

## The Effect of Women's Employment on the Profitability Level of Participation Banks

### *Kadın İstihdamının Katılım Bankalarının Kârlılık Düzeyine Etkisi*

**Abstract:** The International Money Fund (IMF) reported that although women earn 63% less than men, they spend three times more. Based on this striking statistical information, this research aimed to analyze the effects of women's employment in the society on the return on equity (ROE) and return on assets (ROA) of participation banks. The effects of women's employment values on Türkiye's participation bank ROA and ROE values between December 2005 and November 2023 were analyzed with a logit model. ROA was significantly and negatively correlated with female labor participation ( $r=-0.165$ ), female employment ( $r=-0.166$ ) and female unemployment ( $r=-0.333$ ). Correlation coefficients showed that female unemployment rate was the most correlated factor with ROA. ROE was significantly and negatively correlated with female unemployment ( $r=-0.151$ ). Effect of female labor force participation ( $B=0,009$ ), female employment ( $r=-0,010$ ) and female unemployment ( $r=-0,004$ ) on ROA were statistically significant at multivariable level. However, effect of female unemployment on ROE was statistically insignificant ( $p>0,05$ ). Results showed that female employment had significant effect on profitability of participation banks in Türkiye. Giving more emphasis to these issues and role of employed female in marketing strategies can make positive contributions to the short and long-term activities of banks.

**Keywords:** Female employment, unemployment, participation bank, return on assets, return on equity.

**JEL Classification:** G20, G21, G24

#### **Sabri Öz**

Doç. Dr.,  
Beta İlim Derneği  
Assoc. Prof.,  
Beta Science Association  
soz.iticu@gmail.com  
<https://orcid.org/0000-0002-6280-726X>

#### **Kadir Yılmaz**

Doktora Öğrencisi,  
İstanbul Ticaret Üniversitesi  
PHD Candidate.,  
İstanbul Ticaret University  
dekartezyen@hotmail.com  
<https://orcid.org/0000-0003-2568-3015>

**Öz:** Uluslararası Para Fonu (IMF), kadınların erkeklerden %63 daha az kazanmalarına rağmen, üç kat daha fazla harcama yaptıklarını bildirmiştir. Bu çarpıcı istatistiksel bilgiden yola çıkarak bu çalışmada, toplumdaki kadın istihdamının katılım bankalarının öz sermaye getirisi (ROE) ve varlık getirisi (ROA) üzerindeki etkilerinin incelenmesi amaçlanmıştır. Çalışmada, Aralık 2005- Kasım 2023 tarihleri arasında kadın istihdam değerlerinin Türkiye katılım bankası ROA ve ROE değerleri üzerindeki etkileri logit modelle analiz edilmiştir. ROA'nın kadın işgücü katılımı ( $r=-0,165$ ), kadın istihdamı ( $r=-0,166$ ) ve kadın işsizliği ( $r=-0,333$ ) ile anlamlı ve negatif korelasyon gösterdiği belirlenmiştir. ROE'nin kadın işsizliği ( $r=-0,151$ ) ile anlamlı ve negatif korelasyon gösterdiği belirlenmiştir. Kadın işgücü katılımının ( $B=0,009$ ), kadın istihdamının ( $r=-0,010$ ) ve kadın işsizliğinin ( $r=-0,004$ ) ROA üzerindeki etkisi çok değişkenli düzeyde istatistiksel olarak anlamlıdır. Ancak, kadın işsizliğinin ROE üzerindeki etkisi istatistiksel olarak anlamsızdır ( $p>0,05$ ). Sonuçlar, kadın istihdamının Türkiye'deki katılım bankalarının kârlılığı üzerinde anlamlı bir etkiye sahip olduğunu göstermektedir. Bu konulara daha fazla vurgu yapılması ve pazarlama stratejilerinde çalışan kadınların rolünün artırılması, bankaların kısa ve uzun vadeli faaliyetlerine olumlu katkılar sağlayabilir.

**Anahtar Sözcükler:** Kadın istihdamı, işsizlik, katılım bankası, aktif getirisi, öz sermaye getirisi.

**Jel Sınıflandırması:** G20, G21, G24

#### **İntihal/ Plagiarism**

Bu makale, iThenticate yazılımı ile taranmış ve intihal tespit edilmemiştir.

This article has been scanned by iThenticate and no plagiarism detected.

## **Introduction**

In the report prepared by the IMF on women's entry into professional and working life in 2019, it was reported that women earn 63% less than men and yet spend three times more (IMF, 2019). This report alone is important evidence to reveal the impact of women on spending and savings. In addition, the mother role of women in the social structure and the unifying role of the female figure within the concept of family indicate that women are important in investments (Ganapathi and Madhavan, 2021; Mittal and Aggarwal, 2017; Lakshmi, 2015; Deb and Chavali, 2009). This role of women can be described as an important social structure component that should be taken into consideration, especially in marketing banking services and determining the target segment in participation banks.

Although the patriarchal social structure has been the dominant social pattern all over the world from past to present, the concept of family brings with it a different balance of power with the woman and especially the mother figure (Tazi-Preve, 2020; Rothman, 2016). As a result, a man who is active and powerful in society is also the child of a woman, and the woman's role in the family, along with her husband, also gains importance (Kuhn, 2013; Walby, 2010). It is possible to state that in banking services, apart from routine daily teller transactions, women's influence is important in decisions regarding investment and the future.

Banking services can generally be examined under two main headings. Two of these are classical teller and banking services where monetary transactions are carried out, and the second is the idea of future investments and making profits, which is related to the future and individuals' feelings of trust (Özbey and Akan, 2021; Soygür and Aydın, 2018; Claessens, 2006). In the first one, teller services, a family decision is not very important, and commercial or public institutions where most transactions are made are decisive in the decision process. For example, bills are paid in accordance with an agreement with certain banks. In matters such as traffic fines, school payments, and online payments of commercial companies, customers have more limited choice compared to institutions. It is possible to choose from several banks provided by the institution where the commercial activity is carried out. At this point, the consumer can either carry out his monetary transactions, especially payment transactions, by choosing one of the bank alternatives offered by the institution, or he can expand his bank choice by choosing another commercial institution. However, just as the alternatives provided by institutions in a routine sense are limited, the selectivity levels of individuals and consumers are also quite limited in this regard.

In investment activities, which is the second basic activity of banks, consumers are relatively more selective than in daily monetary transactions and their options are increasing. Each option brings with it a new alternative, and therefore the bank selection process becomes a multivariate process. At this point, the form and type of investment, its relationship with the social and cultural structure, and its short and

long-term returns are among the important factors in choosing to look (Mylonakis, 2009; Moshirian, 2001). It is possible to state that bank investments are made through a difficult selection process, where not only the return on investment in the short or long term, but also these factors is combined.

In the banking sector, the interest paid by banks rather than the transactions they carry out has always been a subject of discussion (Mujahidin, 2017; Danjuma et al, 2015). Interest can basically be expressed as a loan in which a certain amount of money or similar valuable commodity is increased at a certain rate at the end of a certain period of time. Through interest, the owner of the money gets back the loan with a higher amount at the end of a certain period of time. The income obtained in this process is prohibited, cursed, and even excluded within the social structure in many belief systems and cultural systems. The main reason for this is that the borrower generally needs that debt, and for this reason, those who pay interest are actually being opportunistic in a sense (Bellalah and Ellouz, 2004). In addition, there are fundamental criticisms such as another important reason for exclusion is that by making money from money, concepts such as labor and sweat lose their value within the social structure.

Unlike individuals who are excluded from society and expressed with concepts such as usurer, banker or usurer, banks maintain this system within an institutional structure and actually fulfill the credit system, which is the basis of national development and has a vital role in the economic system. In fact, the credit system is not based on making money from money, but on the method of giving loans to a number of companies, enterprises, public investments, public services or areas that will bring profit, through a corporate intermediary, and sharing the income obtained (Popov and Udell, 2012; Gorton and He, 2008). In fact, in this respect, loans can be considered as a kind of partnership structure within the financial system. However, in practice, interest is not accompanied by losses, depositors receive their dividends in full even though the companies to which loans are given go bankrupt, banks follow the loans quite aggressively, basically act like usurers, and most importantly, the income earned is, in terminology, a partnership, participation. Since it is called interest rather than dividend, the banking sector is considered problematic in many societies and social structures, especially in Islam.

In Islamic terms, although demanding more money than the money given is considered interest and haram, on the other hand, giving the money given at the same value after a certain period of time will cause the lender to suffer losses. This situation may cause one of the greatest sins, known as human rights, to be committed. For this reason, commodity and relative concepts have become more prevalent in the concepts of credit and debt in Islam (Malati et al, 2021; Rasyid, 2020). This situation, in general, in the historical context and today, has caused banks to remain weak in Islamic countries and therefore to be deprived of the financial benefits that banking brings.

Although there are serious differences between the interest received from a deposit given to a bank and the interest given by a usurer, since there are many types of interest in the Islamic belief and even the lightest of them is considered among major sins, the majority of individuals view the investment part of the banking system as harmful and invest more (Nouman et al, 2022; Ariff and Safari, 2015). It is mostly done through gold, foreign currency or commodities (Sulkiah et al, 2021; Krichene, 2013). However, this situation negatively affects the cash flow within the economic system within the country and may cause some fundamental economic problems within the country by negatively affecting investments. In addition, there may be an increase in the informal economy, an excessive increase in commodity prices, and especially the use of these religious sensitivities by some malicious people. All these reasons reveal the necessity of a structure that can replace the banking system in the Islamic sense or bring the basic economic benefits of the banking system into the economic system. For these reasons, it is possible to state that participation banks have been established in recent years to overcome this deficiency, conceptually and theoretically, even though they have primitive structures that existed under different names in the past.

There are many different definitions of participation banks in the literature, and it is possible to basically define participation banks as Islamic finance and interest-free banking (Erol et al, 2014; Hardy, 2012). In Islam, and indeed in many other religious beliefs, interest and earning money from money is considered an unpleasant and undesirable situation. Although participation banks were initially called by different names such as Islamic banks, Islamic finance, interest-free banking, today and the term participation banking as a name in the literature is a concept on which there is a consensus. Conceptually, participation banking is a system that expresses the participation of individuals in a commercial system with their economic assets. In this respect, participation banks are actually participating in an economic initiative. Therefore, not only profit but also loss is possible in this participation. However, although there are some criticisms of the system due to the use of the bank name in participation banks, in general, participation banks are financial intermediary institutions that fulfill an important function in terms of addressing the religious sensitivities of a very important segment.

Despite that participation banks have been criticized harshly by some extreme groups due to their bank name, these institutions play an important role in the preferences of individuals in terms of investment, which is the second function of banks (Sayar and Azrak, 2021; Khan, 2010). Since their establishment, participation banks have become one of the most important economic systems of Islamic finance in terms of both the number of branches and customers, the size of financial investments and the funds collected and distributed. However, despite this increase, when compared to the proportion of the Muslim population in terms of religious belief in the society, there are not enough studies on which segment will be served by participation banks and which segment will be taken into consideration in marketing

products and services. Existing studies mostly focus on the difference of participation banks from deposit banks, their place in the economic system, profit levels and returns, but also reveal the importance of banks. Coşkun et al (2024) evaluated funds collected from participation banks and their relation with sector shares and macroeconomic indicators. Tomak and Yılmaz (2024) evaluated effects of participation bank credits on international trade. Yılmaz and Turanlı (2022) evaluated household income and participation bank relations. Batır et al (2017) evaluated differences between conventional and participation banks in Türkiye. Similarly, Arslan and Ergeç (2010) compared financial performance and efficiencies of conventional and participation banks. The next stage is to identify the target segment and determine their characteristics in the marketing process of these banks. In this regard, taking into account the reasons mentioned above regarding the importance of women in society, this research aims to examine the relationship between women's employment status and the performance of participation banks.

### **1.Literature Review**

Although many studies have been conducted on participation banks today, these studies are mostly related to the economic and financial roles of banks. There are not enough studies on service marketing and social variables of participation banks. In addition, no foreign studies have been found working on data from Türkiye. For this reason, some basic studies closest to the research subject are included.

One of the studies closest to the research topic is conducted by Yılmaz and Turanlı (2022), which is about which income group participation banks are associated with in Türkiye. The results obtained reveal that participation banks reach more customers in the first and second 20% segments, that is, the segment with low income, and attract more attention from this segment in the long term.

In another study, Kazak (2023) reported the relationship between bank loans and inflation as valid for participation banks in Türkiye and reported that there is a causality relationship. This result shows that participation banks have a similar role to deposit banks, considering the relationship between inflation and expenditures and consumption.

In their study, Er et al. (2022) analyzed the relationship between participation banks and generations through generations X and Y and conducted research on 408 participants. According to the results, although the religious sensitivities of the participants in the Y generation are an important reason for preference, the same is not the case for the X generation. Generation X has a more pragmatic and hedonistic attitude.

Öcel and Kaban (2019) examined the understanding of Islamic marketing and Islamic finance of participation banks' customers and the relationship between them. In the study, a survey was conducted on 189 people. According to the results, significant relationships were found between religious sensitivity, Islamic product and pricing and image.

In their study, Anaç and Kaya (2017) examined the factors affecting individual customers' preferences for participation banks. In the study, a survey was conducted on 423 participants. According to the results obtained, the main reasons why customers prefer banks are interest-free banking, individual sensitivities and customer relations of employees.

In another study, Anaç and Kaya (2017) examined the bank preferences of participation bank customers and conducted a survey on 423 people. According to the results obtained, interest rates and religious sensitivities are not the only reasons why customers prefer participation banks. In addition, the effect of classical banking customer preferences was found to be statistically significant.

In their study, Yücel and Atlı (2014) examined electronic marketing practices in participation banks in the Elazığ sample. In the study, a survey was conducted with 384 bank customers. According to the results obtained, there is a statistically significant relationship between market mix elements in participation banks. As a result, classical marketing methods can be used in participation banks. In this regard, the study results also serve as a reference to the gender-based study in our research.

In their study, Bilir and Özgen (2010) examined individual customer satisfaction in participation banks in Hatay province. In the study, a survey was conducted on 322 people. According to the results obtained, participation banks cannot adequately meet customers' expectations in terms of service quality.

Keskin (2024) examined effects of credits given by banks on employment, and reported positive correlation between credits and employment.

Altuntepe (2021) evaluated effects of participation banks on employment, and reported that participation banks had positive relation with employment in short term.

Kendirli and Ergenoğlu (2021) evaluated profitability factors for participation banks in Türkiye, and reported that inflation, credits, size, and personal costs have significant effect on profitability.

Karakuş and Yılmaz Küçük (2016) performed panel data analysis to evaluate factors effecting profitability of participation banks, and reported that factors such as credits, active profits, income ratio and credit ratios have significant impact on participation banks.

## 2.Data and Methodology

### 2.1.Model of the Research

The research was designed with descriptive scanning and relational scanning model. In this mixed model, the researcher does not intervene in the current situation in a controlled manner, but explains the current situation in the light of qualitative and quantitative data, and also analyzes the relationship between variables quantitatively (Cohen et al, 2001). In this context, the research aims to define and quantitatively reveal the impact of women's employment levels on the active and equity returns of participation banks with quantitative data.

### 2.2. Problem Situation and Hypothesis

The problem in the research is the relationship between women's employment and the profitability rates of participation banks and the impact of women's employment rates, as follows:

What effect do women's employment indicators have on the return on assets and equity capital of participation banks?

In order to analyze this problem statement, the following basic hypothesis was tested in the research:

**H0:** Women's employment indicators have not a statistically significant effect on the return on assets and equity of participation banks.

**H1:** Women's employment indicators have a statistically significant effect on the return on assets and equity of participation banks.

Working women will have both the investment power and greater participation in investment decisions within the home. Based on this, we hypothesized that an increase in the proportion of working women could lead to a shift in investment decisions within the home toward participation banks.

### 2.3. Research Data

The dependent variables in the research were the return on equity (ROE) and return on assets (ROA) variables obtained from the Türkiye Central Bank EVDS system, taken monthly between December 2005 and November 2023 of the participation banks. EVDS publishes data on a monthly basis for participation banks in Türkiye.

Because the most comprehensive and up-to-date dataset provided by EVDS covers the years 2005-2023, the research dataset was taken within this timeframe. Despite the small share of participation banks in the Turkish banking sector, this research was conducted to contribute to research in this area.

The independent variables are the female labor force participation, female employment and female unemployment series, which are indicators of female employment, compiled and published by TURKSTAT. Although unemployment and employment seem to be complementary and cointegrated here, the three data are

given completely different from each other. The proportion of women who meet the employment conditions, employment participation and unemployment rates are given separately. The main reason for this can be expressed as the fact that women's employment is not recorded regularly and is variable. However, since the data were collected monthly, a fairly wide vertical series was obtained. The reliability of the data given by TURKSTAT, from which the data was taken, also reveals the reliability of the research outputs.

## 2.4. Data Analysis and Statistical Method

In the study, median and variation ranges, as well as mean and standard deviation values, were used to describe the data. Normality distributions of time series were analyzed with the Kolmogorov Smirnov test. The relationships between the research series were tested with Spearman's rho correlation analysis because the distributions of the series did not comply with the standard normal distribution. In a time series with non-normal distribution or including semi-quantitative parameters, linearization causes deviations from real model (Turanlı and Yılmaz, 2023; Yılmaz and Turanlı, 2023). Thus, Generalized Linear Model (Logit) may help to reduce deviations from minimizations. GLM analysis was performed to analyze the effects of the variables that were significant as a result of the correlation analysis on the dependent variables due to linearization deviations (Turanlı and Yılmaz, 2023; Yılmaz and Turanlı, 2023). Since the research series are proportional data and the logarithmic model was used in the relational screening analysis, unit root or cointegration analyzes were not performed. All analyzes were performed with a 95% Confidence Interval, at a significance level of 0.05, and in SPSS 25.0 for Windows.

## 3. Findings

Distribution of female employment series according to years were given in the Table 1.

**Table 1:** Distribution of female employment series according to years

	<b>Female Labor force participation</b>		<b>Female Employment</b>		<b>Female Unemployment</b>	
	<b>Median</b>	<b>(Min-Max)</b>	<b>Median</b>	<b>(Min-Max)</b>	<b>Median</b>	<b>(Min-Max)</b>
	<b>X±SD</b>		<b>X±SD</b>		<b>X±SD</b>	
2005	20,8±0,00	20,8 (20,8-20,8)	18,8±0,00	18,8 (18,8-18,8)	9,5±0,00	9,5 (9,5-9,5)
2006	21,4±1,5	21,5 (18,8-23,0)	19,5±1,5	19,5 (16,8-21,4)	8,9±1,2	9,2 (6,7-10,6)
2007	21,2±1,2	21,0 (19,7-23,1)	19,3±1,2	19,2 (17,8-21,3)	9,1±0,8	9,2 (7,7-10,1)
2008	22,1±1,5	22,3 (19,3-23,9)	19,9±1,5	20,0 (17,2-21,9)	10,1±1,2	10,3 (8,1-11,8)
2009	23,8±1,4	23,9 (21,1-25,5)	20,7±1,3	21,0 (18,0-22,4)	13,0±0,9	13,0 (11,9-15,0)
2010	25,1±1,0	25,3 (23,5-26,4)	22,2±1,1	22,4 (20,2-23,7)	11,9±1,1	11,6 (10,4-13,9)
2011	26,1±1,2	26,1 (24,0-27,8)	23,4±1,2	23,4 (21,2-25,1)	10,4±0,8	10,4 (9,5-11,8)
2012	26,6±1,2	27,0 (24,3-28,0)	24,0±1,3	24,3 (21,6-25,7)	9,7±0,9	10,1 (8,2-10,8)
2013	27,9±0,9	28,0 (26,5-29,3)	24,9±0,9	24,8 (23,4-26,5)	10,9±0,7	11,0 (9,6-11,7)

2014	29,9±1,2	30,0 (27,0-31,2)	26,3±1,1	26,6 (23,9-27,8)	11,9±1,2	12,0 (10,2-13,9)
2015	31,3±1,1	31,5 (28,8-32,5)	27,3±1,1	27,4 (25,0-28,7)	12,6±0,8	12,8 (10,8-13,9)
2016	32,4±1,0	32,7 (30,3-33,6)	28,0±0,9	28,0 (26,3-29,8)	13,6±2,1	13,5 (10,6-16,2)
2017	33,4±0,9	33,7 (31,5-34,5)	28,8±0,9	29,0 (26,8-29,7)	13,9±1,0	13,9 (12,6-15,4)
2018	34,1±0,8	34,3 (32,7-35,4)	29,4±0,7	29,5 (28,3-30,4)	13,7±1,2	14,0 (11,8-15,3)
2019	34,3±0,7	34,5 (32,7-35,3)	28,7±0,7	28,9 (27,2-29,5)	16,4±1,1	16,4 (14,6-18,0)
2020	30,8±1,2	31,1 (28,8-32,2)	26,2±0,7	26,4 (25,2-27,3)	14,8±1,2	14,9 (12,5-16,4)
2021	32,9±1,4	33,0 (30,6-34,7)	28,0±1,2	28,2 (26,1-29,7)	14,7±0,9	14,6 (13,3-16,1)
2022	35,1±1,1	35,2 (33,3-36,9)	30,3±1,0	30,6 (28,7-32,2)	13,5±0,7	13,5 (12,2-14,6)
2023	35,8±0,5	35,8 (34,8-36,4)	31,2±0,7	31,5 (30,0-32,2)	12,7±0,9	13,1 (11,2-13,9)

X: Mean, SD: Standard Deviation.

While the female labor force participation rate was 20.8% in the last month of 2005, apart from the decrease in 2020, it has been in a continuous upward trend and reached an average value of 35.8% in 2023. This value is more than 1.5 times the value in 2005. It is possible to explain the decline in 2020 with the pandemic. It can be stated that during the pandemic period, both the importance of women in the family and the fact that men remained employed more were effective.

The employment rate was 18.8% in 2005 and increased to 31.2% in 2023. On the other hand, there was an increase in employment rates from 9.5% in 2005 to 13.1% in 2023. The increase in both employment and unemployment rates is associated with changes in women's labor force participation rates. In other words, the total female workforce does not consist only of working and non-working women, and there are changes in the female workforce structure over time.

ROA and ROE series of participation banks and trends between 2005 and 2023 were given in the Table 2.

**Table 2:** ROA and ROE series of participation banks and trends between 2005 and 2023

	ROA		ROE	
	X±SD	Median (Min-Max)	X±SD	Median (Min-Max)
2005	0,025±0,000	0,025 (0,025-0,025)	0,259±0,000	0,259 (0,259-0,259)
2006	0,015±0,009	0,015 (0,002-0,029)	0,138±0,076	0,136 (0,024-0,256)
2007	0,015±0,008	0,015 (0,003-0,027)	0,123±0,064	0,122 (0,023-0,223)
2008	0,013±0,008	0,013 (0,002-0,025)	0,098±0,052	0,096 (0,014-0,173)
2009	0,012±0,007	0,013 (0,001-0,021)	0,089±0,049	0,094 (0,010-0,160)
2010	0,010±0,005	0,011 (0,002-0,018)	0,080±0,041	0,086 (0,012-0,139)
2011	0,008±0,004	0,008 (0,001-0,014)	0,069±0,041	0,068 (0,007-0,130)
2012	0,008±0,004	0,009 (0,002-0,013)	0,076±0,038	0,078 (0,015-0,124)
2013	0,006±0,003	0,006 (0,001-0,011)	0,064±0,037	0,064 (0,010-0,119)
2014	0,004±0,002	0,005 (0,001-0,007)	0,044±0,023	0,054 (0,007-0,068)
2015	0,003±0,001	0,003 (0,001-0,004)	0,032±0,011	0,034 (0,011-0,048)

2016	0,004±0,003	0,004 (0,000-0,008)	0,044±0,038	0,041 (-0,001-0,095)
2017	0,005±0,003	0,006 (0,000-0,010)	0,062±0,036	0,066 (0,005-0,115)
2018	0,006±0,004	0,007 (-0,001-0,011)	0,076±0,051	0,084 (-0,006-0,130)
2019	0,005±0,003	0,005 (0,000-0,008)	0,061±0,035	0,066 (0,0050,107)
2020	0,004±0,002	0,005 (0,001-0,007)	0,070±0,040	0,069 (0,010-0,122)
2021	0,004±0,002	0,004 (0,001-0,007)	0,068±0,040	0,063 (0,014-0,146)
2022	0,014±0,008	0,015 (0,002-0,025)	0,212±0,107	0,233 (0,036-0,353)
2023	0,014±0,007	0,014 (0,003-0,023)	0,198±0,109	0,206 (0,038-0,354)

**ROA:** Return on Assets, **ROE:** Return on Equity, **X:** Mean, **SD:** Standard Deviation.

ROA values of participation banks were at the level of 0.025 in 2005 and decreased to 0.014 in 2023. When the change over time is examined, there is a general downward trend, except for an increase in 2022. A similar trend is also valid for ROE, and the ratio, which was 0.259 in 2005, decreased to 0.206 by 2023. In fact, this situation can be interpreted as markets that were initially partial monopolies gradually taking on a more real form.

According to the trend analysis for ROA over time, while there was a sharp and serious downward trend until 2015, there was an increase from 2015 to 2018. There has been a downward trend again since 2018, and there has been an increase again in the transition from 2021 to 2022. However, despite these increases, the ROA value remained below the initial value. A similar time trend and parity structure is also valid for ROE, and return on equity and asset returns are seen to be compatible with each other.

Spearman's rho correlation analysis results between ROA, ROE and female employment series were given in the Table 3.

**Table 3:** Spearman's rho correlation analysis results between ROA, ROE and female employment series

	ROA	ROE
Female labor force participation	-0.165*	0.043
Female employment	-0.166*	0.037
Female unemployment	-0.333**	-0.151*

\*p<0.05, \*\*p<0.01 ROA: Return on Assets, ROE: Return on Equity

According to Spearman's rho correlation analysis results, ROA was significantly and negatively correlated with female labor participation (r=-0.165; p<0.05), female employment (r=-0.166; p<0.05) and female unemployment (r=-0.333; p<0.01). Correlation coefficients showed that female unemployment rate was the most correlated factor with ROA. ROE was significantly and negatively correlated with female unemployment (r=-0.151; p<0.05).

Generalized Linear Model (Logit) for effects of female employment on ROA and ROE results were given in the Table 4.

**Table 4:** Generalized Linear Model (Logit) for effects of female employment on ROA and ROE

Parameter	B	Std. Error	95% Confidence Interval		Wald Hypothesis Test		
			Lower	Upper	Wald $\chi^2$	df	p
<b>ROA Model</b>							
(Intercept)	0,055	0,0136	0,029	0,082	16,416	1	0,000
Female labor force participation	0,009	0,0035	0,002	0,015	6,235	1	0,013
Female employment	-0,010	0,0039	-0,018	-0,002	6,382	1	0,012
Female unemployment	-0,004	0,0012	-0,006	-0,001	10,022	1	0,002
(Scale)	3,740E-5 <sup>a</sup>	3,5992E-6	3,097E-5	4,517E-5			
<b>ROE Model</b>							
(Intercept)	,137	,0263	,086	,189	27,319	1	,000
Female unemployment	-,004	,0021	-,008	,000	3,428	1	,064
(Scale)	,005 <sup>a</sup>	,0005	,004	,006			

a. Maximum likelihood estimate.

According to ROA model, effect of female labor force participation ( $B=0,009$ ;  $p<0.05$ ), female employment ( $r=-0,010$ ;  $p<0.05$ ) and female unemployment ( $r=-0,004$ ;  $p<0.01$ ) on ROA were statistically significant at multivariable level. However, effect of female unemployment on ROE was statistically insignificant ( $p>0.05$ ).

#### 4. Discussion

In this research, the effects of women's employment on the asset and equity performances of participation banks were examined and it was aimed to reveal which segment the participation banks should appeal to in marketing their banking services or which segment would provide more returns. In this respect, the study aims to differentiate from classical econometric studies and examine the impact of social components, which are actually important components of behavioral finance, with a pragmatic approach.

Participation banks are a type of banking that, in addition to the functions of deposit banks, also provides cultural and religious services to individuals, or in other words, takes into account the religious beliefs and cultural values of individuals (Batir et al, 2017; Erol et al, 2014; Polat et al, 2014). Although it is claimed in some strict Islamic circles that there is not much difference between them and deposit banks, at the last stage, when it comes to making a choice between deposit and participation banks, it is possible to say that participation banks will be preferred over deposit banks, even

in the most conservative segment. . In addition to such inferences, participation bank customer, branch and financial data also reveal that there is a serious need and demand for these banks. For this reason, it is possible to argue that participation banks are now a financial reality in Islamic countries, both numerically, based on the data of participation banks from past to present, and due to their discursive advantages compared to deposit banks.

Since participation banks are new financial intermediaries today and do not have a deep-rooted history compared to deposit banks, studies in this field have generally examined either the comparison of the financial indicators of participation banks with deposit banks or the relationship of these financial indicators with macroeconomic indicators (Batir et al, 2017; Erol et al, 2014; Sayim and Alakel, 2011). The general results of these studies reveal that participation banks have economic activities similar to deposit banks and that they make positive contributions to the country's economy in macroeconomic terms. However, there are not enough studies on the target marketing strategies, market areas and target audiences of participation banks, so there was a need to conduct research on this subject. In one of the limited studies conducted on this subject, Yılmaz and Turanlı (2022) examined which income bracket participation banks are related to, and according to the results obtained, it was revealed numerically that participation banks in Türkiye appeal more to lower income groups.

Female employment examined in this research can actually be described as a cultural and social reflection of women's place in family and society on the economy (Gilman, 2023; Leghorn and Parker, 2022). Since religions generally have a patriarchal structure, it is possible to say that this patriarchal structure, with rare exceptions, is disrupted by the employment of women. Women's entry into business life is a situation that is opposed by many cultural traditions and understandings, as well as many religious discourses. Fundamental beliefs such as Islam, which allow women to be in working life, either impose restrictions on working life, or some strictly conservative groups oppose all kinds of women's employment. Therefore, women's employment also exhibits a similar situation to the perspective on banking and interest. In this respect, the research examines two close issues within religious requirements and social reality.

According to the results obtained, it is found that asset and equity returns, which are indicators of interest in participation banks, increase positively with the entry of women into business life. In fact, these results are the expected results in terms of revealing the economic added value of women's employment. In countries with young populations such as Türkiye, women's participation in employment increases the value of the labor force and provides an economic return. In addition, it is possible to argue that a serious economic contribution is made in systems such as Türkiye, where the service sector is dominant, that is, where the workforce is important. However, this contribution is valid for return on assets (ROA) but not return on equity (ROE). Although there are many reasons for this, the most

important possible reason is that more time is required for ROE and the effects of ROE need to be examined in the long term.

Although women's participation in employment positively affects the asset returns of participation banks, the effect of their actual entry into working life or remaining unemployed is negative. When this finding is evaluated together with the previous finding, it is seen that the employment of women makes a positive contribution to the participation banks, but when it comes to the preference stage, it is inversely proportional to the number of employed women who are employed or unemployed. At this point, clearly for ROA, the results of both variables show that women attach less importance to participation banks when they enter working life. Although there are many reasons for this, it is possible to say that it is due to the fact that some bigoted religious groups view women's employment extremely strictly, even though it is not inherent in religious beliefs. In the most vulgar terms, it is possible to argue that a thought such as "I will not hand over to you the money I earned despite you" prevails.

As a result, regardless of the reason, while working women provide serious and effective added value to the economy, the opposite situation exists for participation banks. It is possible to see this as women's reactions to religious life and patriarchal structure. Even though this situation is not actually like this, and participation banks progress within the understanding and tolerance of Islam in Türkiye, it is necessary not to ignore this fact and to fight against it as a solution. For this reason, it may be beneficial to give more emphasis to these issues in marketing strategies, perhaps to appeal to female customers or to the whole society in general, while keeping patriarchal and religious discourses less and limited.

*Limitations of the research:* The limitation of historical data, which exists in every research on participation banks, also applies to this research. In the most current data set for Türkiye, data for December 2005 can be seen. However, participation banks and unions, which started sharing data shortly after their establishment, share data in a very professional and successful manner. Because even for 2023, November data has been published including consolidated data. In this respect, the first limitation is related to literature and innovation.

Another important limitation is that the studies on participation banks are generally conducted in a highly technical manner, using econometrics and financial indicators. For this reason, as in this study, there have not been enough studies examining the performance of participation banks and variables related to social structure or evaluating studies in the field of marketing. This is another important limitation of the research.

*Contributions of the research to the field and literature:* The most important contribution of the research to the field is that it approaches participation banks pragmatically and therefore focuses on field applications in terms of improving performance. The

research results are not limited to just a technical or literature study, but also suggest some kind of marketing target strategies for participation banks.

Another important contribution of the research to the literature is that it is a pioneering study in the field. Although many studies have been conducted on participation banks, sufficient studies on marketing and social variables have not been found. As a result of this, there are not enough studies to compare the results with the literature. This situation both reveals the originality of the research and provides guidance for further studies.

### **Conclusion**

According to the results obtained in the research, it is seen that the employment of women and the increase in unemployment rates negatively affect the profitability rates of participation banks, but the increase in women becoming employed or in the workforce has a positive effect. In fact, although these results may seem like a contradiction at first glance, it is possible to state that the contribution of the increase in the value of women's labor force to the entire economy is reflected in participation banks. As employment and unemployment levels increase, the profitability of participation banks decreases. The correlation analysis results of both return on equity and return on assets are significant shows that female employment has an impact on the performance of participation banks in the short term. In the long term, generalized logit model results show that female employment has an impact on asset profitability.

The negative direction of the effect can be explained by the increase in household expenses and the relatively decrease in the savings part of women's employment, and it can also be explained by the negative perspective of working women towards participation banks. For this, further research is needed on participation banks and investment preferences of working women. The patriarchal nature of religious beliefs based on gender may have an impact at this point. In other words, participation banks may be more preferred in family structures where men have an economic say. However, all these assumptions require inference and evidential studies. At this point, the important and pragmatic aspect for participation banks is that in order for women, especially working women, to prefer participation banks, advertising and marketing strategies aimed at that segment are necessary. In this regard, further research on religious belief characteristics, cultural structure interactions and future investments in working women can provide additional information about the content and direction of marketing strategies for working women.

Although the main philosophy of participation banks is religious reasons, the dominant and decisive role of women is clearly shown in quantitative results. Therefore, giving more emphasis to these issues and role of employed female in marketing strategies can make positive contributions to the short and long-term activities of banks.

## References

- Altuntepe, N. (2021). Katılım Bankacılığının Fon Kullandırma İşlemlerinin İstihdam Üzerine Etkilerinin Analizi: 2010: 01-2019: 11. *Iğdır Üniversitesi Sosyal Bilimler Dergisi*, (26), 64-103.
- Anaç, T., & Kaya, F. (2017). Bireysel Müşterilerin Katılım Bankacılığını Tercih Etmesini Etkileyen Faktörler. *Bartın Üniversitesi İktisadi Ve İdari Bilimler Fakültesi Dergisi*, 8(15), 145-182.
- Anaç, T., & Kaya, F. (2017). Katılım Bankacılığı Sektöründe Bireysel Müşterilerin Banka Tercih Nedenleri Üzerine Bir Araştırma: İstanbul Örneği. *Ekonomik ve Sosyal Araştırmalar Dergisi*, 13(2), 75-96.
- Ariff, M., & Safari, M. (2015). Valuation of Islamic debt instruments, the Sukuk: Lessons for market development. *Islamic banking and finance—Essays on corporate finance, efficiency and product development*, 1.
- Arslan, B. G., & Ergec, E. H. (2010). The efficiency of participation and conventional banks in Turkey: using data envelopment analysis. *International Research Journal of Finance and Economics*, 57, 156-168.
- Batır, T. E., Volkman, D. A., & Gungor, B. (2017). Determinants of bank efficiency in Turkey: Participation banks versus conventional banks. *Borsa Istanbul Review*, 17(2), 86-96.
- Bellalah, M., & Ellouz, S. (2004). Islamic Finance, Interest Rates And Islamic Banking A Survey Of The Literature. *Finance India*, 18, 533-546.
- Bilir, A. & Özgen, H. (2010). Katılım Bankalarında Müşteri Memnuniyetinin Belirlenmesi Üzerine Hatay İlinde Bir Araştırma. *Ç.Ü. Sosyal Bilimler Enstitüsü Dergisi*, 19(3), 39-62.
- Claessens, S. (2006). Access to financial services: A review of the issues and public policy objectives. *The World Bank Research Observer*, 21(2), 207-240.
- Coşkun, Ş., Turanlı, M., & Yılmaz, K. (2024). Katılım Bankalarında Toplanan ve Kullandırılan Fonların Sektör Paylarıyla İlişkisi ve Makroekonomik Göstergelerin Etkisi. *Journal of Islamic Research*, 35(2), 240-53.
- Danjuma, I., Kumshe, H. M., Daneji, B. A., & Ibrahim, A. K. (2015). Customers' Perception of Non-Interest Banking Services by Deposit Money Banks: Evidence From Nigeria. *Journal of Islamic Banking and Finance*, 3(2), 57-65.
- Deb, M., & Chavali, K. (2009). A Study of Gender Differences in Investment Behaviour. *Asia Pacific Business Review*, 5(3), 45-55.
- Er, M., Er, H., Altunışık, R. (2022). X ve Y Kuşaklarının Katılım Bankacılığına Yönelik Algıları, *İşletme Araştırmaları Dergisi*, 14 (3), 1753- 1766.

- Erol, C., F. Baklaci, H., Aydoğan, B., & Tunç, G. (2014). Performance comparison of Islamic (participation) banks and commercial banks in Turkish banking sector. *EuroMed Journal of Business*, 9(2), 114-128.
- Ganapathi, R., & Madhavan, V. (2021). A study on investment behaviour and attitude of women investors of Bangalore, Karnataka. *Asian Journal of Managerial Science*, 10(1), 44-49.
- Gorton, G. B., & He, P. (2008). Bank credit cycles. *The Review of Economic Studies*, 75(4), 1181-1214.
- Gilman, C. P. (2023). Women and economics. In *Women's Economic Writing in the Nineteenth Century* (pp. 132-157). Routledge.
- Hardy, L. (2012). The evolution of participation banking in Turkey. *Al Nakhlah Online Journal of Soutwest Asia and Islamic Civilization*.
- IMF, (2019). Women and Growth. *Finance and Development*, A Quarterly Publication of the International Monetary Fund.
- Karakuş, R., & Yılmaz Küçük, Ş. (2016). Katılım Bankalarında Karlılığın Belirleyicileri: Türkiye Örneği İçin Bir Panel Veri Analizi. Niğde Üniversitesi İktisadi Ve İdari Bilimler Fakültesi Dergisi, 9(2), 119-133.
- Kazak, H. (2023). Banka Kredileri ve Enflasyon Arasındaki İlişki Katılım Bankaları Açısından da Geçerli mi? Türkiye Üzerine Fourier İşlevli Bir Nedensellik Analizi. *İşletme Araştırmaları Dergisi*, 15(4), 2527-2542.
- Kendirli, S., & Ergenoğlu, S. (2021). Katılım Bankalarının Karlılık Belirleyicileri: Türkiye Örneği. *Finans Ekonomi Ve Sosyal Araştırmalar Dergisi*, 6(3), 545-551.
- Keskin, Ö. (2024). Kobi Bankacılığı Kapsamında Kullanılan Kredilerin İstihdama Etkisinin Analizi: Rals-Fourier Adl Eşbütünleşme Testi. *Bingöl Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*(28), 103-113.
- Khan, F. (2010). How 'islamic' is islamic banking?. *Journal of economic behavior & organization*, 76(3), 805-820.
- Krichene, N. (2013). Re-introducing gold: An Islamic finance approach. *ISRA International Journal of Islamic Finance*, 5(2), 9.
- Kuhn, A. (2013). Structures of patriarchy and capital in the family. In *Feminism and Materialism (RLE Feminist Theory)* (pp. 42-67). Routledge.
- Lakshmi, B. (2015). Factors affecting the investment behaviour of women. *International Journal in Management & Social Science*, 3(9), 185-197.
- Leghorn, L., & Parker, K. (2022). *Woman's worth: Sexual economics and the world of women*. Taylor & Francis.

- Malati, F., Radiany, M. A., Harjanti, W., Farhan, A., & Puspitasari, E. (2021). Debt in a Business and Islamic Perspective. *Debt in a Business and Islamic Perspective*, 11(10).
- Moshirian, F. (2001). International investment in financial services. *Journal of banking & finance*, 25(2), 317-337.
- Mujahidin, A. (2017). Factor of public interest to islamic banking services. *International Journal of Development Research*, 7(08), 14668-14672.
- Mylonakis, J. (2009). Private banking services, private banking customers' profile and their investment behavioral preferences. *Banks & bank systems*, (4, Iss. 1), 37-44.
- Mittal, V., & Aggarwal, N. (2017). Investment behaviour of working women—a study of Ludhiana district in Punjab. *International Journal of Business Management*, 3(1), 2163-2170.
- Nouman, M., Hashim, M., Trifan, V. A., Spinu, A. E., Siddiqi, M. F., & Khan, F. U. (2022). Interest rate volatility and financing of Islamic banks. *Plos One*, 17(7), e0268906.
- Öcel, Y. & Kaban, T. (2019). Katılım Bankalarının Müşterilerinin İslami Pazarlama Ve İslami Finans Anlayışları Arasındaki İlişkinin İrdelenmesi. *Üçüncü Sektör Sosyal Ekonomi Dergisi*, 54(1), 377-393.
- Özbey, N. & Akan, Y. (2021). Türkiye'deki Mevduat Bankaları Üzerine VZA Araştırma Yöntemi ile Etkinlik Analizi. *Atatürk Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 25 (4), 1641-1658.
- Polat, A., Yesilyaprak, M., & Kaya, R. (2014). Understanding Islamic bank selection of customers: a field research from Turkish participation banks. *International Journal of Financial Research*, 5(4), 22.
- Popov, A., & Udell, G. F. (2012). Cross-border banking, credit access, and the financial crisis. *Journal of international economics*, 87(1), 147-161.
- Rasyid, D. (2020). Interest Loan in The Perspective of Islamic Jurisprudence;(Comparative Studies). *SALAM: Jurnal Sosial dan Budaya Syar-i*, 7(12), 1063-1078.
- Rothman, B. K. (2016). Beyond mothers and fathers: Ideology in a patriarchal society. In *Mothering* (pp. 139-157). Routledge.
- Sayar, F., & Azrak, T. (2021). Issues and Challenges of Participation Banking in Turkey: An Empirical Investigation. *Journal of King Abdulaziz University, Islamic Economics*. <https://doi.org/10.4197/Islec>, 34-2.
- Sayim, F., & Alakel, M. (2011). The Participation Banking And Its Comparison With Deposit Banking In The Turkish Finance Market. *Uluslararası Alanya İşletme Fakültesi Dergisi*, 3(1).

- Soygür, İ. C. & Aydın, S. Z. (2018). Bankacılık Sektöründe Pazarlama Ve Satış Yönlü Hedef Baskısının Banka Personeli Üzerindeki Etkisinin Analizi. *Süleyman Demirel Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, 23(2), 347-371.
- Sulkiah, S., Syafei, Z., & Jamaluddin, J. (2021). Gold Debt-Receiveable System with Paddy Rewards Before Debt Repayment: An Islamic Law Perspective. *Journal of Sharia Economics*, 3(2), 99-117.
- Tazi-Preve, M. I. (2020). Unveiling Patriarchal Motherhood. *Canadian Woman Studies/les cahiers de la femme*, 34(1-2).
- Tekin, B. & Temelli, F. (2020). Genç Nüfusta Katılım Bankacılığı Algısı: Çankırı Karatekin Üniversitesi ve Ağrı İbrahim Çeçen Üniversitesi Öğrencileri Örneği. *Maliye Dergisi*, 178(1), 141-179.
- Tomak, S., & Yılmaz, K. (2024). The Impact of Participation Bank Credits on Imports and Exports: Evidence from Türkiye. *Çağ Üniversitesi Sosyal Bilimler Dergisi*, 21(2), 121-135.
- Turanlı, M., & Yılmaz, K. (2023). Linearization Problems in Managerial Sciences. *Prof. Dursun KOSE, Ph. D.*, 438.
- Walby, S. (2010). Structuring patriarchal societies. *Sociology: Introductory readings*, 30-35.
- Yılmaz, K., & Turanlı, M. (2022). Türkiye'de Katılım Bankalarının Finansal Performanslarının Hane Halkı Gelir Grupları İle İlişkisi. *İşletme Araştırmaları Dergisi*, 14(4), 2785-2795.
- Yılmaz, K., & Turanlı, M. (2023). A Multi-disciplinary Investigation of Linearization Deviations in Different Regression Models. *Asian Journal of Probability and Statistics*, 22(3), 15-19.
- Yücel, A., & Atlı, Y. (2015). Katılım Bankalarında Elektronik Pazarlama Uygulamaları: Elazığ İli Örneği. *Erciyes Üniversitesi İktisadi Ve İdari Bilimler Fakültesi Dergisi*(44), 157-178.