Double Deflation: Theory and Practice

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To estimate real GDP from the output side, the internationally recommended method is to use double deflation. Under double deflation real value added in each industry is calculated by deflating the outputs and the inputs separately using appropriate price indices. Double deflation is superior to single deflation since it is needed to ensure consistency between the two measures of real GDP, one from the output side (sometimes called the income side) and the other from the expenditure side. This paper considers the theory of double deflation within the framework of the supply and use tables. It establishes conditions under which the two measures of real GDP are consistent with each other and shows that this requires consistency between the deflators used on the expenditure and output sides. There is more than one way in which consistency between the deflators can be established. Relative reliability is one criterion on which the choice could be based.

The theory is illustrated by considering the case of the UK. Labour productivity (GDP per hour) in the UK is still at the same level today as it was ten years ago in 2007 just at the onset of the Great Recession, an unprecedented period of stagnation. But in other respects the economy has done well. Currently labour force participation is higher and unemployment lower than at the peak of the boom. This has led many to wonder whether there might be something wrong with the GDP numbers. A particular cause for concern is that in the UK the real value added of each industry is measured by single not double deflation. This paper presents estimates of GDP using double deflation to see whether this can throw any light on the UK productivity puzzle.