

Chain-linking in quarterly national accounts and the business cycle

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Abstract

In 2005 EU member countries switched their calculations of volume estimates in national accounts from a fixed base year to calculations at previous year prices. In order to get time series of absolute values for volume estimates, chain-linking of growth rates is necessary. Whereas this is a quite unambiguous procedure for annual figures, for quarterly national accounts there exist three possible methods. Despite the fact that all of them result in different output with different time series properties, countries within the EU are free to choose among them and currently are using different approaches. This can lead to differences in quarter-on-quarter growth rates - which are in the main focus of business cycle analysis - even if the same data basis is used.

In this study the properties of different chain-linking methods are shown in theory together with empirical evidence for Austrian quarterly national accounts. The resulting consequences for consecutive time-series based processing like seasonal adjustment and business cycle analysis are observed. Whereas dating turning points seem to be rather robust over different chain-linking methods, seasonal and working day adjustment and outlier detection based on time series modelling can be affected decisively. Furthermore the requirement of time consistency can interfere with outlier detection and - as a consequence - with business cycle dating, too.

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