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# DO THE LOANS OF CONVENTIONAL BANKS CROWDING-OUT THE LOANS OF PARTICIPATION BANKS?

## *GELENEKSEL BANKALARIN KREDİLERİ KATILIM BANKALARININ KREDİLERİNİ DIŞLIYOR MU?*

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**ÖZET**

*Türkiye'de katılım bankalarının 1980'lerin ortalarından beri faaliyete başlaması ile beraber ikili bir bankacılık sistemi doğmuştur. Dolayısıyla iki tip bankacılık modelinin birbiriyle uyumlu mu yoksa rakip olarak mı çalıştığı, uygulanacak finansal politikalar açısından kritik öneme sahiptir. Bu çalışmanın amacı Türkiye'de geleneksel bankalardaki kredi artışlarının katılım bankalarını nasıl etkilediğini araştırmaktır. Çalışmada hem geleneksel hem de katılım bankalarının 01/2005 - 02/2022 dönemine ait aylık frekanstaki toplam kredi miktarları veri olarak kullanılmıştır. Basit regresyon analizi ile beraber Kalman filtre yöntemi model olarak tercih edilmiştir. Çalışmanın sonucu dönem dönem aşırı rekabet etseler de iki tür bankacılık modelinin finansal sisteme zarar vermeden faaliyet gösterdiğini kanıtlamıştır. Çalışmanın bulguları, geleneksel bankalar tarafından dağıtılan kredilerin katılım bankalarını kredi piyasasından dışlamadığını göstermektedir.*

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**ABSTRACT**

*A dual banking system has emerged in Turkey with the participation banks starting to operate since the mid-1980s. Therefore, it is important in terms of financial policies whether the two types of banking models are compatible or incompatible with each other. The aim of this study is to investigate how credits of conventional banks affect participation banks in the context of Turkey. Monthly observations of participation and conventional banks credit during the period between 01/2005 - 02/2022 are used in study. Kalman filter method with simple regression analysis was preferred as a model. The findings implied that the conventional banking model did not hinder participation banks in the credit market.*

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## 1. INTRODUCTION

Firms and people borrow from both conventional banks and participation banks in Turkey because of the dual banking system. According to neoclassical economists, if the increased public expenditures are financed with debts taken from financial markets, private sector investments will decrease because both the loanable funds in market will decrease, and the interest rates will increase (Carlson & Spencer, 1975).

In economics, this is called the crowding-out effect. In the same logic, the crowding-out effect will be tested for Turkey, where the dual banking sector operates. We can explain this mechanism as follows. There are two options for companies and individual clients in Turkey to access credit. They will either find loans from conventional banks by paying interest, or if they believe that interest is forbidden in Islam religion, they will apply to participation banks that give interest-free loans. However, when interest rates fall, firms and individual clients can take out loans from conventional banks because the cost of financing is cheaper. If this is the case, we are confronted with a question, “Do the loans of conventional banks crowding-out the loans of participation banks?” because preferring to use a loan from a conventional bank, means giving up the funds of the participation bank.

Therefore, the increase in the loans of conventional banks necessitates a decrease in the loans to be distributed by participation banks. Abedifar et al., (2016) imply that in the countries dominated by the dual banking system, conventional and participation banks compete with each other to attract more investors and customers. According to Gheeraert (1994), both religious clients and consumers indifferent to religion can use different banking products simultaneously so under these conditions, Islamic and conventional banking sectors complement each other.

Therefore, it is important for economic policies to know how the credit growth of participation banks is affected by conventional banking. Because in a developing country like Turkey, loans are seen as the key to economic growth (Garcia-Escribano & Han, 2015). Also, Finance Office of Presidency of the Republic of Turkey aims to increase the share of participation financing in the total banking system to 15 percent by 2025. (Finance Office of Presidency of the Republic of Türkiye, 2022). The rest parts of the study respectively consist of literature, model, findings and policy implications.

## 2. LITERATURE REVIEW

Many papers in the literature have discussed the structure of the dual banking system from various perspectives. For instance, according to Alam et al., (2019) Islamic banks tend to enter the market in order to obtain high returns in a low competition environment. In addition, the authors emphasized that Islamic banks operate on a small scale and diversification opportunities are limited since they try to avoid the interest based transaction. Ali et al., (2021) studied 15 countries with bilateral banking sectors and found that credit risk decreased as competition increased. Also, findings indicated that large Islamic banks are less risky than large conventional banks, whereas small Islamic banks are riskier than small conventionalbanks. Switching costs are expenses that customers have to incur when switching from a service provider to another. Rizkiah et al., (2021) discussed the dual banking system in terms of switching costs and found that conventional banks incur higher switching costs than Islamic banks. Zulkhibri (2019). wrote that macro prudential policies came to the fore in countries implementing Islamic finance, especially after the 2008 crisis. Hamid & Ibrahim (2020) employing panel vector autoregression models on 18 countries between the period 2000 to 2016 documented that that market power increases stability and profitability in dual banking system. Maghyereh & Yamani (2022) reported that the covid-19 pandemic affected conventional and Islamic banks equally in terms of systematic risk. Othman et al. (2017) accentuated those Islamic banks with partnership financing are more efficient than other banks in Malaysia and Indonesia. Hammami & Riahi (2021) studied the comparative analysis of leverage between Islamic banks and conventional banks. The authors examined those conventional banks have stronger leverage than Islamic banks. Meslier et al., (2017) stated that mainly in Muslim countries or in countries where Islamic banks are concentrated, conventional banks have to set higher deposit rates. Bitar et al., (2020) focused on the effect of cultural values on conventional and Islamic banks starting from World Values Survey. Wanke et al. (2016) concluded that loan loss provision is higher in foreign Islamic banks of Malaysia. Akhtar et al.,

(2017) confirmed that when interest rates rise in Pakistan, deposits increased in conventionalbanks but decreased in Islamic banks. Er & Uysal (2012) compared the efficiency of participation banks and conventional banks in Turkey. Authors concluded that participation banks are more efficient than conventional banks. Similarly, Arslan & Ergec (2010) concluded that participation banks are more efficient than conventional banks in Turkey. Boumediene (2011) by using the contingent claims analysis determined that Islamic banks have higher credit risk than conventional banks. But Kabir at al.,(2015) noted that there was no difference between the two types of banking in terms of credit risk during the current financial crisis. In general, performance and efficiency comparisons of participation banks and conventional banks were made in studies conducted in Turkey. Unlike the others, in this study, it has been investigated whether conventional banks exclude participation banks or not.

## 3. DATA AND ECONOMETRIC METHOD

The data used in the article is from Banking Regulation and Supervison of Agency. We used monthly observations of participation and conventional banks credit during the period between 01/2005 - 02/2022. The reason for the choice of time periods was the availability of the data. In order to estimate the time-varying relationships between participation and conventional banks we employ the Kalman filter methodology.

There are many reasons for using the Kalman filter approach in financial modeling. Since standard linear models cannot detect structural breaks and regime changes in time series, estimated parameter are sometimes biased (Brooks, 2019: 610). The Kalman filter model allows the parameters to change over time. This model is closer to real life because the decisions of economic agents are constantly changing according to new information. When evaluated in terms of our study, our model can be written as follows (Hatemi-J & Irandoust, 2008):

$$y_t = \alpha + \beta_t x_t + u_t \tag{1}$$

$$\beta_{t+1} = \beta_t + \eta_t \tag{2}$$

In equation (1) where $y_t$and $x_t$ are participation and conventional banks credit growth rate at time t, respectively. Also, $\alpha$ and $\beta$ are constant coefficients that do not change over time. In model $u_t$ represents the error term, which is assumed to be white noise. Equation 2 is called the transition equation and shows the dynamics of the coefficient $\beta$, which exhibits random walk process. Also, $u_t$ and $\eta_t$ are characterized as measurement noise and observation noise, respectively. Both have constant variance $\left(\sigma_\mu^2, \sigma_\eta^2\right)$ and assumed to have normal, independent and identical $E\left(\sigma_\mu^2, \sigma_\eta^2\right)$=0 distrubition.

## 4. RESULTS

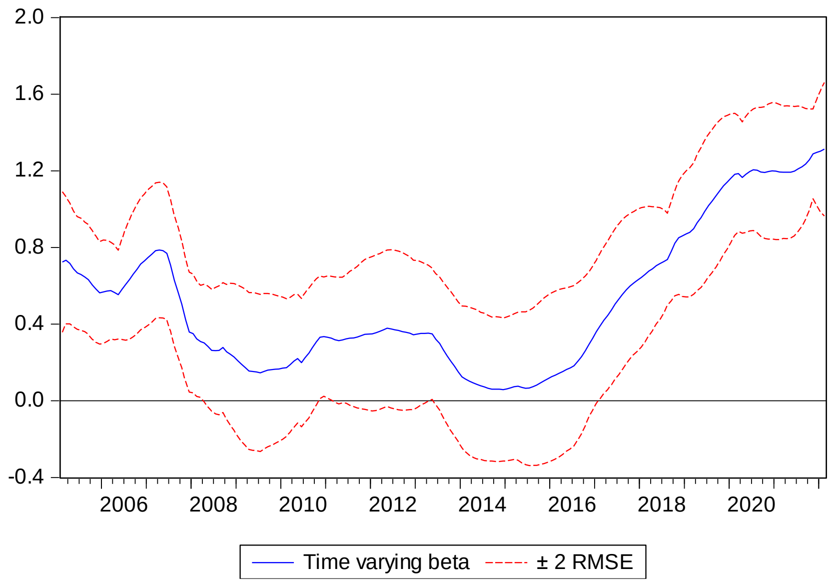
Table 1 presents descriptive statistics of participation and conventional banks loan growth rates. It is seen that both variable becomes stationary after being log differenced. Also, the logarithmic difference of the raw data is taken to make the series stationary.

**Table 1: Descriptive Statistics**

| | Mean | Std. Dev | Skewness | Kurtosis | ADF |
|---|---|---|---|---|---|
| Conventional Banks | 0.018 | 0.020 | 1.037 | 8.071 | 0.00 |
| Participation Banks | 0.021 | 0.025 | 1.271 | 9.720 | 0.00 |

Looking at table 1, it is seen that the loan growth rates of participation banks in the aforementioned period are slightly higher than conventional banks. However, the risk of participation banks is also higher according to standard deviation. Since the kurtosis coefficient is greater than 3, extraordinary situations are likely to occur in both types of banking. The time path for the beta coefficient and 95% confidence interval are presented in Figure 1. In this figure, the beta coefficient measures the effect of conventional banks' loans on participation banks' loans. In other words, the beta coefficient determines whether conventional banks exclude participation banks from the credit market.

**Figure 1: Kalman Filter Results**




The estimated time-varying beta coefficients ad their 95% confidence interval is presented in Fig. 1. It is observed that beta coefficients vary between 0 and 1.2 during the whole sample period. Until 2015, the increases of loans of conventional banks had less impact on the participation banks. However, the credit growth in conventional banks after this date allowed participation banks to distribute more loans. This situation may be explained by the fact that customers of participation banks follow traditional banks. Because nearly 95% of the banking system in Turkey is dominated by traditional banks. Thus, when the economic conjuncture comes to the growth period, the conventional banks' injecting more credits into the market forces participation banks to keep up with the system. Since the funding costs of participation banks are determined by the interest rates of traditional banks, the costs of participation banking decrease when bank interest rates decrease (Ergeç, & Arslan, 2013). However, based on the confidence interval, it should not be overlooked that the credit growth of conventional banks between 2008-M4 and 2017-M1 negatively affected participation banking.

## 5. CONCLUSION AND POLICY IMPLICATIONS

In this study, whether participation and conventional banks are friends or rivals are examined in the context of Turkey where dual banking system is dominant. The findings of the study showed that the conventional banking model did not hinder participation banks in the credit market. In addition, the increase in conventional banking loans after mid-2018 led to higher growth in the loan volume of participation banks. Also, results indicate that two types of banking practices continue in Turkey without harming the financial system. In other words, the customers of both types of banking receive services from the banks which they deem suitable for their own benefit and are not interested in the other type of banking. Thus, there is no competition among banks to attract customers. Because customers make their bank choices in line with their own beliefs. For example, when the future economic expectations are positive, traditional bank customers prefer to take loans with interest, while customers of participation banks prefer to use loans with mudarabah contracts. Therefore, the growth in the traditional banking model does not harm participation banks and does not affect customer preferences.

**Author Contribution Rate Statement**

The study was co-written by the authors.

**Conflict Statement**

There was no conflict of interest between the authors in the study.

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