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Full Length Article

Determinants of bank efficiency in Turkey: Participation banks versus conventional banks

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Abstract

This study examines the technical, allocative, and cost efficiency of conventional and participation banks in Turkey with data envelopment analysis (DEA) method. In the wake of finding technical, allocative, and cost efficiency results by DEA intermediation approach, Tobit regression analysis is used to determine the factors influencing the efficiency. The main purpose of this paper is analyzing efficiency of the banking system in Turkey and compare the efficiency of participation banks and conventional banks. The results of DEA indicate that average participation bank efficiency is higher than the average conventional bank efficiency each year. Regarding Tobit regression analysis, while expenses and loan quality have a significantly negative relationship with efficiency of conventional banks, they have a significantly positive relationship with the efficiency of participation banks. While the total loans have a significantly positive relationship, external variables have a significantly negative relationship with efficiency of both types of the banks.

JEL classification: G20; G21; C29

Keywords: Conventional bank; Participation bank; Efficiency; DEA; Tobit; Turkey

1. Introduction

In the early 1980s, the financial sector in Turkey was deregulated with the neo-liberalization process.[1] These regulations enhanced the efficiency of the Turkish banking system (Zaim, 1995, p. 78). By these reforms, Islamic finance emerged, named as a Special Finance House (SFH) in Turkey. Soon after, Al Baraka Turk was established as the first SFH in 1985 and Kuveyt Turk followed it, in 1989 (Aysan, Dolgun, & Turhan, 2013, p. 99). Currently there are 5 active participation banks in Turkey.

In 2005, SFH's were completely included by the Banking Regulation and Supervision Agency (BRSA), through the 5411 Banking Law. Thus they completely gained the same functions and privileges with the conventional banks and attained more importance and popularity. Based upon the change from 5411 Banking Law, the name "special finance house" was changed to "participation bank" (PB) in 2005 (Aysan et al., 2013, p. 99). While "Islamic banking" is the term commonly used in the world, "participation banking" term is used in Turkey to represent the banks that use Islamic financial instruments. According to Aysan et al. (2013) the reason of using this term is the sublime meaning of Islam, and it should be used carefully in denotation of financial institutions. However, according to Asutay (2013), the reason of using "participation bank" instead of "Islamic bank", is the fragile political culture of Turkey.

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[1] By the neoliberalization process, Turkey took a step to free market economy, and the stress on the financial system is diminished.

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Theoretically Islamic finance is significantly different from conventional finance. There are five main principles that differentiate Islamic finance from conventional finance. These principles are the prohibition on interest, the prohibition on risk and uncertainty (speculation), the prohibition on financing unsuitable and illegal sectors in terms of Shariah, such as alcohol, pork, drugs. Besides there are profit–loss sharing principle and all transactions have to be based on a real economic transaction which includes a tangible asset principle (Beck, Demirguc-Kunt, & Merrouche, 2013, pp. 434–435).

However there are main differences between Islamic finance and conventional finance as stated above, practically, Islamic scholars have developed similar products to those of conventional banking, replacing interest rate payments and discounting with fees and contingent payment structures. It is seen that purposes and functions of Islamic banking resemble to those of conventional banks (Ada & Dalkilic, 2014, p. 11; Beck et al., 2013, pp. 433–434). Furthermore when the financial statements of both banks are checked, it is seen that main items are almost same.

By the end of March 2014, 45 conventional banks were operating in Turkey. Of the 45 conventional banks in the system, 32 were commercial banks, and 13 were investment and development banks. Three of commercial banks were state banks, 11 of them were domestic private, 1 of them was transferred to SDIF, and 17 of them were foreign banks.

According to Blejer (2006), financial efficiency is an important issue since it enhances financial stability. In a rapidly changing globalized financial market, bank managers, regulators, and investors pay attention to transform their expensive inputs into various financial products and services more efficiently (Isik & Hassan, 2002a, p. 720).

This study contributes the literature in two ways. First, this study compares the technical, cost, and allocative efficiency of participation banks and conventional banks (state, domestic, foreign). There has been a considerable amount of research on conventional bank efficiency in Turkey, but research on participation bank efficiency is scarce. Second, to our knowledge, this is the first empirical study that has analyzed the internal (related to bank), and external (macroeconomic and structural) determinants of participation and conventional banks' efficiency in Turkey.

2. Literature review

Berger and Humphrey (1997) reported that most of the studies on bank efficiency (about 95%), focused on developed countries and 70% of them are of the US. Many researchers suggest that more research should be done about comparing and measuring efficiency from different countries to provide global financial stability (Beim & Calomiris, 2001; Berger & Humphrey, 1997; Eichengreen, 2002). Berger and Humphrey (1997) assesses the technical, allocative, and cost efficiency of conventional and participation banks using a country-level database. It contributes to literature by finding explanations of efficiency that may help government policy, identify the economic conditions that create inefficiency, and improve the managerial performance.

In recent decades, there has been an increasing amount of literature on efficiency. A large and growing body of literature has focused on bank efficiency. As Islamic banks are gaining more importance each year, there is a large volume of published studies focusing on the comparison between conventional and Islamic banks such as Beck et al. (2013), Hassan, Mohamad, and Bader (2009), Ismail, Abd Majid, and Rossazana Ab (2013), Abdul Rahman and Rosman (2013).

As well as comparison studies, there are some studies which consist only of Islamic banks or only of conventional banks. Previous studies such as Isik and Hassan (2003), El-Gamal and Inanoglu (2005), Tsionas, Assaf, and Matousek, (2015) and Saha, Ahmad, and Dash (2015), have mostly focused on conventional bank efficiency. Although fewer, some studies focus on the efficiency of Islamic banks such as Kamarudin, Nordin, Muhammad, and Hamid, (2014), Sufian and Noor (2009), Ada and Dalkilic (2014).

Sufian and Noor (2009) analyzed the determinants of Islamic banks' efficiency in Middle East and North Africa (MENA) and Asian countries in the period of 2001–2006. They used DEA, as a first stage of their analysis, and then used Tobit regression analysis as a second stage to determine the drivers of efficiency. They found that while loan, size, capitalization and profitability have significantly positive relationship with efficiency, non performing loans has a negative relationship with efficiency. The aim of the study was filling a demanding gap in the literature by providing the latest empirical evidence on the determinants of the performance of Islamic banks in 16 MENA and Asian countries.

Ismail et al. (2013) and Saha et al. (2015) also employed two stage analysis (DEA and Tobit regression analysis) in their studies. Ismail et al. (2013) studied the efficiency of Islamic and conventional banks in Malaysia over the period of 2006–2009. They found that average efficiency of conventional banks is higher than Islamic banks in Malaysia, and detected that profitability and loan quality have negative relationship with efficiency of both types of banks, equity and size are negatively related with the efficiency of Islamic banks but positively related with the efficiency of conventional banks, and expense has a positive relationship with efficiency of both type of banks. As a result this paper contributed to literature on the efficiency of both Islamic and conventional banks and the effect of banks' specific characteristics on their efficiency.

The most recent study, Saha et al. (2015) studied on the drivers of the technical efficiency in Malaysian banking system between the years 2005–2012 based on conventional banks. They found that while size, capital and profit have signficantly positive relationship with efficiency, expenses and non-performing loans have significantly negative relationship with the efficiency.

Hassan et al. (2009) and Mohamad, Hassan, and Bader (2008) investigated the efficiency of conventional and Islamic banks consisting Organization of Islamic Conference