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O.R. Applications

Multiple goals and ownership structure: Effects on the performance of Spanish savings banks

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Abstract

Spanish savings banks (SBs) are financial institutions with a wide mission that includes different stakeholders' goals. Profit maximization is only one among several goals, and the widespread use of cost or profit efficiency as the only comparative performance measure may prove to be insufficient in this context. To overcome this problem, we build an aggregate performance index for organizations with multiple goals. Furthermore, we show how the ownership structure of SBs influences their economic behavior in two basic ways: (1) the performance level and (2) their goal priorities. In particular, we distinguish two types of ownership structures in our application, namely, organizations controlled by Public Administrations and those controlled by insiders (i.e. managers and workers). Our results indicate that each type has different priorities and differ in their performance indexes. More specifically, the empirical analysis shows that insider-controlled SBs favor goals related to profit maximization and the universal access to financial services and, furthermore, they perform better. In contrast, contributing to regional development becomes the most favored goal when Public Administrations have a majority in the bank.

Keywords: Data envelopment analysis (DEA); DEA weights; OR in banking; Ownership structure; Productivity and competitiveness

1. Introduction

In this paper, we examine the relationships between regulation, ownership structure and economic behavior of Spanish savings banks (SBs) during the period 1998–2002. The three objectives we aim to cover are: (1) an assessment of how regulation affects the ownership structure and the objective function of Spanish savings banks, (2) an analysis of the efficiency levels and goal priorities of these financial institutions, and (3) an evaluation of regulation efficiency. To achieve these objectives, we employ existing methodological developments in the area of data envelopment analysis (DEA).

Our analysis is related to two different strands in the literature on frontier efficiency analysis: one focuses on the link between banks organizational forms and frontier efficiency, while the other studies value judgments in DEA models. Within the first strand, substantial research effort has gone into

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answering the question of whether bank ownership influences economic behavior (Berger and Humphrey, 1997). In particular, previous studies have examined the differential effect on efficiency of mutual versus stock-owned banks (Cebenoyan et al., 1993; Mester, 1993; Altunbas et al., 2001), banks with stocks traded on capital markets versus private banks (Tulkens, 1993), government ownership versus private banks (Altunbas et al., 2001), foreign versus domestic banks (Chang et al., 1998; Bhattacharya et al., 1997; Fukuyama et al., 1999; Sathye, 2001), minority versus non minority-owned banks (Elyasiani and Mehdian, 1992), and small versus large banks (Elyasiani and Mehdian, 1995), among others. Concerning the Spanish banking industry, there are several studies (Grifell-Tatjé and Lovell, 1997; Tortosa-Ausina, 2003) that have assessed the efficiency of savings banks and commercial banks, postulating whether the differences in ownership between these organizational forms may lead to different efficiency levels.

One potential drawback of most applications in this area has been the lack of the behavioral objectives of each organizational type at the time of computing efficiency. The measurement of performance becomes a function of how well an organization achieves its objectives (Piesse and Townsend, 1995), and in many of the previously mentioned comparisons between organizational forms the equality of objectives cannot be taken for granted. For example, when comparing mutual banks with other organizational forms, one should take into account the complexity of the behavioral objectives of these institutions (Worthington, 2004) – objectives that are more closely related to the maximization of the services provided to members (Fried et al., 1993). Therefore, profit maximization does not seem the most appropriate goal for measuring the performance of mutual banks. Similarly, the organizations we are interested in – Spanish savings banks – pursue, by law, a wide set of goals. Furthermore, given the absence of shareholders, making a profit becomes only one among several measures of success. Due to the fact that the control of SBs has been allocated, also by law, to several types of stakeholders, each one with different interests, SBs try to demonstrate that they are well managed, people oriented, accessible to the individual, friendly to the small investor, and in touch with the local community (Serrano-Cinca et al., 2004). Therefore, to measure their performance, we need to go beyond traditional efficiency indicators and look further into the way they create value for their stakeholders.

Until now, however, a common feature of all papers that evaluate the efficiency of Spanish savings banks is the use of the very same indicators analyzed in commercial banks. That is, by means of productivity (Grifell-Tatjé and Lovell, 1997; Pastor, 1995), costs (Lozano-Vivas, 1998; Maudos et al., 2002; Maudos and Pastor, 2003; Tortosa-Ausina, 2003) or profits (Kumbhakar et al., 2001; Lozano-Vivas, 1997). Thus, previous studies have all omitted the multiple-goal nature of SBs, which renders the use of only costs or profits inadequate as a way of measuring managers' efficiency.

As mentioned above, this paper is also inspired by the literature on weight restrictions in DEA. As discussed in the comprehensive review by Allen et al. (1997), the most widespread method for considering judgments or preferences in DEA models is the use of restrictions on weights. These restrictions are imposed in an attempt to incorporate the decision maker's preferences into the assessment of efficiency. Typically, the value preferences included in previous studies reflected either top management's or the researchers' views on the relative importance of inputs and outputs. To the best of our knowledge, only two studies (Thanassoulis, 2000; Lins et al., 2007) have considered the regulator as a key actor whose preferences must be incorporated in the assessments. In this study, we focus on another kind of regulation: the regulation affecting the ownership structure of organizations. More specifically, we assume that regulator preferences on outputs are expressed by means of the voting distribution in the governing bodies of an organization.

In this paper, data envelopment analysis methods are used to elaborate an aggregate performance index that combines multiple goals – where profit maximization is one among several goals – and it also calculates the relative importance of each goal. Some idiosyncratic features make this methodology specially suitable in this context: DEA is quite effective in handling complex processes of organizations that do not behave like traditional firms, but use multiple inputs to produce multiple outputs, or when the weights (i.e., the relative importance) attached to each input/output are unknown. Several authors have acknowledged the potential of DEA methodology to assess the performance of those organizations that violate the behavioral assumptions under which commercial banks operate. Spanish savings banks constitute one of these