Influential Article Review - Exploring the impact of lending to bank risk

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This paper examines banking and finance. We present insights from a highly influential paper. Here are the highlights from this paper: This study empirically analyzes whether the rapid growth of loans and risk-taking behavior during the expansion of loans affected non-performing loans (NPLs) and the solvency of financial institutions in the Turkish banking system. Using the GMM Generalized Method of Moments, this study used data on Turkish banks from 2011 to 2017 to test two hypotheses on the effects of loan growth on NPLs and solvency. This study finds significant results for the effect of loan growth on NPLs and solvency. NPLs rose from the previous year's loan growth, which tended to reduce solvency. Due to selected research methods, the results may lack generality. Therefore, future studies should test the propositions herein further. The results indicate that careful allocation behavior is required when lending. Additionally, these findings may be helpful to financial managers and decision makers. This study confirms the need to determine how to allocate loans during the loan boom periods. For our overseas readers, we then present the insights from this paper in Spanish, French, Portuguese, and German.

Keywords: Turkish banks, Non-performing loans, Loan growth, Solvency, GMM

SUMMARY

- This study confirms the findings on macro-economy-specific and bank-specific factors affecting NPLs and solvency empirically. Many empirical studies point out that an increase in loan activity will eventually lead to future npls . These studies find that the competition for short-term profit enhances the strategies of bank managers under favorable economic conditions and is the main reason for the increase in npls.
- Table 4 shows that loan growth has a highly significant positive relationship with npls in all three of our models at the 1% level. Our results are robust because we used three combinations of control variables. This result indicates that the increasing trend in future loan losses will lead to financial weakness. If a financial institution or multiple banks begin to issue unusual loans to earn short-term profits, then it will certainly lead to loan losses. When bank managers get targets from their senior managers, they may ignore lending policies. Our study findings are in line with those of Kashif et al. , who study Pakistan's banking sector and also find that an increase in the previous year's loan growth has a positive relationship with npls, which in turn decrease the bank's solvency with a time lag of many years.

- As we expected, there is a negative and significant relationship between leverage and npls, which creates direct obstacles to balance sheet expansion and a liquidity contraction due to the increase in this ratio. These results also seem to indicate the potential for future bad loans due to poor governance and the lack of information symmetry. However, we find that the efficiency ratio has a highly significant, positive relationship with npls. This seems to suggest that extensive advancing activities tend to increase the loan loss provisions.
- We found a highly significant negative association between GDP and npls. These results indicate that high GDP growth helps reduce loan losses. It is clear that high GDP growth helps improve regional living standards, resulting in good financial conditions, ethical values, and a better ability to repay loans. Political stability and the rule of law both have a negative relationship with npls.
- The increase in loans results in an increase in npls, suggesting that financial institutions are at risk due to the abnormal growth in loans. We next test whether loan growth will precipitate the overall decline in bank solvency.
- Table 5 reports the results of testing solvency using bank- and macro-economy-specific variables. Though a stable, active balance sheet can encourage managers to increase returns through investment and loans, growth in npls is bound to play a role in the bankruptcy of financial institutions. We found a highly significant negative relationship in all relevant models of loan growth and solvency. These results are robust and show that abnormal loan growth tends to decrease a bank's solvency. We found a significant positive association between size and solvency in all models. These positive results indicate that through effective adjustment and supervisory actions, financial institutions and commercial banks can increase their size to solve bankruptcy problems. Large banks have more capacity to bear risk and have more opportunity to invest in new business, which has a positive impact on solvency and can help the institution move solvency in a positive direction.
- The efficiency ratio has a highly significant indirect relationship with solvency.

HIGHLY INFLUENTIAL ARTICLE

We used the following article as a basis of our evaluation:

Shahzad, F., Fareed, Z., Zulfiqar, B., Habiba, U., & Ikram, M. (2019). Does abnormal lending behavior increase bank riskiness? Evidence from Turkey. Financial Innovation, 5(1), 1–15.

This is the link to the publisher's website:
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INTRODUCTION

As the International Monetary Fund, Ernst & Young1, and other agencies point out, the Turkish banking system has a relatively low proportion of non-performing loans (NPLs), despite the recent economic downturn and foreign exchange risk. Nevertheless, this ratio varies from bank to bank, and some banks are more sensitive than others are. Although NPLs are not high by regional standards (or compared to some Eurozone member states) and are well configured, analysts, and sector participants are increasingly aware of the risk of rising balance sheet ratios. After several years of rapid credit growth, several factors may lead to an increase in NPLs, including a slowdown in economic growth, a pullback in the economy, and a fall in investor sentiment.

NPLs gained research attention in recent years due to the increasing interest in understanding the variables that are vulnerable to a financial crisis. NPLs are one such indicator that is linked closely to weakness in the financial and banking system. We can confirm this by the close relationship between the surge in NPLs and solvency. Though Louzis et al. (2012) and Reinhart and Rogoff (2011) point out that the increase in NPLs marks the outbreak of the banking crisis, NPLs are also significant after the global crisis.

Certainly, the global financial crisis led to a surge in NPLs, which also pose a risk to the profitability and liquidity of the banking system, as well as financial stability.

In the early 1980s, Turkey's financial sector relaxed the process of neoliberalism. These provisions increase the efficiency of the Turkish banking system (Zaim 1995). Through these reforms, Islamic finance emerged, called Special Financial Houses2. Despite these reforms, Selcuk (2010) and Afsar (2011) argue that there was a prompt increase in NPLs after the global crisis. In addition, the global crisis challenged both the Turkish banking sector and the changes in NPLs after the crisis and ownership as key drivers of this change. According to Blejer (2006) and Shahzad et al. (2019), financial efficiency is an important issue because it improves financial stability. In rapidly changing global financial markets, bank managers, regulators, and investors pay more attention to converting their expensive inputs into more effective financial products and services.

Banking is the mainstay of the Turkish financial system. In particular, total banking assets account for about 87% of the Turkish financial system (CBRT, 2016). This is the main motivation for analyzing NPLs, which provided important feedback in financial stability. At the same time, the global crisis forced the Central Bank of the Republic of Turkey (CBRT) to supplement financial stability. Therefore, this analysis can also inform monetary policy related to macro-prudential issues (BASCI and Kara 2011).

We specifically examine the relationship between loan growth and bank risk-taking behavior and discuss the impact of loan growth on financial health. To assess the different perspectives on the relationship between credit growth and bank risk-taking behavior, this study uses micro-level data from 59 Turkish banks3 between 2011 and 2017. To understand the effect of loan growth on the financial system, we use the two-step GMM (Generalized Method of Moments) estimation technique. Thus, this study contributes to the literature in two ways. First, it analyses 5 types of banks: commercial, corporate, real state, investment, and Islamic banks. Second, we also include additional variables such as political stability and the rule of law to check their impact on NPLs and solvency.

CONCLUSION

After the global economic crisis, researchers, regulators, and policymakers studied the influence of banks and macroeconomic factors on NPLs. In our study, we used advanced panel data analysis methods, specifically GMM system two-step estimates to investigate the factors that influence the NPL ratios of 59 banks in the Turkish banking industry from 2011 to 2017.

As the increase in NPLs is a significant feature of the financial crisis, many empirical studies focused on NPLs. To maintain the bank's financial/loan stability, determining the increase in the NPL ratio in the banking system is a crucial issue. The last global financial crisis emphasized the importance of banking systems in most advanced and emerging market economies. Many banking systems had structural weaknesses such as bad loans, dangerous financial applications, and moral hazard, bad governance, skimping, and bad debts during the last few decades. This study's results affirm the findings in the literature; that is, the rapid growth of loans has the most serious impact on a bank's balance sheet.

Many studies show that debtors do not immediately go bankrupt after receiving prepayments, but generally require more than 3 years. Although prior studies show that the increase in abnormal debt in the previous year was positively correlated with the loss on bank and personal bank loans (Foos et al. 2010), our study contributes to the literature by confirming these results using a set of different micro and macro variables. Specifically, loan growth increased NPLs, which in turn affect a bank's solvency. Nevertheless, abnormal loan growth during a loan boom tends to increase NPLs, which directly affect the decline in capital ratios and results in the bankruptcy of banks. This study contributes to the literature by including a robust set of macro variables (GDPt, INFt, UNEMPLt, ROLt, and POLSTt) in different models. Our finding clearly shows that due to the increase in NPLs, a sudden fall in the capital tends to decrease solvency. These problems may weaken the banking system and cause payment difficulties. NPLs decrease bank assets, which leads to bank insolvency. Macroeconomic variables also affect a bank's financial stability. Therefore, these issues must be addressed to create sustainable macroeconomic conditions, rapid economic activity, high economic performance, new job creation, and financial stability. Otherwise, the potential risks in the

banking system may decrease economic growth, and increase unemployment and prices, thereby leading to an economic and/or banking crisis.

Future research can adopt various macroeconomic and bank-specific variables and different estimators to explore the association between these variables and a bank's bad loans. First, the impact of these factors on NPLs can be analyzed in deeper for the Turkish banking sector. Second, it may be worthwhile for Turkey to use different econometric methods to study credit risk. The results can be debated based on the results of previous banking studies and the related assumptions.

APPENDIX

FIGURE 1
NON-PERFORMING LOANS. NOTE: THIS LINE GRAPH SHOWING THE TREND OF NON-PERFORMING LOANS FROM 2011 TO 2017

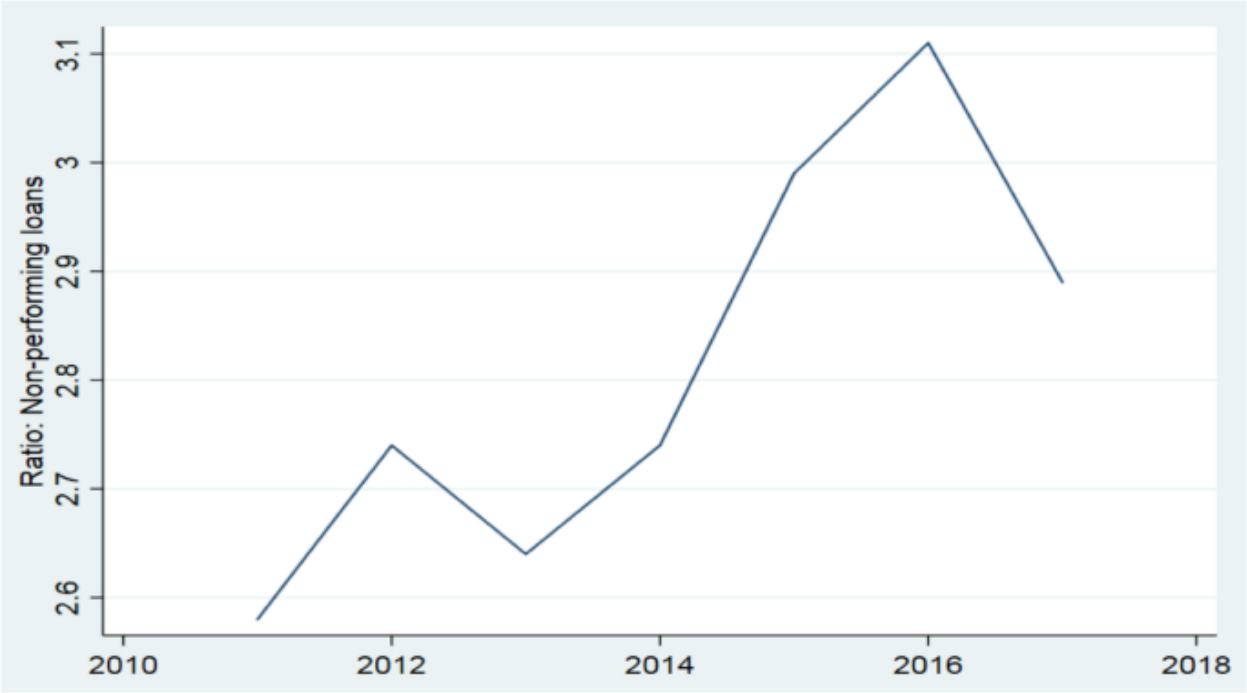
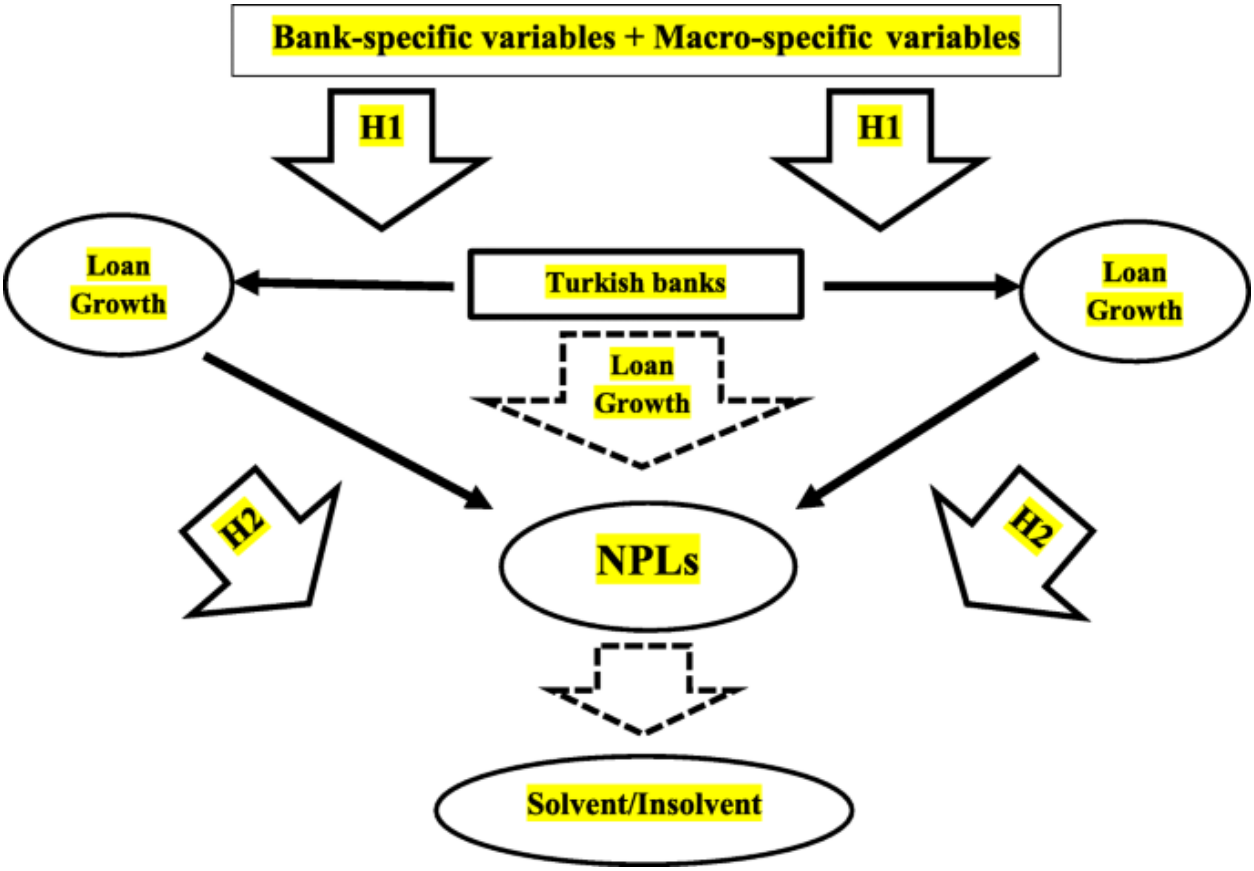


FIGURE 2
THEORETICAL FRAMEWORK



Note: This figure is clearly showing the main two hypotheses as well as our main theoretical framework

TABLE 1
MAIN VARIABLES

Variables	Symbols	Description and calculation
Dependent variable		
Non-performing loan	*NPLs*	NPLs characterize the defaulting loan's percentage (overdue of payment by the debtor for more than 90 days) as well as it direct how about loan's quality portfolio of a financial institution. NPLs ratio frequently used for a proxy of assets quality of portfolios.
Solvency ratio	*SOL*	Solvency calculated as the ratio of total capital/risk-weighted assets. It describes the strength of a loaning institution.
Independent variables		
Loan growth	*LG*	The change of current year and previous year loan's percentile express the loan growth.
Size	*TA*	Log of total assets represents the size.
Leverage ratio	*LEV*	Leverage ratio measured by total equity to total assets, higher ration direct us the well capitalized a financial institution.
Efficiency ratio	*EFF*	Efficiency ratio measured by non-interest expenses to total assets. Non-interest expenses include all time of salary payments, provision of losses, professional services fee, taxes and property leases.
Macro-level variables		
GDP growth rate	*GDP*	GDP growth rate collected from world bank indicators.
Inflation rate	*INF*	Inflation rate describes the consumer price indexes.
Unemployment rate	*UNEMPL*	Collected from world bank indicators
Rule of law	*ROL*	Collected from world corporate governance index which published by the world bank.
Political stability	*POLST*	Collected from world corporate governance index which published by the world bank.

Note: This table shows the symbols, descriptions, calculations and expected signs of main variables

TABLE 2
DESCRIPTIVE STATISTICS

Variables	N	Mean	SD	25%	Median	75%
Non-performing loan (%)	413	3.01	0.34	2.71	2.80	2.91
Solvency ratio (%)	376	16.98	13.94	5.75	8.48	11.06
Loan growth (%)	407	27.77	76.46	4.82	18.71	29.72
Size (Millions)	381	14.39	2.51	12.43	14.19	16.48
Leverage ratio (%)	381	25.61	26.67	9.63	13.03	29.13
Efficiency ratio (%)	381	7.04	8.84	3.17	4.14	6.34
GDP growth rate (%)	413	6.49	2.62	4.79	5.63	8.48
Inflation rate (%)	413	7.85	0.95	7.29	7.81	7.91
Unemployment rate (%)	413	9.43	0.92	8.71	9.35	10.21
Rule of Law (Index)	413	0.14	0.008	0.13	0.14	0.15
Political stability (Index)	413	0.21	0.016	0.19	0.20	0.21

Note: This table reports the summary statistics of bank-specific (financial) and macro-specific (economics) variables of the Greater China region's financia institutions. For further descriptions of variables, please see (Table 2 Main variables)

TABLE 3

PAIR-WISE CORRELATION ANALYSIS OF THE VARIABLES

No.	Variables	1	2	3	4	5	6	7	8	9	10	11
1	Non-performing loan	1.000										
2	Solvency ratio	0.2720[a] (0.0000)	1.000									
3	Loan growth	−0.1464 (0.0525)	− 0.1025 (0.2575)	1.000								
4	Log of assets	−0.369[a] (0.000)	− 0.441[a] (0.000)	− 0.104 (0.141)	1.000							
5	Leverage ratio	0.243[a] (0.000)	0.384[a] (0.000)	−0.081 (0.254)	−0.552[a] (0.000)	1.000						
6	Efficiency ratio	0.378[a] (0.000)	0.280[a] (0.003)	0.0285 (0.68)	−0.349[a] (0.000)	0.126[a] (0.039)	1.000					
7	Log of GDP growth rate	−0.0477 (0.296)	−0.043 (0.386)	− 0.016 (0.416)	0.1213[a] (0.047)	− 0.087 (0.152)	−0.029 (0.215)	1.000				
8	Inflation rate	0.055 (0.393)	0.078 (0.324)	−0.082 (0.235)	−0.032 (0.60)	0.041 (0.497)	0.016 (0.284)	−0.554[a] (0.000)	1.000			
9	Unemployment rate	0.073 (0.260)	0.056 (0.475)	0.050 (0.463)	−0.195[a] (0.00)	0.127[a] (0.036)	0.045 (0.260)	−0.53[a] (0.000)	0.017 (0.738)	1.000		
10	Rule of Law	0.084 (0.197)	0.068 (0.389)	0.038 (0.577)	−0.199[a] (0.001)	0.126[a] (0.03)	0.057 (0.35)	−0.396[a] (0.00)	0.347[a] (0.000)	0.834[a] (0.000)	1.000	
11	Political stability	−0.098 (0.13)	−0.107 (0.177)	0.017 (0.801)	0.18[a] (0.003)	−0.139[a] (0.0225)	−0.050 (0.414)	0.347[a] (0.000)	−0.426[a] (0.000)	− 0.321[a] (0.000)	−0.113[a] (0.000)	1.000

Note: ([a]) denotes 5% or higher level of significant

TABLE 4
GMM SYSTEM TWO-STEP ESTIMATES TO SEE NON-PERFORMING LOAN WITH LOAN GROWTH

Variables	Model 1	Model 2	Model 3
$NPL_{i,t-1}$	0.7136[a] (0.0047)	0.7514[a] (0 .0458)	0.8124[a] (0.0357)
LG_{it}	0.0451[a] (0 .0048)	0.0561[a] (0.0023)	0.0412[a] (0.0071)
$Size_{it}$	−0.3187[a] (0.0648)	−0.6548[a] (0.0460)	− 0.6814[a] (0.0924)
LEV_{it}	− 0.3147[b] (0.1531)	−0.2145[c] (0.1112)	− 0.1981[a] (0.0063)
EFF_{it}	0.9891[a] (0.0786)	0.8954[a] (0.0258)	0.4871[a] (0.0569)
GDP_t	−0.8791[a] (0.0784)	−0.7451[a] (0.0956)	− 0.5644[a] (0.0984)
INF_t	−0.6889[a] (0.1245)	− 0.6541[a] (0.01478)	
$UNEMPL_t$			0.7843[a] (0.0658)
ROL_t	−0.9156[a] (0.0613)	−0.6587[a] (0.0048)	
$POLST_t$	−0.8954[a] (0.0459)		−0.9546[a] (0.0148)
Observation	375	375	375
Sargan Test	0.795	0.864	0.826
AR1	0.048	0.089	0.079
AR2	0.946	0.756	0.265

Note: Parentheses showing standard errors, [a]. [b]. [c] indicate 1%, 5% and 10% level of significant respectively. L_NPL_{it-1} represent the lag of non-performing loans those calculated by NPL to gross loans. LG_{it} is loan growth collected from bankscope which is our main independent variable in the model that influence on the dependent variable; we also add Lag of loan growth to find previous year effect on non-performing loans. $Size_{it}$ denotes natural logarithm of total assets. LEV_{it} stands for a leverage ratio that is calculated as total equity to total assets. We expected an adverse relationship between NPLs and leverage ratio. EFF_{it}: non-interest expenses to total assets represent the efficiency ratio. NPLs will increase due to an increase in the provision of loan losses occur due to bad loaning. GDP_t, INF_t, $UNEMPL_t$, ROL_t, and $POLST_t$ denotes gross domestic product, inflation, unemployment, rule of law and political stability respectively used as a macro (control variables) in the model for the purpose of most robust results of coefficients. For further descriptions of these variables, please see (Table 1 Main variables)

TABLE 5

GMM SYSTEM TWO-STEP ESTIMATES TO SEE SOLVENCY WITH LOAN GROWTH

Variables	Model 4	Model 5	Model 6
$SOL_{i,t-1}$	0.5236[a] (0.0354)	0.5648[a] (0.0985)	0.4648[a] (0.0126)
LG_{it}	−0.0894[a] (0.0058)	−0.0648[a] (0.0069)	− 0.0594[a] (0.0086)
$Size_{it}$	0.4158[a] (0.0659)	0.3140[a] (0.0032)	0.3678[b] (0.1824)
EFF_{it}	−0.0489[a] (0.0031)	−0.0324[a] (0.0124)	− 0.0245[a] (0.0068)
GDP_t	0.4598[a] (0.0458)	0.4691[a] (0.0459)	
INF_t	−0.0194[a] (0.0078)		−0.0214[a] (0.0045)
$UNEMPL_t$			−0.8971[a] (0.0659)
ROL_t	1.945[a] (0.6597)		
$POLST_t$		0.8791[a] (0.2359)	
Observation	369	369	369
Sargan Test	0.845	0.786	0.846
AR1	0.348	0.784	0.845
AR2	0.236	0.214	0.215

Note: Parentheses showing standard errors, [a], [b] indicate 1%, 5% and 10% level of significant respectively. L_SOL_{it-1} represents the lag of solvency ratio which is calculated by Solvency ratio = Total capital (tier 1 + tier 2)/total risk-weighted assets. Higher capitals usually force to indulge in activities of risky credit which result credit losses. LG_{it} is loan growth collected from bankscope which is our main independent variable in the model that influence on dependent variable Solvency, $Size_{it}$ denotes natural logarithm of total assets. EFF_{it}: non-interest expenses to total assets represent the efficiency ratio. Solvency will decrease due to the increase in non-interest expenses include all time of salary payments, provision of losses, professional services fee, taxes, and property leases. GDP_t, INF_t, $UNEMPL_t$, ROL_t and $POLST_t$ denotes gross domestic product, inflation, unemployment, rule of law and political stability respectively used as a macro (control variables) in the model for the purpose of most robust results of coefficients. For further descriptions of these variables, please see (Table 1 Main variables)

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TRANSLATED VERSION: SPANISH

Below is a rough translation of the insights presented above. This was done to give a general understanding of the ideas presented in the paper. Please excuse any grammatical mistakes and do not hold the original authors responsible for these mistakes.

VERSION TRADUCIDA: ESPAÑOL

A continuación se muestra una traducción aproximada de las ideas presentadas anteriormente. Esto se hizo para dar una comprensión general de las ideas presentadas en el documento. Por favor, disculpe cualquier error gramatical y no responsabilite a los autores originales de estos errores.

INTRODUCCIÓN

Como señalan el Fondo Monetario Internacional, Ernst & Young1 y otros organismos, el sistema bancario turco tiene una proporción relativamente baja de préstamos dudosos (NPL), a pesar de la reciente recesión económica y el riesgo cambiario. Sin embargo, esta proporción varía de un banco a otro, y algunos bancos son más sensibles que otros. Aunque los préstamos dudosos no son altos para los estándares regionales (o en comparación con algunos Estados miembros de la zona del euro) y están bien configurados, los analistas y los participantes del sector son cada vez más conscientes del riesgo de aumentar los coeficientes de balance. Después de varios años de rápido crecimiento del crédito, varios factores pueden conducir a un aumento de la morosidad, incluyendo una desaceleración del crecimiento económico, un retroceso en la economía y una caída del sentimiento de los inversionistas.

Los préstamos dudosos ganaron atención a la investigación en los últimos años debido al creciente interés en entender las variables que son vulnerables a una crisis financiera. Los préstamos dudosos son

uno de esos indicadores que está estrechamente relacionado con la debilidad del sistema financiero y bancario. Podemos confirmar esto por la estrecha relación entre el aumento de la morosidad y la solvencia. Aunque Louzis y otros (2012) y Reinhart y Rogoff (2011) señalan que el aumento de la morosidad marca el estallido de la crisis bancaria, los préstamos dudosos también son significativos después de la crisis mundial. Ciertamente, la crisis financiera mundial condujo a un aumento de los préstamos dudosos, que también suponen un riesgo para la rentabilidad y la liquidez del sistema bancario, así como para la estabilidad financiera.

A principios de la década de 1980, el sector financiero de Turquía relajó el proceso del neoliberalismo. Estas disposiciones aumentan la eficiencia del sistema bancario turco (Zaim 1995). A través de estas reformas, surgieron las finanzas islámicas, llamadas Casas Financieras Especiales2. A pesar de estas reformas, Selcuk (2010) y Afsar (2011) sostienen que hubo un rápido aumento de la morosidad después de la crisis mundial. Además, la crisis mundial desafió tanto al sector bancario turco como a los cambios en los préstamos dudosos después de la crisis y la propiedad como factores clave de este cambio. Según Blejer (2006) y Shahzad et al. (2019), la eficiencia financiera es un tema importante porque mejora la estabilidad financiera. Al cambiar rápidamente los mercados financieros globales, los gerentes de bancos, los reguladores y los inversores prestan más atención a la conversión de sus costosos insumos en productos y servicios financieros más eficaces.

La banca es el pilar del sistema financiero turco. En particular, los activos bancarios totales representan aproximadamente el 87% del sistema financiero turco (CBRT, 2016). Esta es la principal motivación para analizar los préstamos dudosos, que proporcionaron información importante en la estabilidad financiera. Al mismo tiempo, la crisis mundial obligó al Banco Central de la República de Turquía (CBRT) a complementar la estabilidad financiera. Por lo tanto, este análisis también puede informar la política monetaria relacionada con cuestiones macroprudenciales (BASCI y Kara 2011).

Examinamos específicamente la relación entre el crecimiento de los préstamos y el comportamiento de arriesguemiento bancario y analizamos el impacto del crecimiento del préstamo en la salud financiera. Para evaluar las diferentes perspectivas sobre la relación entre el crecimiento del crédito y el comportamiento de arriesguemiento bancario, este estudio utiliza datos a micronivel de 59 bancos turcos3 entre 2011 y 2017. Para entender el efecto del crecimiento del préstamo en el sistema financiero, utilizamos la técnica de estimación GMM (Método Generalizado de Momentos) de dos pasos. Por lo tanto, este estudio contribuye a la literatura de dos maneras. En primer lugar, analiza 5 tipos de bancos: bancos comerciales, corporativos, estatales reales, de inversión e islámicos. En segundo lugar, también incluimos variables adicionales como la estabilidad política y el Estado de derecho para comprobar su impacto en los préstamos dudosos y la solvencia.

CONCLUSIÓN

Después de la crisis económica mundial, investigadores, reguladores y responsables de la formulación de políticas estudiaron la influencia de los bancos y los factores macroeconómicos en los préstamos dudosos. En nuestro estudio, utilizamos métodos avanzados de análisis de datos de paneles, específicamente estimaciones de dos pasos del sistema GMM para investigar los factores que influyen en los coeficientes de morosidad de 59 bancos en la industria bancaria turca de 2011 a 2017.

Como el aumento de los préstamos dudosos es una característica significativa de la crisis financiera, muchos estudios empíricos se centraron en los préstamos dudosos. Para mantener la estabilidad financiera/préstamo del banco, determinar el aumento de la relación de morosidad en el sistema bancario es una cuestión crucial. La última crisis financiera mundial hizo hincapié en la importancia de los sistemas bancarios en la mayoría de las economías de mercados avanzados y emergentes. Muchos sistemas bancarios tenían debilidades estructurales como préstamos incobrables, aplicaciones financieras peligrosas y peligro moral, mala gobernanza, escatimar y deudas incobrables durante las últimas décadas. Los resultados de este estudio afirman los hallazgos en la literatura; es decir, el rápido crecimiento de los préstamos tiene el impacto más grave en el balance de un banco.

Muchos estudios muestran que los deudores no van inmediatamente a la bancarrota después de recibir prepagos, pero generalmente requieren más de 3 años. Aunque estudios previos muestran que el aumento de la deuda anormal en el año anterior se correlacionó positivamente con la pérdida de préstamos bancarios y bancarios personales (Foos et al. 2010), nuestro estudio contribuye a la literatura confirmando estos resultados utilizando un conjunto de diferentes variables micro y macro. Específicamente, el crecimiento de los préstamos aumentó la morosidad, lo que a su vez afecta la solvencia de un banco. Sin embargo, el crecimiento anormal de los préstamos durante un auge de los préstamos tiende a aumentar la morosidad, lo que afecta directamente la disminución de los coeficientes de capital y resulta en la quiebra de los bancos. Este estudio contribuye a la literatura al incluir un sólido conjunto de variables macro (gdpt, inft, unemplt, rolt y polstt) en diferentes modelos. Nuestro hallazgo muestra claramente que debido al aumento de la morosidad, una caída repentina del capital tiende a disminuir la solvencia. Estos problemas pueden debilitar el sistema bancario y causar dificultades de pago. Los préstamos dudosos disminuyen los activos bancarios, lo que conduce a la insolvencia bancaria. Las variables macroeconómicas también afectan la estabilidad financiera de un banco. Por lo tanto, estas cuestiones deben abordarse para crear condiciones macroeconómicas sostenibles, una actividad económica rápida, un alto desempeño económico, una nueva creación de empleo y estabilidad financiera. De lo contrario, los riesgos potenciales en el sistema bancario pueden disminuir el crecimiento económico y aumentar el desempleo y los precios, lo que conduciría a una crisis económica y/o bancaria.

Las investigaciones futuras pueden adoptar varias variables macroeconómicas y específicas de los bancos y diferentes estimadores para explorar la asociación entre estas variables y los préstamos incobrables de un banco. En primer lugar, el impacto de estos factores en los préstamos dudosos puede analizarse más profundamente para el sector bancario turco. En segundo lugar, puede valer la pena que Turquía utilice diferentes métodos econométricos para estudiar el riesgo crediticio. Los resultados pueden debatirse sobre la base de los resultados de estudios bancarios anteriores y los supuestos conexos.

TRANSLATED VERSION: FRENCH

Below is a rough translation of the insights presented above. This was done to give a general understanding of the ideas presented in the paper. Please excuse any grammatical mistakes and do not hold the original authors responsible for these mistakes.

VERSION TRADUITE: FRANÇAIS

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INTRODUCTION

Comme le soulignent le Fonds monétaire international, Ernst & Young1 et d'autres agences, le système bancaire turc a une proportion relativement faible de prêts non performants (NPL), malgré le récent ralentissement économique et le risque de change. Néanmoins, ce ratio varie d'une banque à l'autre, et certaines banques sont plus sensibles que d'autres. Bien que les PNL ne soient pas élevés selon les normes régionales (ou comparées à certains États membres de la zone euro) et soient bien configurés, les analystes et les participants du secteur sont de plus en plus conscients du risque d'une hausse des ratios de bilan. Après plusieurs années de croissance rapide du crédit, plusieurs facteurs peuvent entraîner une augmentation des PNL, y compris un ralentissement de la croissance économique, un recul de l'économie et une baisse du sentiment des investisseurs.

Ces dernières années, les PNL ont attiré l'attention de la recherche en raison de l'intérêt croissant pour la compréhension des variables vulnérables à une crise financière. Les PNL sont l'un de ces indicateurs qui est étroitement lié à la faiblesse du système financier et bancaire. Nous pouvons le confirmer par la relation

étroite entre l'augmentation des NPL et la solvabilité. Bien que Louzis et coll. (2012) et Reinhart et Rogoff (2011) soulignent que l'augmentation des LNP marque le déclenchement de la crise bancaire, les LNP sont également importantes après la crise mondiale. Certes, la crise financière mondiale a conduit à une augmentation des PNL, qui posent également un risque pour la rentabilité et la liquidité du système bancaire, ainsi que la stabilité financière.

Au début des années 1980, le secteur financier turc a assoupli le processus de néolibéralisme. Ces dispositions augmentent l'efficacité du système bancaire turc (Zaim, 1995). Grâce à ces réformes, la finance islamique a vu le jour, appelées Maisons financières spéciales2. Malgré ces réformes, Selcuk (2010) et Afsar (2011) font valoir qu'il y a eu une augmentation rapide des NPL après la crise mondiale. En outre, la crise mondiale a remis en question à la fois le secteur bancaire turc et l'évolution des LNP après la crise et la propriété en tant que moteurs clés de ce changement. Selon Blejer (2006) et Shahzad et coll. (2019), l'efficacité financière est une question importante parce qu'elle améliore la stabilité financière. Dans l'évolution rapide des marchés financiers mondiaux, les gestionnaires de banques, les organismes de réglementation et les investisseurs prêtent plus d'attention à convertir leurs intrants coûteux en produits et services financiers plus efficaces.

Le secteur bancaire est le pilier du système financier turc. En particulier, le total des actifs bancaires représentent environ 87 % du système financier turc (CBRT, 2016). C'est la principale motivation de l'analyse des PNL, qui a fourni une rétroaction importante sur la stabilité financière. Dans le même temps, la crise mondiale a contraint la Banque centrale de la République de Turquie (CBRT) à compléter la stabilité financière. Par conséquent, cette analyse peut également éclairer la politique monétaire liée aux questions macroprudentielles (BASCI et Kara, 2011).

Nous examinons spécifiquement la relation entre la croissance des prêts et le comportement de prise de risque bancaire et discutons de l'impact de la croissance des prêts sur la santé financière. Pour évaluer les différentes perspectives sur la relation entre la croissance du crédit et le comportement de prise de risque bancaire, cette étude utilise des données de micro-niveau de 59 banques turques3 entre 2011 et 2017. Pour comprendre l'effet de la croissance des prêts sur le système financier, nous utilisons la technique d'estimation en deux étapes du GMM (Méthode généralisée des moments). Ainsi, cette étude contribue à la littérature de deux façons. Tout d'abord, il analyse 5 types de banques : les banques commerciales, les entreprises, l'État réel, l'investissement et les banques islamiques. Deuxièmement, nous incluons également d'autres variables telles que la stabilité politique et l'État de droit pour vérifier leur impact sur les PNL et la solvabilité.

CONCLUSION

Après la crise économique mondiale, les chercheurs, les régulateurs et les décideurs ont étudié l'influence des banques et des facteurs macroéconomiques sur les PNL. Dans notre étude, nous avons utilisé des méthodes avancées d'analyse des données de panel, en particulier des estimations en deux étapes du système GMM pour étudier les facteurs qui influencent les ratios NPL de 59 banques dans le secteur bancaire turc de 2011 à 2017.

Comme l'augmentation des LNP est une caractéristique importante de la crise financière, de nombreuses études empiriques se sont concentrées sur les PNL. Pour maintenir la stabilité financière et de prêt de la banque, la détermination de l'augmentation du ratio NPL dans le système bancaire est une question cruciale. La dernière crise financière mondiale a souligné l'importance des systèmes bancaires dans la plupart des économies de marché avancées et émergentes. De nombreux systèmes bancaires avaient des faiblesses structurelles telles que les mauvais prêts, les applications financières dangereuses et l'aléa moral, la mauvaise gouvernance, lésiner et les créances douteuses au cours des dernières décennies. Les résultats de cette étude confirment les résultats de la littérature; c'est-à-dire que la croissance rapide des prêts a l'impact le plus grave sur le bilan d'une banque.

De nombreuses études montrent que les débiteurs ne font pas immédiatement faillite après avoir reçu des remboursements anticipés, mais nécessitent généralement plus de 3 ans. Bien que des études antérieures montrent que l'augmentation de la dette anormale au cours de l'année précédente a été positivement

corrélée avec la perte sur les prêts bancaires et bancaires personnels (Foos et coll. 2010), notre étude contribue à la littérature en confirmant ces résultats à l'aide d'un ensemble de différentes variables micro et macro. Plus précisément, la croissance des prêts a augmenté les PNL, ce qui a une incidence sur la solvabilité d'une banque. Néanmoins, la croissance anormale des prêts pendant le boom des prêts tend à augmenter les NPL, ce qui affecte directement la baisse des ratios de fonds propres et entraîne la faillite des banques. Cette étude contribue à la littérature en incluant un ensemble robuste de variables macro (gdpt, inft, unemplt, rolt et polstt) dans différents modèles. Notre constatation montre clairement qu'en raison de l'augmentation des PNL, une chute soudaine du capital tend à diminuer la solvabilité. Ces problèmes peuvent affaiblir le système bancaire et causer des difficultés de paiement. Les LNP diminuent les actifs bancaires, ce qui entraîne l'insolvabilité des banques. Les variables macroéconomiques affectent également la stabilité financière d'une banque. Par conséquent, ces questions doivent être abordées pour créer des conditions macroéconomiques durables, une activité économique rapide, des résultats économiques élevés, de nouvelles créations d'emplois et la stabilité financière. Dans le cas contraire, les risques potentiels dans le système bancaire peuvent diminuer la croissance économique et augmenter le chômage et les prix, conduisant ainsi à une crise économique et/ou bancaire.

Les recherches futures peuvent adopter diverses variables macroéconomiques et bancaires et différents estimateurs pour explorer l'association entre ces variables et les créances douteuses d'une banque. Premièrement, l'impact de ces facteurs sur les PNL peut être analysé plus en profondeur pour le secteur bancaire turc. Deuxièmement, il peut être utile pour la Turquie d'utiliser différentes méthodes économétriques pour étudier le risque de crédit. Les résultats peuvent être débattus sur la base des résultats d'études bancaires antérieures et des hypothèses connexes.

TRANSLATED VERSION: GERMAN

Below is a rough translation of the insights presented above. This was done to give a general understanding of the ideas presented in the paper. Please excuse any grammatical mistakes and do not hold the original authors responsible for these mistakes.

ÜBERSETZTE VERSION: DEUTSCH

Hier ist eine ungefähre Übersetzung der oben vorgestellten Ideen. Dies wurde getan, um ein allgemeines Verständnis der in dem Dokument vorgestellten Ideen zu vermitteln. Bitte entschuldigen Sie alle grammatikalischen Fehler und machen Sie die ursprünglichen Autoren nicht für diese Fehler verantwortlich.

EINLEITUNG

Wie der Internationale Währungsfonds, Ernst & Young1 und andere Agenturen betonen, weist das türkische Bankensystem trotz des jüngsten Konjunkturabschwungs und des Wechselkursrisikos einen relativ geringen Anteil notleidender Kredite (NPL) auf. Dennoch ist dieses Verhältnis von Bank zu Bank unterschiedlich, und einige Banken sind empfindlicher als andere. Obwohl notleidende Kredite nach regionalen Standards (oder im Vergleich zu einigen Mitgliedstaaten der Eurozone) nicht hoch und gut konfiguriert sind, sind sich Analysten und Branchenteilnehmer zunehmend des Risikos steigender Bilanzquoten bewusst. Nach mehreren Jahren des schnellen Kreditwachstums können mehrere Faktoren zu einem Anstieg der notleidenden Kredite führen, darunter eine Verlangsamung des Wirtschaftswachstums, ein Rückgang der Wirtschaft und ein Rückgang der Anlegerstimmung.

Notleidende Kredite erlangten in den letzten Jahren forschungswissenschaftliche Aufmerksamkeit aufgrund des wachsenden Interesses, die Variablen zu verstehen, die anfällig für eine Finanzkrise sind. Notleidende Kredite sind ein solcher Indikator, der eng mit der Schwäche des Finanz- und Bankensystems verbunden ist. Wir können dies durch die enge Beziehung zwischen dem Anstieg der notleidenden Kredite und der Solvenz bestätigen. Obwohl Louzis et al. (2012) und Reinhart und Rogoff (2011) darauf hinweisen,

dass der Anstieg der notleidenden Kredite den Ausbruch der Bankenkrise markiert, sind notleidende Kredite auch nach der globalen Krise signifikant. Sicherlich führte die globale Finanzkrise zu einem Anstieg der notleidenden Kredite, die auch ein Risiko für die Rentabilität und Liquidität des Bankensystems sowie für die Finanzstabilität darstellen.

In den frühen 1980er Jahren lockerte der türkische Finanzsektor den Prozess des Neoliberalismus. Diese Bestimmungen erhöhen die Effizienz des türkischen Bankensystems (Zaim 1995). Durch diese Reformen entstand die islamische Finanzwelt, die als Special Financial Houses2 bezeichnet wurde. Trotz dieser Reformen argumentieren Selcuk (2010) und Afsar (2011), dass es nach der globalen Krise einen raschen Anstieg der notleidenden Kredite gab. Darüber hinaus forderte die globale Krise sowohl den türkischen Bankensektor als auch die Veränderungen der notleidenden Kredite nach der Krise und die Eigentumsverhältnisse als Haupttreiber dieses Wandels heraus. Laut Blejer (2006) und Shahzad et al. (2019) ist die finanzielle Effizienz ein wichtiges Thema, da sie die Finanzstabilität verbessert. In den sich rasch verändernden globalen Finanzmärkten achten Bankmanager, Aufsichtsbehörden und Investoren mehr darauf, ihre teuren Inputs in effektivere Finanzprodukte und -dienstleistungen umzuwandeln.

Das Bankwesen ist die tragende Säule des türkischen Finanzsystems. Insbesondere machen die gesamten Bankaktiva etwa 87 % des türkischen Finanzsystems aus (CBRT, 2016). Dies ist die Hauptmotivation für die Analyse notleidender Kredite, die wichtige Rückmeldungen in die Finanzstabilität lieferten. Gleichzeitig zwang die globale Krise die Zentralbank der Republik Türkei (CBRT), die Finanzstabilität zu ergänzen. Daher kann diese Analyse auch die Geldpolitik im Zusammenhang mit makroprudenziellen Fragen informieren (BASCI und Kara 2011).

Wir untersuchen insbesondere den Zusammenhang zwischen Kreditwachstum und Risikobereitschaft der Banken und diskutieren die Auswirkungen des Kreditwachstums auf die finanzielle Gesundheit. Um die unterschiedlichen Perspektiven auf den Zusammenhang zwischen Kreditwachstum und Bankrisikoverhalten zu bewerten, verwendet diese Studie Daten auf Mikroebene von 59 türkischen Banken3 zwischen 2011 und 2017. Um die Auswirkungen des Kreditwachstums auf das Finanzsystem zu verstehen, verwenden wir die zweistufige GMM-Schätztechnik (Generalized Method of Moments). So trägt diese Studie auf zweierlei Weise zur Literatur bei. Erstens werden 5 Arten von Banken analysiert: Handels-, Unternehmens-, Real-Staat-, Investitions- und islamische Banken. Zweitens schließen wir auch zusätzliche Variablen wie politische Stabilität und Rechtsstaatlichkeit ein, um ihre Auswirkungen auf notleidende Kredite und Solvenz zu überprüfen.

SCHLUSSFOLGERUNG

Nach der globalen Wirtschaftskrise untersuchten Forscher, Regulierungsbehörden und politische Entscheidungsträger den Einfluss von Banken und makroökonomischen Faktoren auf notleidende Kredite. In unserer Studie verwendeten wir fortschrittliche Panel-Datenanalysemethoden, insbesondere GMM-System-Zwei-Stufen-Schätzungen, um die Faktoren zu untersuchen, die die NPL-Quoten von 59 Banken in der türkischen Bankenbranche von 2011 bis 2017 beeinflussen.

Da der Anstieg der notleidenden Kredite ein wesentliches Merkmal der Finanzkrise ist, konzentrierten sich viele empirische Studien auf notleidende Kredite. Um die Finanz-/Kreditstabilität der Bank aufrechtzuerhalten, ist die Bestimmung des Anstiegs der NPL-Quote im Bankensystem eine entscheidende Frage. Die letzte globale Finanzkrise hat die Bedeutung der Bankensysteme in den meisten Industrie- und Schwellenländern hervorgehoben. Viele Bankensysteme wiesen in den letzten Jahrzehnten strukturelle Schwächen wie faule Kredite, gefährliche Finanzanwendungen und moralisches Risiko, schlechte Regierungsführung, Skimping und faule Schulden auf. Die Ergebnisse dieser Studie bestätigen die Ergebnisse der Literatur; das heißt, das rasche Wachstum der Kredite hat die schwerwiegendsten Auswirkungen auf die Bilanz einer Bank.

Viele Studien zeigen, dass Schuldner nicht sofort in Konkurs gehen, nachdem sie Vorauszahlungen erhalten haben, sondern in der Regel mehr als 3 Jahre benötigen. Obwohl frühere Studien zeigen, dass der Anstieg der anormalen Schulden im Vorjahr positiv mit dem Verlust auf Bank- und Privatbankkrediten korreliert ist (Foos et al. 2010), trägt unsere Studie zur Literatur bei, indem sie diese Ergebnisse mit einer

Reihe verschiedener Mikro- und Makrovariablen bestätigt. Insbesondere das Kreditwachstum erhöhte die notleidenden Kredite, was sich wiederum auf die Solvenz einer Bank auswirkt. Dennoch führt das anormale Kreditwachstum während eines Kreditbooms tendenziell zu einer Erhöhung der notleidenden Kredite, was sich direkt auf den Rückgang der Kapitalquoten auswirkt und zum Bankrott der Banken führt. Diese Studie trägt zur Literatur bei, indem sie einen robusten Satz von Makrovariablen (gdpt, inft, unemplt, rolt und polstt) in verschiedene Modelle einbaut. Unser Befund zeigt deutlich, dass aufgrund des Anstiegs der notleidenden Kredite ein plötzlicher Rückgang der Kapitalkraft tendenziell die Solvenz verringert. Diese Probleme können das Bankensystem schwächen und Zahlungsschwierigkeiten verursachen. Notleidende Kredite verringern das Bankvermögen, was zur Bankeninsolvenz führt. Makroökonomische Variablen wirken sich auch auf die Finanzstabilität einer Bank aus. Daher müssen diese Fragen angegangen werden, um nachhaltige makroökonomische Bedingungen, eine rasche Wirtschaftstätigkeit, eine hohe Wirtschaftsleistung, die Schaffung neuer Arbeitsplätze und die Finanzstabilität zu schaffen. Andernfalls können die potenziellen Risiken im Bankensystem das Wirtschaftswachstum verringern und die Arbeitslosigkeit und die Preise erhöhen, was zu einer Wirtschafts- und/oder Bankenkrise führen könnte.

Zukünftige Forschung kann verschiedene makroökonomische und bankspezifische Variablen und verschiedene Schätzer verwenden, um den Zusammenhang zwischen diesen Variablen und den faulen Krediten einer Bank zu untersuchen. Erstens können die Auswirkungen dieser Faktoren auf notleidende Kredite für den türkischen Bankensektor tiefer analysiert werden. Zweitens könnte es sich für die Türkei lohnen, verschiedene ökonometriemetrische Methoden zur Untersuchung des Kreditrisikos anzuwenden. Die Ergebnisse können auf der Grundlage der Ergebnisse früherer Bankenstudien und der damit verbundenen Annahmen diskutiert werden.

TRANSLATED VERSION: PORTUGUESE

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VERSÃO TRADUZIDA: PORTUGUÊS

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INTRODUÇÃO

Como apontam o Fundo Monetário Internacional, Ernst & Young1 e outras agências, o sistema bancário turco tem uma proporção relativamente baixa de empréstimos não realizados (npls), apesar da recente crise econômica e do risco cambial. No entanto, essa proporção varia de banco para banco, e alguns bancos são mais sensíveis do que outros. Embora os npls não sejam elevados pelos padrões regionais (ou comparados a alguns Estados membros da Zona do Euro) e estejam bem configurados, analistas e participantes do setor estão cada vez mais conscientes do risco de aumento dos índices de balanço. Após vários anos de rápido crescimento do crédito, vários fatores podem levar a um aumento de npls, incluindo uma desaceleração do crescimento econômico, um recuo na economia e uma queda no sentimento dos investidores.

Os npls ganharam atenção da pesquisa nos últimos anos devido ao crescente interesse em entender as variáveis vulneráveis a uma crise financeira. Os npls são um desses indicadores que está intimamente ligado à fraqueza no sistema financeiro e bancário. Podemos confirmar isso pela estreita relação entre o aumento de npls e a solvência. Embora Louzis et al. (2012) e Reinhart e Rogoff (2011) apontem que o aumento dos npls marca o início da crise bancária, os npls também são significativos após a crise global. Certamente, a crise financeira global levou a um aumento dos npls, que também representam um risco para a rentabilidade e liquidez do sistema bancário, bem como a estabilidade financeira.

No início da década de 1980, o setor financeiro da Turquia relaxou o processo de neoliberalismo. Essas disposições aumentam a eficiência do sistema bancário turco (Zaim 1995). Através dessas reformas, surgiram as finanças islâmicas, chamadas Casas Financeiras Especiais2. Apesar dessas reformas, Selcuk (2010) e Afsar (2011) argumentam que houve um aumento imediato dos npls após a crise global. Além disso, a crise global desafiou tanto o setor bancário turco quanto as mudanças nos npls após a crise e a propriedade como principais impulsionadores dessa mudança. Segundo Blejer (2006) e Shahzad et al. (2019), a eficiência financeira é uma questão importante porque melhora a estabilidade financeira. Em rápida mudança nos mercados financeiros globais, gestores de bancos, reguladores e investidores prestam mais atenção à conversão de seus insumos caros em produtos e serviços financeiros mais eficazes.

O setor bancário é o pilar do sistema financeiro turco. Em particular, o total de ativos bancários representa cerca de 87% do sistema financeiro turco (CBRT, 2016). Essa é a principal motivação para a análise de npls, que proporcionou um importante feedback na estabilidade financeira. Ao mesmo tempo, a crise global forçou o Banco Central da República da Turquia (CBRT) a complementar a estabilidade financeira. Portanto, essa análise também pode informar a política monetária relacionada a questões macroprudenciais (BASCI e Kara 2011).

Examinamos especificamente a relação entre o crescimento dos empréstimos e o comportamento de tomada de risco bancário e discutimos o impacto do crescimento dos empréstimos na saúde financeira. Para avaliar as diferentes perspectivas sobre a relação entre o crescimento do crédito e o comportamento de risco bancário, este estudo utiliza dados de micronúvel de 59 bancos turcos3 entre 2011 e 2017. Para entender o efeito do crescimento do empréstimo no sistema financeiro, utilizamos a técnica de estimativa gmm (método generalizado de momentos) em duas etapas. Assim, este estudo contribui para a literatura de duas formas. Primeiro, analisa 5 tipos de bancos: comercial, corporativo, estado real, investimento e bancos islâmicos. Em segundo lugar, incluímos também variáveis adicionais, como a estabilidade política e o Estado de Direito para verificar seu impacto sobre os npls e a solvência.

CONCLUSÃO

Após a crise econômica global, pesquisadores, reguladores e formuladores de políticas estudaram a influência dos bancos e fatores macroeconômicos nos npls. Em nosso estudo, utilizamos métodos avançados de análise de dados de painéis, especificamente estimativas de dois passos do sistema GMM para investigar os fatores que influenciam as proporções de NPL de 59 bancos no setor bancário turco de 2011 a 2017.

Como o aumento dos npls é uma característica significativa da crise financeira, muitos estudos empíricos se concentraram em npls. Manter a estabilidade financeira/empréstimo do banco, determinar o aumento da relação NPL no sistema bancário é uma questão crucial. A última crise financeira global enfatizou a importância dos sistemas bancários nas economias de mercado mais avançadas e emergentes. Muitos sistemas bancários tinham fraquezas estruturais, como empréstimos ruins, aplicações financeiras perigosas e riscos morais, má governança, desnascimento e dívidas ruins durante as últimas décadas. Os resultados deste estudo afirmam os achados na literatura; ou seja, o rápido crescimento dos empréstimos tem o impacto mais sério no balanço de um banco.

Muitos estudos mostram que os devedores não vão à falência imediatamente após receberem pré-pagamentos, mas geralmente exigem mais de 3 anos. Embora estudos anteriores mostrem que o aumento da dívida anormal no ano anterior foi positivamente correlacionado com a perda de empréstimos bancários e bancários pessoais (Foos et al. 2010), nosso estudo contribui para a literatura confirmando esses resultados utilizando um conjunto de diferentes variáveis micro e macro. Especificamente, o crescimento dos empréstimos aumentou os npls, o que, por sua vez, afeta a solvência de um banco. No entanto, o crescimento anormal dos empréstimos durante um boom de empréstimos tende a aumentar as npls, que afetam diretamente o declínio das taxas de capital e resulta na falência dos bancos. Este estudo contribui para a literatura, incluindo um conjunto robusto de variáveis macro (gdpt, inft, unemplt, rolt e polstt) em diferentes modelos. Nosso achado mostra claramente que, devido ao aumento de npls, uma queda repentina na capital tende a diminuir a solvência. Esses problemas podem enfraquecer o sistema bancário e causar dificuldades

de pagamento. Os npls diminuem os ativos bancários, o que leva à insolvência bancária. As variáveis macroeconômicas também afetam a estabilidade financeira de um banco. Portanto, essas questões devem ser tratadas para criar condições macroeconômicas sustentáveis, atividade econômica rápida, alto desempenho econômico, criação de novos empregos e estabilidade financeira. Caso contrário, os riscos potenciais no sistema bancário podem diminuir o crescimento econômico e aumentar o desemprego e os preços, levando a uma crise econômica e/ou bancária.

Pesquisas futuras podem adotar várias variáveis macroeconômicas e bancárias e diferentes estimadores para explorar a associação entre essas variáveis e os empréstimos ruins de um banco. Em primeiro lugar, o impacto desses fatores sobre os npls pode ser analisado mais profundamente para o setor bancário turco. Em segundo lugar, pode valer a pena para a Turquia usar diferentes métodos econométricos para estudar o risco de crédito. Os resultados podem ser debatidos com base nos resultados de estudos bancários anteriores e nos pressupostos relacionados.