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Nexus of Banks Resilience During Currency Crisis Under IFRS Adoption: Evidence from Commercial Banks in Turkey

Ahmad Abu Alrub

Department of Accounting and Financial Technology,

College of Administrative Sciences and Informatics,

Palestine Polytechnic University, Hebron, Palestine.

https://orcid.org/0000-0002-8072-6199

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Abstract

Purpose: The aim of this study is to find the effect of movements that measured by term spread of interest rate (TSIR), economic variable which are interest rate (IR) and bank examinations that measured by CAMEL ratio under the adoption of IFRS, would predict the bank resilience for period 2011-2019.

Methodology: Dynamic GMM model used to determine which of them can be used to anticipate the eventual bank resilience which measured by Market Concentration (MKC).

Findings: The results indicate there is the most negative relationship between MER and MKC and statistically significant, which is the most effective and the least supervisory degree. As result of the currency crisis in 2018, it has a negative impact on MKC in Turkey and statistically significant which is the most effective and the least supervisory degree.

Unique Contribution to Theory, Practice and Policy: in this study was the lack of successful bank evaluations and ineffective rate risk controls in Turkey during the financial downturn 2018–2019 for 24 commercial banks and the attribution by bank experts and stakeholders of resilience to the fact that the kind of predictive instruments that could prevent bank resilience's were unclear and if they might reverse them. Therefore, this paper highlights the importance and the impact of the currency crisis on commercial banks resilience on the market concentration within the IFRS adoption. provides strong incentives for managers to improve bank operations' profitability to increase efficiency and for policymakers to device policies that support banks of high leverage due to IFRS adoption.

Keywords: *Bank Resilience, CAMEL Ratio, IFRS, Dynamic GMM Model*

1.0 INTRODUCTION

The economic turmoil has also contributed to bank resilience's, contributing to wide public distrust and more bank resilience's attributable to bank running. Systematically destructive bank resilience's can also result in large-scale corporate resilience's and deepen the economy's recession (Bradrania, et al. 2017). However, a bank collapse if its creditors and depositors' financial commitments cannot be met. It may be due to the insolvency of the individual bank or the lack of enough liquids in order to meet its duty to pay. Although this may incentivize banks to increase their resilience by cutting costs, intensive competition is regarded to be detrimental to the banks' financial performance due to the loss of market power. the importance of considering the banks' level of resilience is high since banks with larger market power could choose the quiet life and reduce their cost efficiency (Mateev et al,.2023). This could happen because the bank loses its assets too soon. When a bank collapse, it is not always possible to foresee and also, bank resilience comes from the economic instability, which in turn led to widespread public panic and bank resilience's due to bank running (Berger and Bouwman, 2017). Therefore, the systemically disruptive resilience of the banks could also lead to widespread business resilience and lead to deeper recession in the economy.

In Turkey, banks functioning in banking system are 53 in general which are from large to small part of banking sector consist of deposit banks, commercial and investment banks, Private banks, at end of December 2019 (Regulation, 2018). During the period 2007 to 2018, when the credit growth for banking sector assets was speeding up, the share of deposit in the sector's liabilities dropped. The estimates for 2007 accounted for 61 percent of contributions, although in 2018 this number was down to 53 percent (Regulation, 2018). Prices of other domestic assets have declined parallel to the loss of value in TL. After the 290 billion USD in 2007 was raised to 340 billion USD in the first quarter of 2011, the market value of companies on the stock exchange has rapidly fallen in subsequent years. And in 2008, the market value of stock-listed firms declined to 151 billion USD under the impact of sharp declines in value in Turkish Lira. After rising to 135 billion USD in 2010, the valuation of publicly owned banks dropped to 44 billion USD at the end of 2018. The market value share of banks of stock-market companies was measured at 29% in 2018 (Regulation, 2018). Hence, the government-controlled interest rates. The real interest was sometimes negative as a result of high and fluctuating inflation during the period, because the government did not raise interest rates in conjunction with inflation. Controls were carried out in the form of foreign exchange and locals were prohibited from holding foreign currency or securities, which led to a very limited transfer of capital. The government has also developed currency levels. State banks dominating the industry at that period, loans expanded, which were not economical, with very low-interest rates. Barriers were built to establish new international and domestic banks (Doğanay, et al. 2006)

Low interest-bearing foreign borrowing opportunities provided by liquidity are growing under the effects of central banks' changing monetary policies that have resulted from the global financial crisis and increased capital inflows into developing countries, such as Turkey. This guarantees that the stability of the credit increase will fund a high rate of growth (Powell 2016, Smerlak et al., 2015; Ang et al., 2006; Estrella, 2005). This also saw a steady rise in the share of loans in total assets. This ratio rose from 49% to 62% during 2007 to 2018.The ratios of foreign assets for total assets and of foreign liabilities are 10 and 22, respectively, for total liabilities. The percentage of alien debt is covered 44 by the alien founds (Regulation, 018). In 2018, the foreign assets of banking sector are USD 71 billion while foreign liabilities of banking sector are USD 162 billion (Regulation, 2018).

This study will examine the fluctuation in economic conditions by using interest-rate spread, can be used to forecast fiscal crises, and the regulations on the banks' specification "CAMEL ratio" under the adoption of IFRS which reflects the mark-to-market value of financial assets. Therefore, improvement in standards of transparency and reduction of complexity both increase financial stability and thereby restore participants' confidence in the financial market. Consequently, the implementation of IFRS resulted in certain debt and equity instruments being reclassified (Abu Alrub & Rjoub, 2023). For example, certain capital tools such as previously treated and recognized preference shares must now be reclassified as liabilities. IFRS distinguishes equity from non-equity preferred shares based on the obligation or discretionary nature of the dividends paid out on the share (Abu Alrub, et al. 2020). The fundamental problem in this study was the lack of successful bank evaluations and ineffective rate risk controls in Turkey during the financial downturn 2018–2019 for 24 commercial banks and the attribution by bank experts and stakeholders of resilience to the fact that the kind of predictive instruments that could prevent bank resilience's were unclear and if they might reverse them.

The paper provides evidence to the literature that the association between bank specification CAMEL ration and resilience risk depends on bank resilience's when the new accounting standard "IFRS" is adopted. No prior study empirically examined the role of the bank specification and the spread of interest rates in IFRS adoption and the risk of resilience to the best of our knowledge. The results are therefore of special interest today with significant political repercussions. The existing literature concludes that the liquidity regulation in Basel III is linked to the creation of liquidity (Abdel Reda, et al. 2016). These new standards could have unwanted consequences, particularly as banks are required to hold liquid assets and are not encouraged to hold illiquid loans or liquid deposits, as the creation of cash and transfer higher expenses into the real economy could have an unexpected effect.

The reminder of the article, section two it will give literature review, section three variables selection and methodology. Section four empirical results and discussion. Section five conclusion and policy implications.

2.0 LITERATURE REVIEW

Developing models of bank default predictions is a data-intensive task which requires historical information for bank resilience's. This is likely to justify the fact that the majority of major studies have focused on developed economies such as the US and Europe (Affes & Hentati-Kaffel, 2019; Audrino et al., 2018; Behbood et al., 2015; Betz et al., 2014; Carmona et al., 2019; Rönnqvist & Sarlin,2017). Arı and Cergibozan (2014) points out since the Turkish economy have been established in 1923 have been faced various fiscal and economic dilemma. Nevertheless, the frequentness of these dilemma has been raised strongly in the end of the liberalization tactics that has been started during 1980s just as evoked by the 1994, 1998-99, 2000-01, 2006, 2008-09 fiscal dilemma. Recent evidence suggests that since the recession of 1994, 2001 and 2008– 09 the Turkish economies has suffered greatly without any exception (Cömert and Yeldan, 2018). Previous research has established that in 2008-09 crisis, that between a straight forward resilience in occupation and proper economic productiveness known as fully expanded real sector crisis since its inception. (Cömert and Yeldan, 2018). Turkey's stability was not left untouched by the 2008 crisis that began in 2007 as a mortgage loan crisis, eventually spreading around the world. The biggest impact on Turkish industry was the breakage of domestic and foreign demand, creating numerous problems during this global financial crisis. The rise in the unemployment rate as a result of firms bankruptcies and layoffs and the decline in purchasing power and demand were among the newest issues (Yurdakul, 2014).

The Balanced portfolio theory (BPT) is another argument that is suitable to this research which have been used to research parallel among portfolio arrangement of a bank and administration's settlement executing. *"The portfolio arrangement of a bank, it's earning, and the rebound to the stockholders is the consequence of the settlement built by supervision and the global theory determinations*" This argument has been contended (Olweny & Shipho, 2011). Lastly, the bank administrator and director have to be answerable to fulfilling their responsibility to get adhesive socio-economic lawfulness which have been explained with Corporate Governance Theory (Htay et al., 2013). All banking experts have not accepted a unit theory because the method of bank research and reforms are differing. Well-rounded and at finest controversial are the theoretical elemental of various current theories nevertheless, have been presented a way to hypothesis by nearly all of the banking authority; alternatively, the approach was completely ignored by them and their own definition was counteracted (Keskin et al., 2019). Two key sets of predictor variables are defined first the definition of the banks' financial power, while the second is the emphasis of the banks' diversification metrics (revenue, expenses, and credit/deposit portfolios). The option of the first party financial ratios is based on a standard approach to the assessment of the financial strength of banks widely adopted by global economic organizations and supervisory authorities is the CAMELS framework; capital, asset quality, management efficiency, revenue, liquidity and market risk sensitivity (Valahzaghard & Bahrami, 2013).

The point of view that bank capital reduces the probability of bank resilience is supported by several theories. One set of theories argues that, because of unexpected asset returns (Repullo, 2004; Von Thadden, 2004), capital serves the cushion to absorb potential losses. The incentives of capital are another set of theories. Such models either enable banks to control their creditors 'ties more efficiently, thus reducing their probability of defaults (Holmström and Tyrole, 1998), or attenuate banks' unnecessary opportunities to take risks (Acharya et al. 2016). Collectively, show that there is a negative connection between bank capital and risk of resilience. On the empirical side, the risks of bank resilience are mainly caused by low capitalization, reports that precede the financial crisis, such as Cole and Gunther (1995), and Estrella et al. (2000). However, one of the reasons for resiliences was the capital, in the light of bank resilience during the financial crisis (cole and white, 2012; Beltratti and Stulz, 2012). In particular, banks have more versatility to adapt to unfavorable shocks and a lower probability of resilience.

With regard to the role played by bank liquidity in the risk of resilience, there are different views and evidence in the literature concerning the relationship between the creation of liquidity and the risk of bank resilience. Allen and Gale (2004), extending liquidity to Allen and Santomero (1997) stressed that creating liquidity exposures banks to the risk of illiquid assets to meet customers ' demands for liquidity since liquidity is created because of a misalignment between long- and short-term liabilities. For instance, the bank will be compelled to pre-empt the withdrawal and depletion of many of its reserves at the expense of the fire sector (Diamond and Rajan 2011), with large amounts of demand depositors and credit-line lenders.

This opinion predicts that the existence of liquidity renders banks more prone to insolvency, the greater the probability of liquidity formation. But another view predicts that the creation of liquidity is negative for two reasons due to bank resilience. The development of liquidity is a primary and essential task for banks. Since creating liquidity as a key measure of total bank performance provides information on the ability of a bank to support the macro-economy and to facilitate transactions between business agents by transforming maturity, the bank's incapacity to manage its balance sheet and perform liquidity-building functions is likely a prompt warning of trouble (Fungacova et al., 2015).

Chatterjee (2018) believes that lower cash production contributes to recessions in the U.S. economy, in accordance with that line of argument. Berger et al. (2017) have demonstrated that banks are actively managing their capital ratios to cover perceived risk exposure. Specifically, in response to liquidity risks, banks may strengthen or expand their capital buffers (Distinguin et al., 2013). In comparison to the most national accounting regulations, the definition of the debt and equity grading principles applicable to capital instruments vary under IFRS. Under IFRS, issued instruments are classified as obligations when the issuer has a present obligation to supply the holder of the instrument with cash or another financial asset. In comparison, some of the historically known instruments (e.g. reserve equity) are to be categorized as minority interest,

viewed as a minority interest and equity on the balance sheet of shareholders. The effect is a reduction in interest rates. This reclassification. The general impact on equity and net income of the reclassification of debt and equity instruments depends heavily on the particular composition of the balance sheets of each bank. The present concept of own funds is to be remembered for prudential purposes maintained and, accordingly, the inherently separate debt and equity instruments accounting classifications do not impact the regulatory ability.[1]

Turkey faced the post-global crisis recession and contraction, with the economic rapid growth environment beginning to bring pressure on macro variables, in particular the current account deficit after the global crisis, the domestic and outside demand balance macro prudential steps were taken. These initiatives substantially contributed to the economy's rebalancing in 2012 by using the instruments used to monitor domestic demand increase in banking policy and slowing the rates of growth to a moderate level. The latest banking crisis has been a disaster and has been focused primarily on the relations between excessive financial risk taking, wealth generation management, economic demand, and the ability to correctly forecast the causes of bank resilience's by current banking regulation models (Moschella & Tsingou, 2013).

According to many studies; Turkey's crisis periods, inflation, non-performance loans, interest rate and exchange rate are the main macro-economic factors causing a crisis (Yurdakul, 2014). The financial crisis worldwide contains a considerable effect on rates of interest and on the term rate in general structure (Demirgüç-Kunt & Huizinga, 2013). Crises in the exchange rate arise from future currency value changes. Currency risk factors include common market uncertainty, currency correlation and devaluation risk (Liu et al., 2004). Improved international funding conditions have resulted in a rise in the non-financial sector's foreign exchange liabilities. Assets and liabilities of non-financial companies rose respectively by 44% and 118%. In addition, the foreign-exchange deficit maturity structure bond was less than the long-term and short-term net currency value. The higher financial costs and shorter-term credit climate in Turkey has increased the demand for credit from outside banks and non-bank sectors that offer cheaper and longer-term loans, the external debt stock increased as a result (Regulation, 2018). Projecting the exposure due to the supervisory market value rate derivatives and historic interest rates to demonstrate that the role of the Turkish banks, net derivatives in interest rates increases their balanced exposures to interest rate. The importance and role of effective risk management, transparency and public disclosure cannot be over-emphasized in order to minimize costs and improve bank efficiency (BenSelma et al., 2013).

Solid collateral is one of the most common risk mitigation methods used by credit unions in general risk control and risk reduction strategies (BenSelma et al., 2013). The research also leads to CAMELS analysis of all available data that are relevant for the banking sector, rather than the

[1] ECB Financial Stability Review December 2005 main effects from the new accounting framework on banks. https://www.ecb.europa.eu/pub/pdf/fsr/art/ecb.fsrart200512_05.en.pdf?0e2ef2635d38f6b6cccd4507614bc331

ratios implied in this article (Valahzaghard & Bahrami, 2013). Therefore, while a temporary economic recovery can offset the loss of financial-crisis economic growth, normal or unforeseen business cycles may reduce the recovery of the economy. Hence, bank resilience in the financial crisis in 2007-2009 have shown that some distressed banks have high provisions on non-accounts and low loan losses, while regulatory capital is substantial (Cherpack and Jones, 2013). The effect on bank results in financial crises and usual periods when Turkey is in use. Pre-crisis leverage ratios results were analyzed from 2008-2010 and the findings show that these metrics remain applicable to several studies evaluating the progression of prediction model bank-resilience for that time (Berger & Bouwman, 2013).

The risk of the return curve is another significant source of interest rate, in the term interest rate structure is steep, flat or downward (Esposito et al., 2015). In this case, the effect of maturity mismatches may be exacerbated by non-equivalent shifts in the yield curve. A bank has a long position on a government bond for 20 years and a short position on a government bond for 10 years, for instance. The bank’s economic value of equity is compressed when a curve becomes higher because of a greater rise in the long-term rate relative to the short-term rate, as the value of the bond for the 20 years becomes decreased above the value of the ten-year bond **(**Espositoet et al., 2015).

Economists as well as financial analysts have investigated the effect on the term structure, volatility persistence, return to the additional risk or the risks premium, as well as effects of yield spread of the global financial crisis. The longer- and shorter-term ends are evaluated. Structure based on the 10-year bond rate and the two short-rates, with two long term versions (Manthoulis et al., 2020). The shorter-term structure is determined by the two short-term rates (Akcay & Güngen 2019). The results showed an important variation in the volatility of the term structures volatility perseverance, risk premium and the consequences of the yield spread due to the financial crisis both in longer-term and shorter-term structure models (Akcay & Güngen 2019). A simple model based upon Keynes' opinion explains why long-term interest rates are so low and the central bank actions are the major drivers for long-term rates (Akram & Li, 2017). The behavior of the US long-term interest rate was clarified by Keynes and the Empirical results indicated that short-term interest rates are key drivers of the US long-term interest rate (Akram & Li, 2017). In contrast to popular wisdom, higher government bonds have a negative impact, especially on long-term interest rates. In the short term, however, higher government bonds have a favorable effect on long-term interest rates. These are important to current political discussions and macroeconomic theory (Akram & Li, 2017). While the corporate sector is rapidly indebted in Turkey, crisis patterns in 2015 have been apparent, forcing major conglomerates to retain their short-term foreign exchange liabilities below their short-term reserves. Non-financial companies' long-term liabilities surpassed their reserves by US$ 190 billion in late 2015 and grew steadily until the abortive coup in 2016. Turkey's interest-rate rise was thus due to the dire financing needs of the private sector

and increasing risks, rather than the nominal 30 per cent rise of the national minimum wage in 2016 (Akcay & Güngen 2019).

3.0 VARIABLES SELECTION AND METHODOLOGY

Aims of this paper tend for investigating the bank resilience of 24 commercial banks in Turkey that applied IFRS, for the period span 2011-2019. Besides, concerning the internal determinants of banks performance can be defined as factors influenced by bank management decisions and policy objectives. These determinants can also be called micro or bank-specific factors that fundamentally reveal differences use of fund management, capital, liquidity and expense management, liquidity, operational efficiency, capital adequacy, and expenditures management. In this study CAMEL ratio been used to investigate the banks performance. Therefore, the quantitative method finds a clear response, whereas the mixed studies strive to find one truth that is reliable during the entire trial. A quantitative approach in this study was employed because Included financial and economic analyses intended to define and explain the correlation between the independent variables: bank-specific factors (measured by CAMEL ratio) and interest rate fluctuations (measured by spread interest rate over time) the term spread of bank resilience interest rates was relevant Understanding what triggered bank resilience's in Turkey. And the dependent variable (Market concentration). It was anticipated to determine this interaction and to create potential reasons for a real impact that might contribute to bank resilience's in Turkey.

Table 1: The selected depentdent and independent variables

Variables	Measure	Notation	Expected sign
Dependent variable			
Market Concentration	$\frac{Top\ bank\ assets}{total\ assets} * 100$	MKC	NA
Independent variables			
Capital	(Total Equity Capital ÷ Risk Weighted Assets) × 100	CAR	+/-
Asset Quality "Risk Transfer"	(Loan loss provision ÷Net interest revenue) x 100	AQR	+/-
Management Efficiency	$\frac{Operating\ \ Expenses}{Total\ Assets}$	MER	+/-
Return on Assets	Net income /Average total assets	ROA	+
Liquidity Position	(Liquid Assets ÷ $Deposits\ short\ \&\ long\ term\ funding + Subordinate\ debt$)× 100	LP	+/-
Sensitivity to Market Risk	$\frac{Off - balance\ sheet\ risk - weight\ assets}{Total\ risk - weighted\ assets}$	SMR	+/-
Spread Interest Rate	(by extracting the bill rate for the three-month treasury from the Treasury bond rate of the 10-year)	IR	+

4.0 Econometrics Methodology

This section discusses the economic instruments for assessing and estimating the effect of the camel ratio and diffusing the rate of interest with reference to the financial crisis. To monitor the

'un-observed banks' for individual heterogeneity; the dynamic panel was used for the purpose of observing each bank between 2011 and 2019. Furthermore, the panel approach used to monitor bank productivity endogeneity. It also integrates lagging banks into the equation's profitability. This technique was developed by Arellano and Bond (1991) with the GMM dynamics estimator to make adjustments. The dynamic equation expressed as follow.

$$Y_{i,t} - Y_{i,t-\theta} = \tau(Y_{i,t-\theta}) + \beta\psi_{i,t-\theta} + \varphi_i + \xi_t + \varepsilon_{i,t}$$

Where $Y_{i,t}$ MKC of bank i at year t, the independent factors are the initial$Y_{i,t-1}$. $\psi_{i,t-\theta}$ Represents bank regulation and spread interest rate φ_i represents an anonymous and fixed individual related influence that may possibly influence banks profitability. ξ_t Represent an anonymous time-related influence lastly $\varepsilon_{i,t}$ exhibits stochastic error term. The linear functional model is implemented in order to diminish possible heteroscedasticity, in the following equation can be structured as follow:

$$Y_{i,t} = \lambda(Y_{i,t-\theta}) + \beta\psi_{i,t-\theta} + \varphi_i + \xi_t + \varepsilon_{i,t}$$

Where$\lambda = 1 + \tau$, the MKC regression above bears challenge acquiring a value of the unobserved time and specifically related influencers if estimated. These influencers reflect the dynamic nature of the regression. These estimators depend upon differencing regressions to control for anonymous influence. Previous observations of explanatory and lagged-dependent variables, known as internal instruments, are also in these estimators. To get rid of banks-related influence, equation is put in first difference form as follow;

$$y_{i,t} - y_{i,t-\theta} = \lambda(y_{i,t-\theta} - y_{i,t-2\theta}) + \beta(\psi_{i,t-\theta} - \psi_{i,t-2\theta}) + (\varepsilon_{i,t} - \varepsilon_{i,t-\theta})$$

The use of instruments is obligatory to deal with the possibility of endogeneity of explanatory variables by construction the new error term, ($\varepsilon_{i,t} - \varepsilon_{i,t-\theta}$). It is correlated with the lagged dependent variable$(y_{i,t-\theta} - y_{i,t-2\theta})$. This means that these methods benefit from previous observations of independent variables and the lagging variable. Since these instruments rely on previous values, error term is only determined by the present and future values of the dependent variable. Therefore, our instrumental variables system, while the relaxed strict heterogeneity takes common premises, does not require any variable ψ that is completely endogenous. Arellano and Bonde (1991) also proposed that in the basic principles of the related experiments there is not a differential formula of the second order serial correlation. Pattern over-identification (a large number of devices) represented, expected at T≥8. Sargan test (Arellano and Blond, 1991; Arellano and Bover, 1995). Require validity definition of excessive restrictions or check tools. If appropriate instruments represent lagged values for the explanatory variables, the GMM estimates are accurate. Sargan test is commonly used to assess the integrity of the tool as a whole. The second order involves the analysis of a discrepancy between the first patterns in the rest (equation 7.3). In order to guarantee that the model is complete, linear correlation should be verified to validate the first order, but the linear correlation should be rejected in the second order. Too many GMM

Dynamic Panel Data instruments have a known issue (Roodman 2009). The number of tools would, according to Rodman, be no more than N, the number of people. That without it, GMM is illogical and Sargan testing capability could be reduced.

4.1 Descriptive statistics

Table 2: Descriptive Statistics for Dependent and Independent Variables

STATS	MKC	CAR	ASQ	MER	ROA	LP	SMR	IR
MEAN	3.283	18.083	3.382	0.728	1.614	22.075	2.518	15.612
MEDIAN	6.525	15.35	2.938	0.733	1.364	18.538	5.342	17.2
SD	2.643	10.292	2.668	0.019	1.372	16.798	4.802	5.410
MIN	2.219	12.13	0.002	0.116	-1.265	0.49	-5.982	8.1
MAX	10.241	95.91	18.46	0.144	8.515	122.683	6.864	24.7

The descriptive statistics of MKC the mean is 3.283 % and minimum MKC is 2% and maximum MKC approximately 10 %. Furthermore, the descriptive statistics of CAR the mean is 18 % and minimum CAR is 12.13% and maximum is approximately 95%. Also, the descriptive statistics of ASQ is 3.3% the minimum is 0.002% and maximum is 18.46%.

Moreover, the descriptive statistics of MER the mean is 0.72 % and minimum MER is 0.116% and maximum MER approximately 0.144%. Furthermore, the descriptive statistics of ROA the mean is 1.61 % and minimum ROA is -1.26% and maximum ROA approximately 8.51%. In addition, the descriptive statistics of LP the mean is 22.07 % and minimum LP is 0.49% and maximum LP approximately 122.68%. Moreover, the descriptive statistics of SMR the mean is 2.51 % and minimum SMR is -5.98% and maximum SMR approximately 6.86%. Finally, the descriptive statistics of IR the mean is 15.61 % and minimum IR is 8.1% and maximum IR approximately 24.7%.

Table 3: Correlation Matrix of the tested variables.

	MKC	CAR	ASQ	MER	ROA	LP	SMR	IR
MKC	1.0							
CAR	0.0381	1.0						
ASQ	-0.313	0.2360	1.0					
MER	-0.167	-0.2838	-0.1062	1.0				
ROA	0.081	-0.0634	0.0306	-0.1967	1.0			
LP	0.0186	-0.0464	0.1086	-0.2362	0.3188	1.0		
SMR	0.0289	-0.2783	-0.0387	0.2288	0.0349	-0.1618	1.0	
IR	0.4837	0.0478	-0.0949	-0.2576	-0.0032	0.0244	-0.0084	1.0

According to the Table3, there is a positive correlation of 3% between MKC and CAR. Similarly, there is a positive correlation between ROA and MKC 8% and between LP and MKC at 0.18% and between SMR and MKC at 2.8 % and between IR and MKC at 48%. And also, there is a negative correlation between ASQ and MKC at 31% and between MER with all other variables with CAR at 28.38%,with ASQ at 10.62%.There is positive correlation between ASQ and CAR and between IR and CAR at 23.60% and 4.78% respectively and there is negative correlation between MER and CAR at 28.38% and between ROA and CAR at 6.34% and between LP and CAR at 4.64% and between SMR and CAR at 27.83%.there is a negative correlation between SMR and ASQ and between IR and ASQ at 3.87% and 9.49% respectively. Moreover, there is positive correlation between ROA and ASQ and LP and ASQ at 3.06% and 10.86% respectively. There is just one positive correlation between SMR and MER at 22.88% and other variables has negative correlation which are ROA, LP and IR between MER at 19.67%, 23.62% and 25.76% respectively. There is positive correlation between LP and ROA at 31.88% and between SMR and ROA 3.49% and negative correlation between IR and ROA at 0.32%. There is negative correlation between SMR and LP at 16.18% and positive correlation between IR and LP at 2.44%. And negative correlation between IR and SMR at 0.84%. Pursuant to the reported results in table 4 indicate that there is no multicollinearity problem which is VIF value between 1 and 3 (Daoud 2017).

Table 4: Multicollinarity Test between independent varriables

VARIABLE	VIF	1/VIF
DUM 2018 Crisis	1.58	0.631
MER	1.55	0.645
IR	1.37	0.730
LP	1.21	0.824
CAR	1.18	0.847
ROA	1.15	0.866
SMR	1.09	0.920
ASQ	1.02	0.979
MEAN VIF	1.27	

Table 5: GMM model dependent variables MKC

VARIABLES	MKC Model 1		MKC Model 2	
	COEF.	Z. Stat	COEF.	Z. Stat
L1	-0.235	-4.10**	-0.317	-6.51**
C	10.027	2.67**	7.004	2.18**
CAR	0.189	2.58**	-0.031	-2.47*
ASQ	0.628	2.73**	-0.021	-2.65**
MER	0.219	2.34*	0.427	2.14*
SMR	0.106	2.45**	-0.0283	-2.53*
LP	-0.0108	-2.38**	-0.0182	-2.17*
ROA	0.327	2.98**	0.410	2.59*
IR	0.0018	2.21*	0.072	2.38*
DUM 2018 Crisis	-----	-----	-1.980	-6.51**
Sargan test[a]	Chi^2(16) =24.81		Chi^2(15) =25.18	
AR (1)[b]	Z= -3.27 P-v= 0.017		Z= -2.34 P-v=0.016	
AR (2)[b]	Z= 0.07 P-v=0.827		Z= 0.23 P-v=0.519	

*, and ** denote significant level at 5% and 1% respectively. S.E-statistics in ()

a the test for over-identifying restrictions in GMM dynamic model estimation.

b Arellano-Bond test that average auto-covariance in residuals of order 1, and 2 is 0 (H_0: no autocorrelation)

According to the results in the table 5, in model 1 without considering the effect of currency crisis in 2018. The results indicate that there is a positive relationship between CAR and MKC by 18% and statistically significant at 1% level. This indicate Capital adequacy is focused on the general financial condition of the banks and the management capacity of supplying supplementary capital as specified by Manthoulis et al, (2020). As well as, there is positive results between ASQ and MKC at 62% and statistically significant at 1 % level. There is positive results between MER and MKC at 32% and statistically significant at 1 % level. There is positive results between ROA and MKC at 10% and statistically significant at 1 % level. There is positive results between SMR and MKC at 5% and statistically significant at 1 % level. There is positive results between IR and MKC at 1.8% and statistically significant at 1 % level. While the LP ratio has negative effect on MKC approximately by 1% and statistically significant at 5% level. They thus deduce the insufficient rates of funding for commercial banks (Canicio & Blessing2014).

In model 2, the results show the effect on bank resilience with considering the effect of currency crisis in 2018. The results indicate there is most positive relationship between ROA and MKC at 41% and statistically significant. This indicate the performance in management represents organizational quality and productivity Nonetheless, earning output indicates that the bank has a steady profit (Trussel & Johnson 2012).

Moreover, the IR has positive effect on MKC at 7.2% and statistically significant. Furthermore, the LP has negative effect on MKC at 2% and statistically significant. Liquidity that tests the capacity of the bank to meet obligations. It's the most important thing for a bank company because the bank's profitability and reputation can be influenced by its liquidity risk. Liquid assets are the ratios which estimate the liquidity of the bank as a whole. Liquid assets include cash, short notice, calling money and other financial institutions (local or foreign) balance in their respective financial institutions. Whereas the amount of liquidity available to depositors at banks is disclosed in the total deposit assets. The total deposits consist of savings deposits, term deposits, demand deposits and deposits from other banks or financial institutions.

Also, the CAR has negative effect on MKC at 3.1% and statistically significant. The capital adequacy ratio (CAR) of the debt to equal ratios and Advance to assets ratio, according to Trussel & Johnson (2012). Also, can be calculated CAR tests the bank's capital position. It is a ratio of total capital and total assets that defines the bank's capacity and ability to bear the fair amount of losses that have occurred as a result of the operation. The higher ratio suggests that the bank is sufficiently funded, secured and stronger for its business expansion. This ratio also means that the banks have insufficient resources to expand their operations. Moreover, the ASQ has negative effect on MKC at 2.1% and statistically significant. Furthermore, the SMR has negative effect on MKC at 2.8% and statistically significant. Similarly, there is negative relationship between MER and MKC by 42% and statistically significant.

We remark that capital adequacy, asset quality, liquidity, and sensitivity to market risk has recorded a visible decrease due to the 2018 crisis. This result can be explained by the implication of the last currency crisis in turkey on the Commercial banks. However, management efficiency, earning, and spread interest rates are relatively stable during the period of 2018 currency crisis. The capital adequacy, asset quality, liquidity, and sensitivity to market risk of sample banks are decreased. However, commercial banks have succeeded to maintain a stable level of management efficiency and earning. Thus, we deduce that in general the last financial crisis has negatively affected the performance of commercial banks.

5.0 CONCLUSION AND POLICY IMPLICATION

The national economy could benefit from forecasting instruments for mitigating, 2018 currency crises in turkey. While financial analysts and bank managers attribute the impact that bank resilience's have on excessive banking regulation and unpredictable movements in interest rates, the fact that regulatory changes, the frequency of bank reviews and the rate direction may actually predict bank resilience rates has not proved.

The study's primary target is related to statistical analysis of the data and empirical results. The study focuses on the financial and economic problems that bank resilience's can cause in the economy and the resilience of financial and banking experts to establish a forecasting tool that could accurately forecast the frame of financial crises, in particular the length and nature of financial crises and when it end up in Turkey. The aim of the analysis was to analyze three variables; the regulatory bank examination (measured by bank liquidity), the interest rate shifts (measured by interest rate diffusing) and the combined two variables to determine whether bank resilience's (measured by MKC) could be predicted by using these variables to predict a financial crisis.

The main issue is each variable should be used to avoid a potential financial crisis or bank resilience to forecast the end of a financial crisis. Also, we found that the responses were statistically important for the study argumentations. In particular, there is now a statistically substantial correlation between regulatory bank evaluations, measured by the bank's liquidity status and bank resilience, as measured by MKC. There is statistically significant correlation between interest rate fluctuations as measured by the term interest rate spread and banking resilience's as measured by MKC. The correlation between regulatory bank analysis measured by bank liquidity negative and bank default measured by MKC is consistent with previously published studies as defined in this report. In addition, it is also in accordance with the previous analysis that the link between interest-rate changes measured by the term interest-rate spread and bank resilience's measured by MKC is. Furthermore, this research found a link between both the combined separate variables (regulatory bank analysis measured by bank liquidity and the interest rate movements measured by term interest rate spreads) and MKC measured bank resilience's. Finding signals for regulatory banking surveys calculated by bank liquidity and interest rate

changes as a term rate spread that can be used to forecast an impending financial crisis and the end of a crisis is also a novel investigation which has added to the body of banking, finance, accounting, economics and statistical literature and details.

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