 1: Gross domestic product

Quarter on quarter growth rates in %, volume data, seasonally adjusted



Private consumption

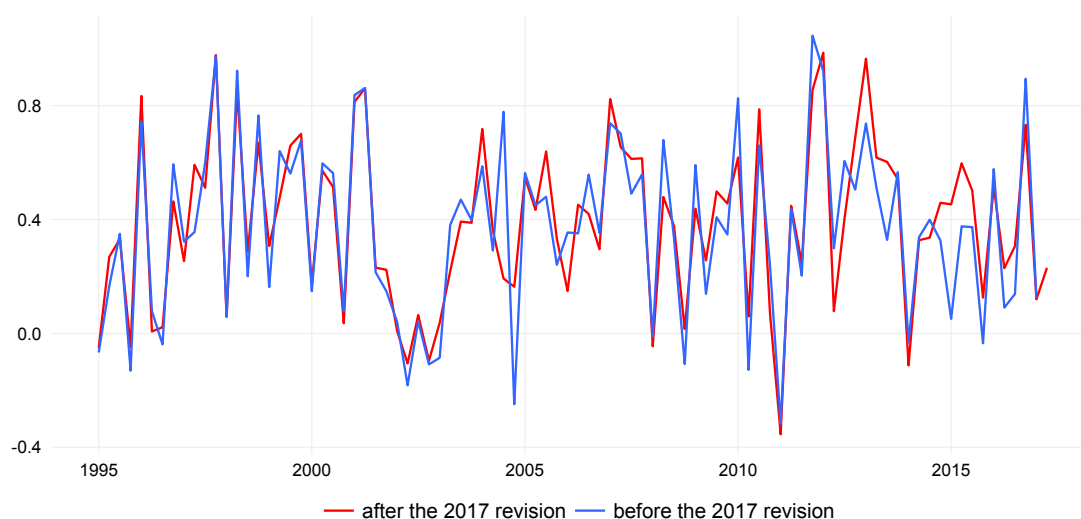
The private consumption time series was adjusted downwards over the entire time period. Moreover, growth rates for the two most recent years were subject to significant changes (figure 2). The revision for 2015 mainly stems from taking into account the newly available results of the 2015 Household Budget Survey, which is a very comprehensive set of statistics on the expenditure of private households (although these figures only become available two years after the event).

The revision from 1995 onwards is based on previous basis statistics that have been updated or revised, including for example the latest results from the structural survey regarding the expenditure of private households on rents, which ultimately led to a shift in the private consumption time series. However, this hardly affected the method of deriving quarterly estimates for this time series. By contrast, the new method of calculating the statistic on overall health expenditure resulted in a shift in the annual growth rates for consumption. As a result, the method for deriving the quarterly figures including the indicators used had to be reviewed in depth. What is more, adjustments related to the accrual basis of recorded health expenditures at a quarterly level were made. These changes had a significant impact on the quarterly results for private consumption across the board, not least because of the substantial weight of health consumption. The routine review of all models for estimating quarterly figures and employed indicators involved also gave rise to individual changes.

The adjustments described led to changes to the quarterly private consumption series which were noticeable but not fundamental. Quarterly growth rates of the most recent past saw barely any change at all, while the upward revision of annual growth in 2015 and 2016 shifted quarterly growth rates upwards as well. The revision of the annual figures also had a remarkable influence on the quarterly figures from 2012 and 2013.

Figure 2: Private consumption

Quarter on quarter growth rates in %, volume data, seasonally adjusted

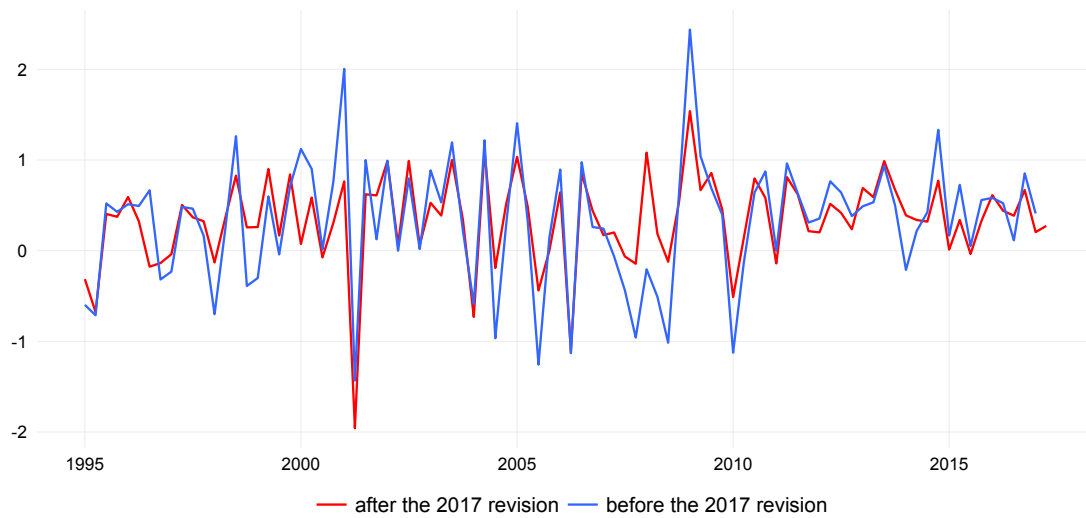


Government consumption

With the 2017 national accounts revision, the database and statistics on the government sector were harmonized and aligned between the FFA and SFSO. The SFSO and the FFA agreed on the calculation of the figures on the government sector, which are compiled by the FFA and are from now on incorporated into the annual national accounts as they are. The harmonization also led to an improved and refined data basis for the compilation of government consumption. Moreover, the revision was an opportunity to carry out some necessary amendments. The harmonization together with the additional amendments not only pushed the level of government consumption upwards, they also resulted in significantly different growth rates of the annual government consumption time series. Nonetheless, the previous method for deriving quarterly estimates has essentially remained the same. To some extent, the existing method is even more in line with the new annual aggregates than with the former data. However, the major revision at an annual level and the corresponding implications on the quarterly series led to visible changes in the quarterly dynamics of government consumption (figure 3).

Figure 3: Government consumption

Quarter on quarter growth rates in %, volume data, seasonally adjusted

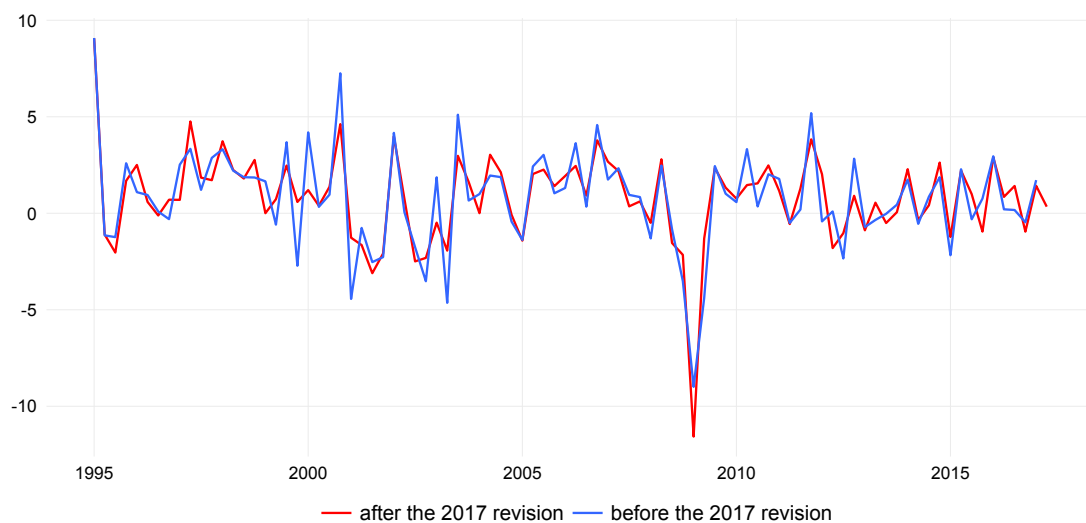


Investment

The 2017 revision also saw investment in equipment undergo major adjustments in comparison to those made in the usual annual revisions. A revision of the basic statistics on research and development expenditures following the newly published « F+E der Schweiz 2015 » survey on R&D in Switzerland, and revisions of the 2012 survey led to significant amendments to the annual figures for investment in research and development. As with all other GDP components, the methods for estimating quarterly figures and seasonal adjustment underwent an in-depth review. In some cases, new indicators for estimating quarterly data are used, which also required to amend the seasonal adjustment methods. The resulting changes have a minor impact on the overall trajectory of investment in equipment (figure 4). However, the current business cycle dynamics have not changed substantially. Regarding investment in construction, the 2017 revision had only a marginal impact.

Figure 4: Investment in equipment

Quarter on quarter growth rates in %, volume data, seasonally adjusted



Foreign trade

The 2017 revision affected the various foreign trade time series to a limited extent only. As regards trade in goods, new and detailed information about job processing and returned goods was integrated into the estimation process at an annual and quarterly level, essentially affecting the period between 2002 and 2006. As regards trade in services, the integration of new basic statistics, in particular the updated current account, resulted in some changes. This is largely why current figures for imports and exports of services are seeing such significant adjustments. The method for calculating quarterly results was reviewed in the usual depth and, in most cases, hardly any changes needed to be made. The seasonal adjustment models were partially adjusted, however.

Retropolation up to 1980

The 2017 national accounts revision saw various quarterly and annual time series undergo adjustments in terms of both their growth rates and levels from 1995 to 2017. In order to continue offering users of Swiss national accounts extended time series from 1980 onwards, SECO reviewed the retropolation for the period 1980 to 1994, essentially keeping to the method used in 2014 (see footnote 2). In the first stage, annual aggregates up to 1980 were recalculated using older annual values produced under the former System of Accounts ESA 95. In the second stage, quarterly and seasonally adjusted time series from 1980 to 1994 were derived. Where possible, SECO used the same indicators and models that it applies to calculate the quarterly and seasonally adjusted figures from 1995 onwards. Where new or revised historical values were available for the indicators, these were integrated into the recalculation. However, wherever the indicators were not available prior to 1995, alternative indicators were chosen and used in the calculation. Most of the retropolated time series saw slight adjustments to their levels and growth rates.

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