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Global Crisis and Its Effect on Turkish Banking Sector: A Study with Data Envelopment Analysis

Guller SAHIN[a]*, Levent GOKDEMIR[b], Dogan OZTURK[c]

[a]Guller SAHIN, Malatya, 44280, Turkey
[b]Levent GOKDEMIR, Malatya, 44280, Turkey
[c]Dogan OZTURK, Afyonkarahisar, 03200, Turkey

Abstract

The purpose of study is to examine the effects of Global Crisis on public, private and foreign–capitalized total 19 commercial banks in the Turkish Banking Sector's performance criteria during the course of 2004–2012. With this purpose, to investigate the productivity and activity measurements Data Envelopment Analysis (DEA)–Variable Returns to Scale Model and DEA–Malmquist Total Factor Productivity Index appropriate to time series panel estimation structure were applied to by using ratio belongs to sector. According to findings obtained to DEA–Variable Returns to Scale Model, the effectiveness of banking sector shows an increasing trend within the period 2006–2009 after a one year decrease (2005), and moves a decreased structure in period 2010–2012. When sector is classified according to capital structure, it is seen public–capitalized bank groups were affected crisis. It is among the findings obtained that foreign-capitalized banks have worked significantly more efficient way, effectiveness degree of private-capitalized banks have been the course of decrease especially during the years 2010–2012.Findings obtained to DEA–Malmquist Total Factor Productivity generally followed the same trend throughout the years. The average TFP components are found the highest in influence the capture of innovation in sector. Relatively small proportion of unproductiveness decrease is discovered decision-making unit converges to the best production limit and showed activities at appropriate scales; while productivity increase performance positive change and managerial effectiveness. When Data Envelopment Analysis Model and the DEA–Malmquist Total Factor Productivity findings are considered together, Crisis doesn't indicate an important inefficiency source on Turkish Banking Sector.

* Guller SAHIN Tel.: +90-545-477-21-48; fax: +90-274-265-22-85.
  E-mail address: guller.sahin@dpu.edu.tr

1. Introduction

A crisis which occurs in a country spreads to other countries due to the increase of financial fragilities in a globalized world. The felt external effects of the crisis get bigger in line with the weight of the country, in which crisis emerged, in the world economy. Regardless of its type or origin, the experienced crisis has many national, international, political, social aspects within it and affects the behavior of economic units negatively.

The low interest rates implemented in the West and, especially, in the United States throughout the 2000s ensured that low-income families benefited from housing loans in high amounts but led to the creation of credit bubbles. The inability of homeowners to pay their housing loans with high-risk premiums at the start of 2006 led to a fall in house prices with the sale of mortgaged houses and the credit system composed of high-interest and high-risk credits collapsed at the end of 2007. The sale of banks of the loan contracts of the houses which had overvalued mortgages to investment banks as bonds also caused the spread of a big financial crisis within the American finance system with the domino effect in 2008. Weak risk management practices, inaccurate rating of rating agencies on securities related to the financing of mortgaged houses, high personal and corporate debt levels, implementation of wrong monetary policies of monetary executives, the imbalances experienced in the international trade, the insufficiency of regulation accompanied the problems experienced in the mortgage system and the crisis damaged the element of trust in the market by transforming to a global liquidity and credit crisis in 2008. The crisis which originated from housing loans also led to a new crisis in the banking and financial sectors with the bankruptcy of huge finance companies, dramatic falls in stock markets and serious uptrends in rates of exchange were observed (Özer et al., 2013, 565 & Ataman Erdönmez, 2009, 85).

The banking sector has been affected from the bankruptcy of the finance companies which had an important place in state economies in 2008 to a great extent. These negative effects experienced in the sector shook the world economy with the constriction of credit and trade channels particularly. As a result of this, the experienced crisis has been referred to as an international finance crisis in the context of banking and/or monetary crisis originating from high-risk housing loans (Aydın and Başkır, 2013, 30).

The basic characteristic feature which distinguishes the 2008 Global Crisis from other crises is the fact that it has affected the economies of developed countries rather than the structural problems of developing countries becoming unsustainable and that the spread of crisis could not be prevented despite all the measures which were taken accordingly.

As is the case with many national economies, the crisis has also affected the Turkish economy which has a similar structure to the mortgage system implemented in the world with the acceleration of the deregulation process since the 1980s and deepening of the capital market. The effects of the crisis in Turkey have been felt in a different way due to the effect of the policies implemented as a result of the crisis which have been experienced before. The crisis revealed itself in the sector in 2009 with the increase in the costs of the funds banks received from outside. In this context, the aim of the study, which has been carried out upon the construction within the crisis and bank pattern, is to analyze the progress of the effect of the Global Crisis on the deposit banks in the Turkish Banking Sector in the 2004–2012 research period within the framework of administrative and performance criteria.

The study is composed of two consecutive section. In accordance with the aim, the data set of the analysis, and the methodology related to Data Envelopment Analysis whose field of application has become rapidly widespread in measuring efficiency and productivity have been addressed in the first section of the study. The findings obtained from the analysis which were conducted based on the time-series analysis and the assessment part constitute the second section of the study.