Total Factor Productivity and Relative Prices: the case of Italy

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Fontela in his work (1989) set up the distributional rule between economic sectors of productivity gain in the Inputâ€"Output context (Total Factor Productivity Surplus, TFPS). TFPS is calculate as the differences between output and inputs, both measured at constant prices. The idea is based on the Input-Output table deflation at current prices, in order to obtain an "unbalanced" table at constant prices, where the difference between total rows and total columns is the TFPS.

Garau (1996) proposed an extension to identify a measure of surplus, called Purchasing Power Transfer (PPT). This measure is given by the productivity gains and the market surplus generated by extraâ€"proï¬•ts conditions derived from rental position detained by agents, providing information about the degree of nonâ€"competitiveness in diï¬€erent markets.

The focus of the work is to compute and explain Fontelaâ€™s TFPS comparing it with Garauâ€™s PPT in Italy for the year 2009-2014. Fontelaâ€™s model is based on a single deflation of the input-output table at current prices for 2014 using the implicit price indixes, obtained by comparing the values of the input-output tables at current price and at price of the previous year. Garauâ€™s model is based on the assumption that prices can be breakdown in competitive prices and in a residual part due to market distortions. Competitive price indexes are estimated using TÃ¶rnqvist Index Price, and the input-output table of 2014 is then deflated using these and Fontelaâ€™s model is then re-applied. The part of TFPS generated or absorbed from the economic system is calculated as difference between the first and the second Fontelaâ€™s model.

In this way it is possible to highlight efficient production sectors and how they transfer TFPS, but also which are sectors in which economic agents are able to change prices more, by improving or distorting the market.

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