

## **The Statistical Reconciliation of Time Series of Accounts after a Benchmark Revision**

Topic: Input-Output accounts and statistics

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In this study the 2003-2007 U.S. annual input-output accounts, GDP-by-industry accounts and expenditure-based GDP are reconciled with the 2002 and 2007 quinquennial benchmarks and all contemporaneous constraints of the input-output accounts for the in-between years. The series are adjusted according to statistical procedures able to deal with large systems of accounts subject to both temporal and contemporaneous constraints. Our objective is to adjust the preliminary levels of the series such that they (i) are consistent with the quinquennial benchmarks available, (ii) fulfill all the accounting relationships for any given year, and (iii) show movements that are as close as possible to the preliminary information. To this end we use a simultaneous least-squares procedure based on the proportional first difference (PFD) criterion, a movement preservation principle proposed by Denton (1971). According to our past experiences, we evaluate the possible adoption of (i) a pure proportional adjustment (PROP) for series with breaks and high volatility that deteriorate the meaningfulness of growth rates and (ii) a priori constraints for groups of variables according to their different reliability, where this can reasonably be assumed.