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An analysis of the relevance of off-balance sheet items in explaining productivity change in European banking

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Abstract

The 1990s have witnessed a significant growth in bank income generated through non-traditional activities, especially for large EU universal banking institutions. Using the non-parametric Malmquist methodology this study analyses the impact of the inclusion of off-balance sheet (OBS) business in the definition of banks' output when estimating total factor productivity change indexes. Whereas the results reinforce the prevalent view in the recent literature, indicating that the exclusion of non-traditional activities leads to a misspecification of banks' output, the impact of the inclusion of these activities varies. Overall, the inclusion of OBS items results in an increase in estimated productivity levels for all countries under study. However, the impact seems to be the biggest on technological change rather than efficiency change.

Notes

[1]Important developments in this field have been introduced, among others, by the work of Diewert (1976, 1978, 1981), Caves et al. (1982a and 1982b) and Färe et al. (1985, 1994).

[2]Shephard's (1970) distance functions have guided much of the development in efficiency and productivity analysis. In a multi-input multi-output framework, an output distance function is defined as the reciprocal of the maximum proportional expansion of the output vector, given inputs. An input distance function is defined as the reciprocal of the maximum proportional contraction of the input vector, given outputs.

[3]In his empirical work, Farrell (1957) defines technical efficiency as the maximum proportional contraction of inputs. He also indicated that, under constant returns to scale, this may be interpreted as the percentage by which output could be increased using the same inputs. The interpretation of Farrell's measures of technical efficiency as reciprocals of distance functions can be found in Färe et al. (1985, 1994).

[4]For a literature survey on the subject, see Grosskopf (1993) and Färe et al. (1997). Also, Ray and Desli (1997) discuss the conceptual framework and Mukherjee et al. (2001) derive the geometric decomposition for a generalized Malmquist index.

[5]The input distance function is similarly defined.

[6]It is to note that data on OBS items for UK banks were available on for six institutions, namely HSBC, Barclays Bank, Clydesdale Bank, Abbey National, NatWest and the Royal Bank of Scotland.

[7]Specifically, according to ECB (2000 and 2003) the OBS/Total Assets ratio for the whole banking sectors in the year 1994 (2000) was: 28.31 (29.76) in France, 14.54 (13.46) in Germany, 24.91 (13.46) in Italy, 5.65 (9.66) in Spain and 32.53 (34.2) in the UK.