

Abstract

This study addresses the importance of the existence of economies of scale and of economies of scope, the productive efficiency, the effects of concentration and technological progress over the banking costs, stressing its focus on the Portuguese banking market.

The conceptualization of the banking firm is determined by two alternative strands: production or intermediation. The adoption of the last perspective at this work implies that the dependent variable adds to the operational costs the financial ones. The cost-specifications encompass the Cobb-Douglas, Translog and Fourier functional forms. The multiproduct character of the banking firm suggests the use of functional forms as Translog and Fourier. Notwithstanding, the introduction of variables of structure and of homogeneity allows the association of the banking activity (multiproduct) with a single product function (Cobb-Douglas type). Otherwise, the Fourier function permits a better fitting to the data than the Translog function.

The sample covers twenty two banks which operated at Portugal on the 31st of December from 1995 to 2001 — non consolidated base with a panel data structure. The estimation of the economies of scale — panel data (fixed effects and random effects) – through the three cost-specifications advanced, permits to infer that there are not significantly economies of scale on the National Banking Industry. However, that is true only for the financial costs issued on the fact that the empirical outputs/outcomes/results suggest the existence of significant economies of scale regarding the operational costs.

The conclusions on the pattern of the economies of scope, based on the empirical results, are that the costs' diminishing is not correlated/associated with strategies of diversification (Translog and Fourier specifications).

The study about inefficiency is elaborated through the stochastic frontier model. The results obtained are strongly influenced by the kind of specifications selected. In fact, the average rate of inefficiency for all the banks into the sample is about 4% (Translog and Fourier specifications) and about 12% (Cobb-Douglas specification).

As a methodology to analyze the concentration I introduced binary variables, which intend to catch the effects on the actual year and lag effects of one, two and three years after the process of concentration. Adopting the Cobb-Douglas specification I obtained significant effects on the costs shrinkage/reduction as a result of the concentration process. Considering multiproduct functional forms type Translog and type Fourier I concluded that the concentration effects were irrelevant. The opposite conclusions derived for the alternative frameworks used are, partially, a consequence of the nature of the sample: the number of observations is very short (in particular those which cover the periods of two and three years after the concentration).

The effects of the technological growth over the efficiency are worked out by the introduction of a composite variable (which includes the Net links and the number of multibank ATMs) as an alternative to the trend. I conclude that, concerning this sample, the technological improvement does not reduce the total costs. However, if I select only the direct effects, the technological progress decreases the total costs.

Summing up, the yet unfinished concentration process of the Banking Portuguese Industry seems/sounds to be justified by the existence of economies of scale at the level of the operational costs, by the possibility of shrinkage of the X-inefficiency and by the incorporation of a technological drift.

JEL classifications: C33; D2; G21.

Keywords: Banking Industry; Cost Function; Scale Economies and Scope Economies; X- Inefficiency; Stochastic Cost Frontier; Mergers and Acquisitions; Technological Growth; Panel Data Analysis.