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What determines the banking sector performance in globalized financial markets? The case of Turkey

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Abstract

This study attempts to give an insight into the trend in the performance of the Turkish banking sector by conducting a panel data fixed effects regression analysis. The results reveal that efficiency change is negatively related to the number of branches. We find a positive relationship between the loan ratio and the performance indices efficiency and efficiency change. Furthermore, bank capitalization is positively related to efficiency change. Interestingly however, return on equity is not statistically significant in explaining any of the efficiency measures. There is also no robust relationship between foreign ownership and efficiency. Finally, restructuring attempts in post-crises epoch robustly account for the improvement in efficiency scores in recent years.

JEL classification: C23; C67; E44; G21; O11

Keywords: Panel data analysis; Efficiency; Productivity; Turkish commercial banks; Foreign ownership

1. Introduction

The 1990s, characterized by unstable macroeconomic performance, were the lost decade for Turkey. The financial sector and specifically the banking industry, which makes up around three-fourths of the financial system, experienced a period of high and volatile inflation and interest rates. Political pressures were felt considerably in the banking sector throughout the 1990s.

The main motivation behind the banking sector activities and opening up of new banks was to satisfy the financial needs of group companies in a crowding-out environment in which funds were mainly channeled to the public sector. Consequently, around one-fourth of the banks in the sector were taken under the control of the Saving Deposit Insurance Fund. The group lending and the "connected lending" were two important reasons leading to the banking crisis in Turkey.[1]

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[1] Another motivation behind the banking sector activities and opening up of new banks was to increase profits by, for instance, earning higher interests on treasury bills. However, issues such as management quality and efficiency were not given much importance. As a result of these, many weak banks finally declared bankruptcy. Loose monetary policy and the quasi-fixed controlled foreign exchange regime were seen as a solution to these problems which in fact gave way to the severe economic crises of 2000 and 2001 [4].

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Following the crises, the May 2001 Rehabilitation Program was launched by the Turkish Banking Regulation and Supervisory Agency (BRSA) [2]. With the help of this program, state and private banks were restructured. Moreover, the profitability and stability of the Turkish banking system increased [17,3] Although the sample period in this study covers the period 1990–2006, we are mainly concerned with determinants of the bank performance during the post-crisis era.

Grigorian and Manole [10] conducted one of the studies that estimated the efficiency of the banking sector in transition countries. Utilizing the Data Envelopment Analysis (DEA) methodology,[2] they ran the regression of the efficiency scores on variables related to macroeconomic environment, regulatory environment and bank-specific variables. Aysan and Ceyhan [5], Isık and Hassan [11], Isık and Hassan [12], Ozkan-Gunay and Tektas [16], among others, examined the performance of the Turkish banking sector. These studies focused on how the efficiency and productivity of the Turkish banking sector evolved over time, but not on the underlying reasons. Isık and Hassan [11] found the correlation of the efficiency values with such indicators of financial performance as "total cost/total assets, total assets/number of employees, net income/total assets and net income/total equity". However, the study covered the period between 1988 and 1996. Yıldırım [21] investigated the relationship between efficiency and variables such as asset quality, profitability and bank size during the period 1988–1999. Hence, there exists no study covering the most recent period, and this study aims to fill this gap in the literature by identifying the determinants of the performance of the Turkish banking sector between 1990 and 2006 also comparing the performance levels of pre- and post-crises periods.[3]

In this study, we regress some performance indices (technical input efficiency, Malmquist Total Factor Productivity Change (TFPC) Index and its mutually exclusive and exhaustive components of efficiency change and technological change) on the foreign–domestic dummy, number of branches, bank capitalization, loan ratio, return on equity (ROE), dummies for the 1994 and 2001 crises and dummy for the reform period. We include all the banks in the Turkish banking industry except the state banks, development banks, investment banks, and the banks with insufficient report of data.

This study suggests that the number of branches is negatively related to efficiency change. Moreover, bank capitalization is positively related to efficiency change. Furthermore, loan ratio is positively related to efficiency and efficiency change.[4] Interestingly however, return on equity is not statistically significant in explaining any of the efficiency measures. There is also no robust relationship between foreign ownership and efficiency. Finally, restructuring attempts in post-crises epoch robustly account for the improvement in efficiency scores in recent years.

This paper is organized as follows. The next section explains the performance indices used in this study and describes the dependent and independent variables as well as the data used. The third section describes the model and provides the intuition about the regression results. The last section concludes the paper.

2. Measures of efficiency and data

Performance measurement is undertaken in several ways one of which is to conduct ratio analysis. In this method, financial ratios are the benchmarks in comparing several financial units. Among these units, the one with the "highest output over input" ratio or the "lowest input over output" ratio is considered to have the best performance level. When there are multiple inputs and multiple outputs, however, this method becomes insufficient. Many inputs are used for the production of many outputs in the banking industry. This requires different techniques other than the ratio analysis to find out the banks with the best performance measures.

In the literature for performance evaluation, there exist two main approaches to be used when there are multiple inputs and outputs: Parametric and nonparametric techniques. Parametric techniques are preferred when the structural relationship between the dependent and independent variables are known. Nonparametric techniques are preferred when the structural relationship is not known. One nonparametric technique widely used for measuring the performance of banking sectors is Data Envelopment Analysis (DEA).

[2] The DEA method is explained later in the second section.

[3] Aysan and Ceyhan [4] provided a thorough analysis of the Turkish banking sector providing evidence especially from the most recent past.

[4] Therefore, the greater the loan ratio the higher the efficiency values, and at the same time, the greater the loan ratio, the greater the increase in efficiency.