EVALUATING FINANCIAL PERFORMANCES OF CONVENTIONAL AND PARTICIPATION BANKING IN TURKEY WITHIN THE SCOPE OF GREY RELATIONAL ANALYSIS: A COMPARATIVE LITERATURE REVIEW

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Abstract

Accurate measurement of financial performance crucially requires meticulous data collection accompanied by the means to analyze the data. Banks, financial institutions, private companies, etc. should regularly conduct financial analyses at certain intervals in order to make predictions, to make more effective decisions, and to realize supervision activities more efficiently. The leading financial performance measurement methods include the Analytical Hierarchy Process (AHP), the Data Envelopment Analysis (DEA), and the Grey Relational Analysis (GRA). These methods vary depending on the purpose of use in performance measurement and are used for analysis in accordance with this purpose. This study aims to constitute a comparative literature review consisting of research studies conducted in Turkey over the period from 2011 to 2019 on the assessment of both conventional and participation banking sectors' financial performances within the framework of the GRA.

Keywords: Participation Banking, Conventional Banking, Financial Performance, Grey Relational Analysis, Turkey.

TÜRKİYE'DE GENENEKSEL VE KATILIM BANKACILIĞININ FINANSAL PERFORMANSLARININ GRİ İLIŞKISEL ANALİZ KAPSAMINDA DEĞERLENDİRİLMESİ: KARŞILAŞTIRMALI BİR LİTERATÜR TARAMASI

Özet

Finansal performansın doğru bir şekilde ölçülmesi, verileri analiz etme araçlarının eşlik ettiği titiz veri toplanmasını gerektirir. Bankalar, finansal kurumlar, özel şirketler, vb., tahminlerde bulunmak, daha etkili kararlar vermek ve denetim faaliyetlerini daha verimli bir şekilde gerçekleştirmek için belirli aralıklarla finansal analizler yapmalıdır. Başlıca finansal performans ölçüm yöntemleri Analitik Hiyerarşi Süreci (AHS), Veri Zarflama Analizi (VZA) ve Gri İlişkisel Analizi (GİA) içerir. Bu yöntemler, performans ölçümünün kullanım amacına bağlı olarak değişir ve bu amaca uygun olarak analiz için kullanılır. Bu çalışma, 2011-2019 yılları arasında Türkiye'de hem konvansiyonel hem de katılım bankacılığı sektörlerinin finansal performanslarının GİA çerçevesinde değerlendirilmesi üzerine yapılan araştırma çalışmalarından oluşan karşılaştırmalı bir literatür taraması oluşturmayı amaçlamaktadır.

Anahtar Kelimeler: Katılım Bankacılığı, Geleneksel Bankacılık, Finansal Performans, Gri İlişki Analizi, Türkiye.

INTRODUCTION

The financial markets that develop with globalization are becoming more and more integrated with each passing day and are gaining more importance for the economies of the countries. Especially the global financial crisis in 2008 is one of the biggest examples demonstrating its importance. It has passed into the literature as a crisis indicating the extent of the impact of fluctuations in developed countries' markets on other markets. Along with the developing financial markets, the diversity of financial products created for investors has also increased and new options have been offered to fund holders. In parallel with this, development

and change occurred in the money markets of the countries. Money markets are markets in which fund-demanding and fund-supplying parties meet. Banks that facilitate such meetings are the most important intermediary institutions.

Banks, in general, have similar principles of business conduct. They collect funds from the fund-suppliers and mediates the transfer of these funds to those who demand fort he funds. They reflect the costs incurred during these transactions by charging a legally determined interest rate on the parties demanding funds. Over time, banks have begun to take different titles according to their fields of specialization. These include titles such as Commercial (deposit) Banking, Investment Banking, Development Banking, and Participation Banking. Except for Participation Banking, other types of banks carry out their transactions and activities on the basis of interest. Therefore, these banks are called conventional banks and conduct conventional banking activities. However, the Participation Banks' principle of business conduct differs from others in terms of fund collection and funding methods. The banking sector consists of activities that require special importance, as it is a field of "trust"-based activity. Unlike other businesses, the emphasis on the importance of auditing in banking stems from the fact that the main subject of activity is "money". In other words, the banking sector, which mediates those who demand funds with the fund-suppliers, entrusts this resource. Therefore, measuring the performance of banks assumes special importance.

The participation banking procedures differ from the other banking activities in the sector in terms of certain aspects. Participation banks, also called interest-free financial institutions, were established within the framework of religious sensitivities of savers regarding interest. While participation banks perform their banking functions in the light of Islamic principles, they are a type of banking practice that evaluates the funds owned by savings owners based on profit and loss partnership rather than interest. Participation banks, which are similar to commercial banks in terms of their structures, share their profits or losses with those who invest in their participation in the commercial and industrial investments within the principle of not yielding interest revenues. In order for the banking sector to maintain their competitive performances, they must first emphasize financial performance measurements.

Participation banks, also called interest-free Islamic banking and financial institutions, have emerged within the framework of religious sensitivities of savers on interest. While participation banks perform their banking functions in the light of Islamic principles, they represent a type of banking that evaluates the funds owned by savers through profit -loss partnership rather than interest. Participation banks, which are similar to commercial banks in terms of their structures, share the profit (or loss) gained (incurred) by investing the funds they provide in commercial and industrial investments within the principle of not generating interest revenue with those who invest in the participation banks (Gökçe & Küçükkaplan, 2017: 154-155).

Participation banks carry out financial intermediation activities from fund-suppliers toward those who demand funds. These functions of participation banks serve the purpose of financing investments, which are the basic needs of the economy. Besides, funding of consumption expenditures, another dynamic that feeds the economy, is also carried out by participation banks. Participation banks use the resources they obtain while performing these functions. The main sources available to participation banks consist of their own funds, borrowings such as syndication and participation funds (Orhan et al., 2017:337-339).

There are important differences between the participation account and the deposit account both in terms of the structure and functioning of the process. The most important difference between the deposit account and participation account is the concept of "interest". However, it should be noted at this point that what is different here is not just the name given to the deposited money. The money deposited in the deposit bank is given to the bank as a loan, and the participation fund is given to the bank as capital. Another important difference is; for

the participation account, the participation bank does not guarantee how much profit it would make before the due date. Nonetheless, the interest that deposit banks place on their deposit accounts is apparent at the beginning of the term (Kartal, 2018: 6-7).

Private financial institutions operating under the title of "participation banks" in Turkey since 1983, has been conducting business pursuant to the Banking Law No. 5411 beginning from 2005. Participation banks have become a new option besides deposit banks and contributed to the diversification of the banking sector in terms of bringing the funds that could not be included into the economy for different reasons within the framework of interest-free banking principles, mediating the withdrawal of international funds avoiding interest and providing conventional banking services (Esmer et al., 2018: 116-117).

Since banks are in intense competition in Turkey, it is crucial to measure and analyze their financial performance. Banks' performances can be measured by various methods. In addition to methods such as classical financial ratio analysis, CAMELS Analysis, multiple-criteria decision- making methods are also used.

LITERATURE REVIEW

In the literature, it was determined that many different measurements were made with multiple decision-making methods. With the Grey Relational Analysis (GRA), academic studies for financial performance measurement for different sectors have been conducted. In the reviewed studies, certain financial ratios, which are usually found by ratio analysis, were used. There are studies in which the financial performance of the Turkish banking sector is measured by Grey relational analysis.

Uçkun and Girginer (2011) examined the financial performance of both the public and private banks in Turkey as of 2008. As a result of the analysis, the state intervention in public banks for 2008 was less than in the past; they found that private banks tried to continue their financial success by managing their assets better. The study aimed to determine the financial performance of public and private deposit banks with the help of financial ratios using the GRA. The most important financial ratios in financial success were determined as the profitability rates in public banks and the asset quality rates in private banks.

The study utilized the ratios related to the profitability, liquidity, asset quality, and capital adequacy of the banks as a performance indicator over the period 2005-2009.

Ecer and Dündar (2012) evaluated the performance of private deposit banks in the Turkish banking sector. The study measured the performance of 11 private deposit banks operating in Turkey with the GRA approach utilizing capital adequacy, liquidity, and income-expenditure ratios as of 2010. As a result of the GRA method, it was determined that the best performing private deposit banks were Adabank, Garanti Bank, and Tekstil Bank, respectively.

Girginer and Uçkun (2012), tried to determine whether or not the financial crisis had any impact on the performance of commercial banks operating in Turkey between 2005-2009 using the GRA method. According to the findings, it was observed that the banks with foreign capital had the best performance in the period before the crisis, and the banks with private capital had the best performance during the crisis.

Ecer (2013) measured the financial performances of private banks in Turkey over the period 2008-2011. It concluded that private banks offset the risk arising from financial leverage by keeping operating leverage low. The study made a comparison of the financial performance of private banks using the GRA method with respect to 12 financial ratios determined by data obtained from 11 private banks. According to the findings of the study, Garanti Bank ranked first, while Turkish Bank ranked last. Furthermore, the asset quality was stated as the most important factor in the financial success of private banks.

Doğan (2013) conducted a performance measurement by comparing 10 banks that traded in BIST between 2005 and 2011 in order to examine bank performances using the GRA

method. As a result of the research, it was determined that the best bank in terms of performance was Akbank and the bank with the lowest performance was Yapı Kredi Bank. It also concluded that the bank, which had high returns on assets, might also have high performance.

Özçelik and Öztürk (2014) assessed the sustainability performances of banks in Turkey using the GRA. In the study, the sustainability performances of the banks that published sustainability reports were analyzed using the Grey relational analysis method. Bank performances based on the year 2011 were analyzed according to 3 financial, 2 social, and 4 environmental ratios. According to the analysis results in terms of sustainability performance, Türkiye Sınai Kalkınma Bank ranked first, whereas Garanti Bank and Akbank took the second and third place, respectively.

Altan and Candoğan (2014) analyzed the participation banks' performances with the conventional method and the GRA method. In the study, it is examined whether or not the results of conventional performance measurement methods and the GRA measurement results differed. According to the obtained results, it was determined that the results of performance measurement using conventional ratios differed from the GRA results. The performance ranking of the participation banks has changed completely. According to the conventional ratio analysis results, a bank in the first rank was ranked third in the GRA, while a bank which ranked first in the GRA dropped to the third place in the conventional method. It is believed to have two reasons. The first involves the low number of data used for the conventional method, whereas the second is that the conventional method does not take into account the relationship among the data. In the GRA, since the relationship among lesser data is taken into consideration, more accurate results were obtained and a more accurate performance ranking was made. According to the conventional ratio analysis, Kuveyt Türk ranked first in the overall performance ranking. This is because the liquidity performance of this participation bank was very high. Since the conventional ratio method does not take into account the relationship among other performance ratios and liquidity performance ratios, this participation bank's overall performance has been high. However, the GRA considered the bank as a whole and made a more accurate overall performance ranking, as it also considered the relationships among liquidity, asset quality, profitability, and capital adequacy performances.

Güneysu et al. (2015) aimed at evaluating the financial performance of commercial banks operating in the Turkish banking system over the period 2010-2014 using the Multiple-Criteria Decision-Making (MCDM) methods with the help of 16 financial ratios. In this context, the Analytical Hierarchy Process (AHP) method was used for the purpose of determining the weight of the criteria (financial ratios) and it was revealed that the profitability ratios, which are the main criteria, and the capital adequacy standard ratio, were the most important in evaluating the performances of banks. The Grey Relational Analysis (GRA) method was used in the second stage to rank banks according to their financial performance. The obtained results revealed that Ziraat Bank, one of the state-owned banks, Adabank, the banks with private capital, and JPMorgan Chase Bank, the banks with foreign capital, were the best performers. As a result, it was observed that commercial banks had better performances in public banks. It was concluded that liquidity ratios in public banks, profitability-related rates in private banks, and asset-related ratios in foreign banks had an important place in terms of superior financial performance.

Ertuğ and Girginer (2015), on the other hand, evaluated the commercial loan applications of banks. While performing the evaluation, they benefited from the AHP and the GRA methods. They handled their research in terms of public and private banks and carried out their applications through case studies. As a result of the study, they selected the most suitable public and private banks among the banks that they determined in the case studies using the GRA method. Also, they emphasized that the most important main criteria for both public banks and

private banks were firm morality and news criteria, while sales and marketing structures had the lowest priority.

Doğan (2015) made a comparison of the financial performances of participation banks operating in the Turkish Banking Sector between 2012-2014 using the GRA method with the help of 10 financial ratios. Another aim of the research was to decrease the number of financial ratios that determine the performance of the participation bank and thus to determine which financial rate is more important in measuring the performance. As a result of the GRA method, "Albaraka Türk" ranked first in terms of financial performance, whereas "Bank Asya" ranked last. Another obtained finding revealed that the financial performance of a bank with a high "Asset Profitability" might also be high. Upon examining the studies that measured the performance of the company by applying the GRA method, the results were found in compliance with Uçkun and Girginer (2011) and Doğan (2013). GRA is an important method to measure the financial performance of banks and enable investors to set more objective and more accurate goals.

Kandemir and Karataş (2016) analyzed the financial performance of 12 commercial banks traded on Borsa Istanbul (BIST) using the GRA, TOPSIS, and Vikor methods. The study covers the 2004-2014 period and 12 deposit banks. As a result of the study, Vakıfbank showed the best performance and Şekerbank showed the lowest performance according to the GRA method. As a result of the TOPSIS analysis, Vakıfbank and Şekerbank had the highest performance. As a result of the Vikor analysis, Denizbank showed the highest performance whereas Tekstil Bank showed the lowest. According to the GRA and Topsis methods, the banks with the highest and the lowest financial performances were the same. However, according to the Vikor analysis method, both the banks with the highest performance and the banks with the lowest performance have changed.

Alpay and Sakınç (2017) investigated the effectiveness of the arrangements made after the crisis in 2001. While doing this, they benefited from 10 years of data before and after the crisis. The method they used in their studies was the evaluation of financial performances with the GRA method. In light of their findings, they concluded that state banks were more successful with the new regulations.

Gündoğdu (2018) examined the performance of participation banks in Turkey with the GRA. The study covers the 2010-2017 period. Within the scope of the study, 15 financial ratios were determined as the analysis criteria. As a result of the analysis based on the year 2017, Türkiye Finans Participation Bank ranked first. According to the researcher, the order of the financial performances of the participation banks was specified as unstable. The study stated that there was no certain stability in the ranking of the financial performance of the banks included in the analysis.

Küçükbay and Gözkonan (2019) tried to compare the performance of participation banking and conventional banking using TOPSIS, which is one of the MCDM methods, and the GRA method. It is thought that the study would contribute to the literature in three important points. First of all, in the literature, the performances of conventional or participation banking have been evaluated separately with multi-criteria methods. Unlike previous studies, in this study, the performances of both conventional and participation banks were compared with each other. Secondly, in this study, a comparison of the performances of the two bank types was made using two different MCDM methods. It is thought that using different MCDM methods would make the results of comparing two types of banks more reliable and support a better understanding of the performance of banks. Finally, the performances of conventional banks and participation banks were evaluated using the most recent data obtained over the period 2008-2017.

Kanat (2019) focused on the GRA method, which has become popular in recent years. The method has many advantages such as evaluating many criteria at the same time, ranking

among the alternatives, determining the extent to which criteria are most affected by the performances, and easy applicability. Upon examining the obtained results of this research; it is concluded that "profitability ratios" on public banks' financial performances, and "capital adequacy" ratios on private banks had the greatest impacts. Moreover, according to the findings, it is seen that the profitability of banks with very high liquidity was lower than that of other banks. This result is quite normal. Because the banks have too much liquidity in their hands which prevents them from using their resources in alternative areas. It is more obvious for these banks to convert their excess liquidity into interest income.

THE GREY RELATIONAL ANALYSIS (GRA)

Covering the GRA; the Grey System Theory, which was developed by Deng (1989) and based on the unknown as a new system, focuses on the direction of the relationship of two or more components (Yang & Chen, 2006). The basis of this theory is the definition of unknown or incomplete information as a *"grey element"*. The concept of *"grey"* mentioned in the method indicates that the information in a system is not fully known, whereas *"white"* color means that the information is fully owned, and the *"black"* color means that the information is unknown. The purpose of the Grey theory is to make the *"black"* information in the system *"grey"*.

The GRA, one of the subtitles of the Grey System Theory, is one of the methods used to analyze the uncertainties in multi-criteria decision-making problems, and it provides easier solutions than mathematical analysis methods in the presence of uncertainty. Basic relationships between the factors of a system can be identified with less data, thereby eliminating the constraints of conventional techniques. The Grey System Analysis is an extremely useful technique in comparing the reference factor with other factors (Huang et al., 1992; Kuo et al., 2008) to identify qualitative and quantitative relationships between complex factors even in the case of insufficient information (Wei, 2011).

The GRA method can be used to measure the relationship between the two series numerically and logically. To achieve this, it is necessary to calculate the relationship among the sequences to be compared numerically. The degree of relationship calculated as a result of the operations is called the Grey relationship degree and ranges between "0" and "1" (Zhang et al., 2010: 57-60). This measurement presents the similarities or differences between the analyzed elements. When the change between the two elements is continuous, if the changes occur concurrently, there would be a higher relationship between the elements, and if it does not occur concurrently, there would be a lower relationship (Girginer et al., 2015).

Performance Analysis with the Grey Relational Analysis Method

GRA is a solution method that can be applied to decision-making problems in situations where inter-factorial associaitons are complex. The similarities or differences among the factors that are subject to the analysis are expressed as the Grey relationships. It is preferred for grouping variables, especially in small samples, and in cases where the sample distribution is not known accurately. It is a method that can be applied to quantitative datasets as well as qualitative datasets (Özdemir, 2015: 136).

Generating the Decision Matrix:
While creating the decision matrix, *m* factor series related to the decision problem are determined.

$$X_j = \left(X_i(j), \ldots \ldots \ldots, X_j(n) \right) \tag{1}$$

$i = 1, 2, 3, 4, 5, \ldots, m; \quad j = 1, 2, 3, 4, 5, \ldots, n$

X_i denotes the alternatives in the decision problem, whereas and X_i denotes the values that the alternatives have assumed for each criterion. After generating *m* series of the alternatives and the criteria, the decision matrix is generated by indicating it on the matrix *X*.

$$X = \begin{bmatrix} X_1(1) & X_1(2) & X_1(3) & \cdots & X_1(n) \\ X_2(1) & X_2(2) & X_2(3) & \cdots & X_2(n) \\ X_3(1) & X_3(2) & X_3(3) & \cdots & X_3(n) \\ \vdots & \vdots & \vdots & \ddots & \vdots \\ X_m(1) & X_m(2) & X_m(3) & \cdots & X_m(n) \end{bmatrix} \tag{2}$$

Generating the Reference Series and Comparison Matrix: The Reference series to be determined in the decision problem is indicated as follows;

$$X_0 = \left(X_0(j)\right), \quad j = 1, 2, 3, \ldots, n \tag{3}$$

The greatest value of the jth criterion within the normalized values is denoted by $X_i(j)$. The reference series obtained here is added as a line below the decision matrix generated in the previous step and the comparison matrix is obtained.

Normalization Process and Generating the Normalization Matrix: In cases where there are data with wide ranges, the data are drawn to smaller intervals with the normalization process. The normalization process ensures that the data reaches a comparable level. Normalization is done in three different ways;

According to the benefit status; in the case where larger series contribute positively to the purpose, normalization is performed according to the formula in Equation 4.

$$X_i^* = \frac{X_i(j) - \max X_i(j)}{\max X_i(j) - \min X_i(j)} \tag{4}$$

According to the cost status; normalization is performed according to the formula in Equation 5, in the case where the series with smaller values positively contributes to the purpose.

$$X_i^* = \frac{\max X_i(j) - X_i(j)}{\max X_i(j) - \min X_i(j)} \tag{5}$$

According to *the optimal situation;* the formula in Equation 6 is used for normalization of the determined serial values according to a determined optimal value.

$$X_i^* = \frac{|X_i(j) - X_{0b}(j)|}{\max X_i(j) - X_{0b}(j)} \tag{6}$$

$X_{0b}(j)$ in the above equation represents the determined optimal value and it is the target value in terms of the jth criteria and is within the ranges of $\max X_i(j) \geq X_{0b}(j) \geq \min X_i(j)$. After applying the normalization processes to the decision matrix, the normalization matrix is obtained and is denoted by X^*.

$$X^* = \begin{bmatrix} X_1^*(1) & X_1^*(2) & X_1^*(3) & \cdots & X_1^*(n) \\ X_2^*(1) & X_2^*(2) & X_2^*(3) & \cdots & X_2^*(n) \\ X_3^*(1) & X_3^*(2) & X_3^*(3) & \cdots & X_3^*(n) \\ \vdots & \vdots & \vdots & \ddots & \vdots \\ X_m^*(1) & X_m^*(2) & X_m^*(3) & \cdots & X_m^*(n) \end{bmatrix} \tag{7}$$

Generating the Absolute Value Matrix: The *values of the absolute value matrix,* $\Delta_{0i}(j)$ which indicate the difference between $\mathcal{X}_0^*$ and $\mathcal{X}_i^*$, are calculated using the formula in Equation 8.

$$\Delta_{0i} = \begin{bmatrix} \Delta_{01}(1) & \Delta_{01}(2) & \Delta_{01}(3) & \cdots & \Delta_{01}(n) \\ \Delta_{02}(1) & \Delta_{02}(2) & \Delta_{02}(3) & \cdots & \Delta_{02}(n) \\ \Delta_{03}(1) & \Delta_{03}(2) & \Delta_{03}(3) & \cdots & \Delta_{03}(n) \\ \vdots & \vdots & \vdots & \ddots & \vdots \\ \Delta_{0m}(1) & \Delta_{0m}(2) & \Delta_{0m}(3) & \cdots & \Delta_{0m}(n) \end{bmatrix}$$

$$\Delta_{0i}(j) = |\mathcal{X}_0^*(j) - \mathcal{X}_i^*(j)| \quad i = 1, 2, 3, 4, 5, \ldots, m \tag{8}$$

Generating the Grey Relational Coefficient Matrix: With the help of the formula in Equation 9, the elements of the Grey relational coefficient matrix are calculated.

$$\gamma_{0i}(j) = \frac{\Delta_{min} + \xi\Delta_{max}}{\Delta_{0i}(j) + \xi\Delta_{max}}$$

$$\Delta_{max} = max_i \, max_j \, \Delta_{0i}(j), \quad \Delta_{min} = min_i \, min_j \, \Delta_{0i}(j) \tag{9}$$

The parameter ξ in the equation denotes the separator coefficient and assumes values within the range of 0-1. The purpose of using this coefficient is to adjust the difference between Δ_{0i} and Δ_{max}. When the differential coefficient is equal to one, the separation is at the highest level, and when the differential coefficient is equal to zero, the difference is at the lowest level. If the differences between the data are high, values converging to zero are used as the differential coefficient to reduce the contrasts. When the studies conducted in different disciplines are examined in the literature, it is seen that the differential coefficient is used as ξ = 0.5.

Calculation of the Grey Relationship Degrees: In the decision problem, the degree of the Grey relationship represents a measure of the geometric similarity between the $\mathcal{X}_i^*$ series and the $\mathcal{X}_0^*$ reference series in the problem and allows the series to be compared with each other. The magnitude of the degree of relationship indicates that the association between $\mathcal{X}_i^*$ series and the $\mathcal{X}_0^*$ reference series is strong. Moreover, if the degree of relationship is equal to 1, the series compared to each other are said to be the same. It can be seen how similar the $\mathcal{X}_i^*$ series compared with the calculated degree of relationship is to the reference series formed by $\mathcal{X}_0^*$. The degrees of the Grey relationship is calculated in two ways. While starting from the assumption that the criteria are of equal importance in the first calculation method; different weights are assigned to the criteria based on the assumption that they have different degrees of importance in the second calculation method.

$$\Gamma_{0i} = \frac{1}{n} \sum_{j=1}^{n} \gamma_{0i}(j) \quad i = 1, 2, 3, 4, 5, \ldots, m \tag{10}$$

Γ_{0i} in the formula of Equation 11 denotes the degree of relationship of the series. The equation also indicates the situation in which the criteria are of the same importance. The following formula in Equation 11 is utilized in cases where the criteria have different weights;

$$\Gamma_{0i} = \sum_{j=1}^{n} [w_i(j) * \gamma_{0i}(j)] \quad i = 1, 2, 3, 4, 5, \ldots, m \tag{11}$$

The weight of the jth criterion is denoted by $w_i(j)$ in the equation above. After the relationship degrees are calculated, the alternatives are listed from large to small in order to show the geometric similarity to the reference series previously calculated with the relationship degrees. The alternative, which has the largest degree of the Grey relationship, is chosen as the best alternative for the solution of the decision problem.

CONCLUSION

The banking system is a field of activity that has to be constantly audited. The fact that banks, which are the credit carriers of the country's economies, are on the agenda even in the smallest problem is an indicator of the importance given to them. Banks are the most important economic actors in the financial markets, whose boundaries have been removed with the development of globalization and technology. Banks are critical not only in the countries' own macroeconomic developments but also in international financial developments. The share of participation banking in the Turkish banking system has increased to 6% in recent years. With two newly established banks and one that left the system, measurement of the financial performance of participation banks operating in Turkey has become a necessity.

In the study, the literature on the measurement of the financial performance of participation banks using the Grey Relational Analysis within the Turkish banking system over the period 2011-2019 is reviewed. According to the analysis results of various research studies conducted on the measurement of the financial performance of participation banks, it is found that Türkiye Finans Participation Bank ranked first, whereas Albaraka Türk Participation Bank ranked last. Under the assumption that the number of participation banks would increase, it is concluded that competition can also affect the financial performance levels of each bank.

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