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FINANCIAL REPRESSION AND ECONOMIC GROWTH: CASE OF TURKEY

Abstract

In 1980s, developing economies had started to transform financial systems from repressive form to open market form. It is clear that initial studies related to interaction between financial repression and economic growth claim positive effect of the transition process. So, consequences of financial repression are likely to negative on economy directly and indirectly. This is especially for emerging market economies. After the global financial crisis, the discussion on necessity of financial repression against another global finance crisis has begun among economists. In this study, role of repression on financial system in growth performance of the Turkish economy is discussed. A possible presence of relation between repressive policies and economic growth in the period between years 2008 and 2020 is analyzed via advanced times series analysis methods.

Keywords: Financial repression, Global crisis, Economic Growth

FİNANSAL BASKI ve EKONOMİK BÜYÜME: TÜRKİYE ÖRNEĞİ

Özet

1980’li yıllarda gelişmekte olan ülke ekonomilerinin finansal sistemleri baskıdan kurtulup serbest piyasa şartlarına geçiş yapmaya başlamıştır. Finansal baskı ve ekobomik büyüme arasındaki ilişkiyi inceleyen öncül çalışmalar geçiş sürecinin pozitif etkilerinin olduğunu iddia etmiştir. Böylece, finansal baskının ekonomi üzerinde doğrudan ve dolaylı olarak negative sonuçlarının olduğu söylenebilir. Bu durum, özellikle küresel finans krizinden sonra, bir başka küresel finans krizinin başlamaması için finansal baskının gerekliliği iktisatçılar tarafından tartışılmaya

başlanmıştır. Bu çalışmada, Türkiye ekonomisinin büyüme performansında finansal sistemdeki baskının rolü incelenmektedir. Baskıcı politikalar ile ekonomik büyüme arasındaki ilişkinin muhtemel varlığı 2008 ve 2020 yılları arasında gelişmiş zaman serisi analiz metotları ile incelenmektedir.

Anahtar kelimeler: Finansal baskınlık, Küresel kriz, Ekonomik büyüme

1. Introduction

The notion of financial repression is used by E. R. McKinnon (1973) and E. Shaw (1973) initially. The financial repression is that governments control on financial product prices and steer financial activities via political – legal arrangements (Fry, 1989: 14). According to their arguments, a repressed financial sector induces reduction in both savings and investments. Fry (1989) indicates that governments control source allocation and finance their budget deficits in a cheaper way by repressing financial systems. Governments meet their fund demand by enforcing fund suppliers to buy government bonds.

It is possible to repress financial system via different ways. Among them, credit rationing, interest rate determination by government, intervening banking transactions, financial institution ownership of government, arranging lending and borrowing rates and conditions and organization of new financial institutions by government are most common financial repression applications (Williamson, 1998: 1).

In McKinnon and Shaw model, there are two assumptions. First of them is that in less developed economies, financial markets do not have sufficient potential to finance investments in the economy. Second one is that investment expenditures are bigger than consumption expenditures (McKinnon, 1973: 57).

The basic hypothesis of McKinnon – Shaw model is that savings are increasing function of real deposit interest rate and investments are decreasing function of domestic interest rates. In the first stage of financial repression, nominal interest rate is fixed and so actual interest rate decreases under balance interest rate. Low interest rate induces increasing consumption expenditures and cause to fall in savings. In the second stage, it becomes possible to finance investment projects with lower returns because of decreasing interest rate and marginal return of capital (McKinnon, 1991: 11 - 12). In the end, contribution of such investments to the growth of economy will be small and economic growth slows down.

According to McKinnon (1973), increasing interest rate allows banking system to increase credit creating capacity by increasing deposit funds. When interest rate increases, investments with low marginal return of capital are limited and they are not profitable anymore. In this condition, economic growth will accelerate and savings increase.

McKinnon and Shaw model implies that elimination of financial repression and providing financial deepening will accelerate economic growth. Also authors claim that for integration of domestic financial system to global one, it is essential to eliminate repression on foreign trade and capital movements. The restrictions imposed on the banking system such as deposit interest rate ceiling and credit rationing, high reserve requirements, selective credit controls will cause disruptions in the development of the financial system and consequently economic growth will be adversely affected (Ghali, 1999: 310). According to explanations above, it is possible to

conclude that elimination of financial repression increases liberalization level of financial system, increases source allocation efficiency and savings.

On the other hand, a group of empirical analyses investigating relation between financial repression and economic growth claims that financial repression policies implemented by governments may be useful for emerging market economies. For instance, Stiglitz (1994) favors financial repression in emerging market economies in the context of implementation of monetary policies, such as money supply and stability of financial system instruments (Özek, 2020: 62). Moreover, Xu and Gui (2019) and Loayza and Ranciere (2006) emphasize on dual effect of liberalization of financial system. They indicate that liberalization (elimination of financial repression policies) of financial system affects economy both positively and negatively.

Recent global finance crisis can be an example of dual effect of liberalization process. The crisis has occurred in fully liberalized economies and spilled over emerging market economies with liberalizing financial systems. This situation brings question into mind whether financial repression policies may affect economies positively by preventing financial crises or not.

In this study, we analyze the relation between economic growth and financial repression in the Turkish economy between years 2008 and 2020 by employing times series analysis methods. The contribution of this study is twofold. First of them is about the time period analyzed: It starts from January of 2008 where global financial crisis that governments have started to implement more regulatory policies in order to reduce effects of crisis. By analyzing related period, we will be able to measure effects of repressive policies on economic growth. Second is econometric methods analyzed. Asymmetric causality analysis gives opportunity to investigate asymmetric relation between variables different from existing methods. There might be causation linkage among variables, but it is not possible identify if it is negative to positive or positive to negative in conventional causality analysis methods. Moreover, frequency domain causality analysis method is employed which allows to find time frequency of causation linkage between variables. In economic theory, relation between economic indicators might appear in different time periods. For instance, increasing R&D expenditures shows its effects on unemployment in longer periods. On the other hand, it might show its effect on investment expenditures in shorter time periods.

In the following section, national and international literature is summarized. In the third section, model and data is presented. In the fourth section, empirical analysis results presented in graph and tables. Lastly, empirical findings are concluded in conclusion section.

2. Literature Review

In the literature, there are numerous studies investigating relation between financial repression and various macroeconomic indicators to measure economic growth. It is possible to classify studies in two groups. First group of studies support negative relation between financial repression and economic growth. This group of studies indicates that increasing repressive policies affect economic growth negatively. This group of studies follows Roubini and Sala-i Martin (1992). In their novel study, they analyze the relation between financial repression policies and economic growth for fifty three countries between year 1960 and 1985 and find that policies increase financial repression induces a decrease in saving volume and efficiency of

capital and indirectly economic growth negatively. Following studies find positive relation explained as above.

One of the recent studies belongs to Etibar et al. (2019). They investigate the relation for ninety economies between years 1973 and 2017. The authors employ interest rate controls as a financial repression measure and use panel data econometrics. Results imply that financial repression is effective on economic growth performance.

Whalen (2019) investigates banking system of United States of America and financial repression policies. The study covers period since 1980 to 2018. According to analysis results, financial repressive policies such as low interest rate and open market operations managed by Federal Reserve affect banking system negatively despite of incentive policies on banking system.

Doğan (2019) analyzes the relation between financial repression and GDP in Turkey, Brazil, Mexico and Argentina between year 2000 and 2018. According to empirical findings obtained from autoregressive model analysis, an increase in financial pressure causes a decrease in GDP because of increasing risk and uncertainty.

Gitau and Kosimbei (2015) investigate the relation for Kenya economy. They employ quarterly data including years 1996 and 2014 and study on interest rate ceiling, broad money and public debt. Results imply that factors listed above are related with economic growth. on the other hand, increasing required reserves ratio is not related with economic growth. so it is possible to imply not every policy tool is effective on economic growth.

Mete and Omid (2013) test the Iran economy between years 1965 and 2006 and try to find the effect of financial repression on economic growth. They use ARDL and ECM method to analyze the relation. According to analysis findings, there is a negative relation between financial pressure index and economic growth, financial repressive policies affect economic development process negatively.

Second group of studies implies positive and/or neutral relation between variables. Demetriades and Luintel (2001) imply positive relation between financial development, the degree of state control over the banking system and mild repression of lending rates in the South Korean economy. This finding supports the idea that financial repression might affect economic growth indirectly and positively.

Another study claiming neutrality between variables belongs to Özek (2020). The author investigates the relation for the Turkish economy between years 2005 and 2019 via various causality analysis methods. His findings imply that there is no symmetrical relation between financial pressure and economic growth in the Turkish economy while only a negative financial pressure change has impact on economy asymmetrically.

As can be seen, there is a number studies implying negative relation for different countries. But, after the recent global financial crisis liberalization in financial system has started to queried and that is why existence of financial repression policies might be good for especially emerging market economies and financial systems.

3. Data and Model

The Turkish economy has experienced a structural change in 1980, after 24 January Decisions. In the context of political decisions, import led growth model was adopted. As a typical emerging market economy, it is needed to external capital to achieve economic growth (Ergür and Özek, 2020: 35). Moreover, financial system was organized in order to keep up with new economic structure. In this regard, financial repressive policies were eliminated till end of 1980s. In the last decade of twentieth century, the system was liberalized. Not only in 2008, also during the period between 1980 and 2008, there are too many economic crises and most of them were affected by financial system. This situation makes the analysis of relation between financial repression and economic growth essential to answer whether financial liberalization affects positively economic growth or not.

It is important to measure financial pressure index in order to understand efficiency of policies implemented to control financial system. In this regard, there are few studies aimed to build an index. One of them belongs to Uygur (2001). In this study, we build the index in the light of Uygur's (2001) study. Percent change in overnight interest rate, exchange rate of U.S. dollar against Turkish lira and brut foreign currency reserves are employed to establish an index. The variables in the index are included into the index without weighting after standardization as shown below:

$$\text{FPI} = \% \text{ Change in interest} + \% \text{ Change in exchange rate} - \% \text{ Change in foreign currency reserves}$$

In the graph, the left axis shows the financial pressure index and the right axis shows the industrial production index. According to graph, there is a negative correlation between variables. By the beginning of period examined, there is a positive trend in industrial production index. On the other hand, industrial production index increases more in the periods where financial pressure index decrease. That is why it is possible to imply a negative relation between them.

Graph 1. Movement in Financial Pressure and Industrial Production Indexes (%)

The data belonging to variables are obtained from the electronic data spread system of The Central Bank of Republic of Turkey. The period analyzed in the study starts from January of 2008 and ends in April of 2020. The time period covers twelve years where global finance crisis affects whole economies.

4. Empirical Findings

In this study, time series analysis methods are employed. In this regard, empirical analysis starts with unit root tests. Augmented Dickey – Fuller developed by Dickey and Fuller (1981) test results are shown in table 1. According to table, industrial production index has unit root in its level. First difference of industrial production index does not contain any unit root and it is stationary. On the other hand, financial pressure index is stationary in level. For this reason, we put it into empirical model in its level value.

Table 1. Unit Root Test Results

		Variables	ADF		ADF
Level	Constant	IPI	-1.931 (0.317)	First Difference	-3.130 (0.026)**
		FBE	-12.200 (0.00)***		-15.344 (0.00)***
	Constant+Trend	IPI	-0.490 (0.982)		-3.169 (0.095)*
		FBE	-12.277 (0.00)***		-15.290 (0.00)***

Notes: ***, ** and * indicate stationary of series in significance level, 1 %, 5 % and 10 %, respectively.

In vector error correction model with two variables, optimal lag length is determined as four. In this model with four lag, there is no auto correlation and hetero-scedasticity problems. In the light of results, asymmetric causality test developed by Hatemi and Roca (2014). According to causality test results, there is no causation linkage between variables.

Table 2. Hatemi-J Roca (2014) Asymmetric Causality Test Results

<i>Direction of Caus.</i>	<i>MWALD</i>	<i>%1</i>	<i>%5</i>	<i>%10</i>	<i>Direction of Caus.</i>	<i>MWALD</i>	<i>%1</i>	<i>%5</i>	<i>%10</i>
(IPI) ⁺ $\nRightarrow$ (FBE) ⁺	0.058 (0.810)	7.357	3.850	2.722	(FBE) ⁺ $\nRightarrow$ (IPI) ⁺	0.165 (0.685)	6.964	4.031	2.860
(IPI) ⁺ $\nRightarrow$ (FBE) ⁻	1.345 (0.246)	7.835	3.926	2.802	(FBE) ⁺ $\nRightarrow$ (IPI) ⁻	0.927 (0.336)	7.210	4.046	2.847
(IPI) ⁻ $\nRightarrow$ (FBE) ⁻	0.001 (0.974)	6.163	3.767	2.637	(FBE) ⁻ $\nRightarrow$ (IPI) ⁻	0.622 (0.430)	5.805	3.625	2.646
(IPI) ⁻ $\nRightarrow$ (FBE) ⁺	0.029 (0.864)	8.020	4.297	2.793	(FBE) ⁻ $\nRightarrow$ (IPI) ⁺	0.805 (0.370)	7.219	3.736	2.769

Note: $\nRightarrow$ indicates null hypothesis claims absence of causality. Values in parenthesis show asymptotic probability values. ***, ** and * indicate causality relation between variables in significance level, 1 %, 5 % and 10 %, respectively. The number of bootstrap is 10.000.

The frequency domain causality analysis method developed by Breitung and Candelon (2006) gives chance to analyze relation in different time frequencies namely, short, medium and long run. According to test results, there is uni-directional causality running from industrial production index to financial pressure index in short, medium and long run. On the other hand,

uni-directional causality from financial pressure index to industrial production index occurs in only medium term.

Table 3. Breitung and Candelon (2006) Frequency Domain Causality Test Results

	Long Term		Medium Term		Short Term	
ω_i	0.01	0.05	1.00	1.50	2.0	2.50
IPI $\nrightarrow$ FBE	7.851***	8.670***	0.405	3.331**	5.981***	0.566
FBE $\nrightarrow$ IPI	0.465	0.462	3.235**	1.939	0.137	0.895

Note: F table values are nearly 4,76, 3.06 and 2.34 for significance level 1 %, 5% and 10 %, respectively. The degree of freedom is (2.T-2p).

Although asymmetric causality test results imply there is no causation linkage between variables, frequency domain causality test results imply bi-directional causality in different time frequencies. While industrial production index affect financial pressure index in both short and long terms, financial pressure index affects only in medium term.

When the results compare with literature, uni-directional causality from financial pressure index to industrial production index is consistent with empirical literature. It is also consistent with theoretical framework explaining relation between economic growth and financial pressure as summarized in the introduction section. Different from existing literature, analysis implies a strong causation linkage from economic growth to financial pressure index. It might be interpreted that how economy grows, it induces financial expansion.

5. CONCLUSION

In this study, we aim to analyze possible effects of financial pressure index on economic growth in the Turkish economy after the global finance crisis. In this regard, we employ advanced times series analysis methods, asymmetric causality test method developed by Hatemi-j and Roca (2014) and frequency domain causality method developed by Breitung and Candelon (2006).

Although existing literature implies that liberalizing financial system without repressive policies would trigger economic growth. But the global finance crisis brings a question into mind that does increasing liberalization level induce economic crisis more frequently? Since 1990s, there are too many economic crises in especially emerging market economies. This situation can be related to financial liberalization and elimination of interventions of governments.

According to empirical analysis, there is no asymmetrical relation between economic growth and financial pressure. On the other hand, frequency domain causality analysis results show bi-directional causality. But the causation linkage in different directions differs in terms of time frequency. The causality running from financial pressure to economic growth occurs in medium term. The causation linkage running from financial pressure to economic growth occurs in short, medium and long term. Uni-directional causality in medium term is consistent with existing literature. Validity of causality in medium term is also rational. Because an increase in

liberalization level of financial system affects real economy in the longer time periods. The existence of uni-directional causality running from economic growth to financial pressure in both time frequencies is an interesting finding of the study. This result may be interpreted as a positive impact of economic growth on financial system. Growing economy may no need to financial repression policies. When we take reasons of such policies, supporting investments to increase rate of economic growth, into account, it is possible to eliminate repression policies.

As a consequence of empirical findings, it is possible to imply that financial repression policies affect economy in the longer time periods. In this regard, before employing such policies, policymakers have to take its effects on economy into account. On the other hand, growth path of the Turkish economy eliminates the repressive policies automatically.

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