



## Monetary Policy And Bank Lending Chanel in Turkey<sup>1</sup>

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### Abstract

*The main purpose of this study is to evaluate whether the bank lending channel exist or not. Within this context, quarterly data of for the periods between 2002q1 and 2016q4 was taken into the consideration. Additionally, VAR model was used to reach the objective. According to the result of impulse response function, it was reached that producer price index, real exchange rate and policy rate are effective determinants. Additionally, banks balance sheet has important and positive influence on total credits but industrial production index is regarded as partially effective. While considering this result, it was also found that both bank balance and macroeconomic variables used in this study is the main determinants of bank total credit.*

**Key Words:** Bank Lending Channel; VAR; Bank Credits

**JEL classification:** E44; E52; E58.

### Introduction

The 1980s in Turkey is named as the liberalization attempts. After these liberalization attempts, both domestic economy and financial institutions have integrated into global economy at increasing frequent. As result, the performance of economy has confirmed to the international economy especially the outflow-inflow of capital. The times of substantial financial outflow has contagion impact on economy. Indeed, crisis which was experienced by Turkish economy after 1990 were based on reversals of financial flows. The last crisis influencing Turkish economy in 2008 generally resulted from the shock fluctuations the global economy which inflicted a deep wound the economy. The global financial crisis operated through three channels which are made of expectations channel, financial channel and trade channel. The features of the crisis were classified as a severe export fluctuation and sharply stop in financial flows. These two things worsened credit condition and the performance of economy. Thus, the Turkish economy experienced one

<sup>1</sup> This paper is based on Zafer ADALI Master Thesis, Monetary Policy and Bank Lending.

of the worst economic down. On the other hand, the financial markets did not witness a collapse thanks to previous man structural changes in financial markets under the auspices of the IMF. Before the 2008 financial crisis, the Turkish economy witnessed its economic moderation thanks to the acceleration of privatization, higher foreign direct investment and the structural change in economy especially in banking sectors after the 2001 crisis but the honeymoon was wiped out by the global financial crisis. Investment, export and consumption expenditure sharply decreased after all the Turkish economic growth substantially devolved. The crisis originated in US and began advanced economy quickly spread all world economy and deteriorated GDP growth and raises in unemployment rate in Turkey; indeed, in 2009 The Turkish economy shrank by -4.8 percent. In the vein, annual unemployment rate rose to 14 percent in 2009 (Cömert and Çolak, 2014).

Turkish economy experienced many the series of recession and moderation. In parallel with liberation attempt, Turkish economy is more vulnerable to shocks comes from abroad. However, much deficiency in macroeconomic structural was major culprit for previous economic crisis. The culprits were easily made of populist and unsustainable fiscal and monetary policy, inconsistent exchange rate policy and narrow-minded social policies (Rodrik, 2012, p. 42). Until 2001, macroeconomic instability was quite familiar for Turkish economy. 2001 crisis was considered as breaking point because the macroeconomic stabilization implemented was putted into force by Turkish policy makers at the IMF helm (OECD 2010). Amendment central bank was promulgated so the central bank has escaped from parliament's clutches. Budget deficit and public deficit as a percentage of GDP were substantially declined. Explicit inflation targeting framework was gradually introduced. Since 2006, short term interest rate has been considered as the primary of monetary policy and this policy has been conducted so properly that inflation rate reduced and chronic high inflation problem has been not on the agenda. This implementation brought interest rate down; hence, two important resilience improved economy (See, Figure 3: Inflation Rate, Figure 4: Interest Rate). Regarding to banking sectors, restricting and supervision was the most importing implementation thus banking sector was improved even 2008 global financial crisis had little severe effect on banking sector thanks to these implementation (See, Figure 5). Business activity boosted by globally-oriented large and medium sized firms were experienced because of decreasing risk premia and capital costs. However, tunable regenerating relation between The European Union and Turkey boosted investor confidence (Macovei, 2009).



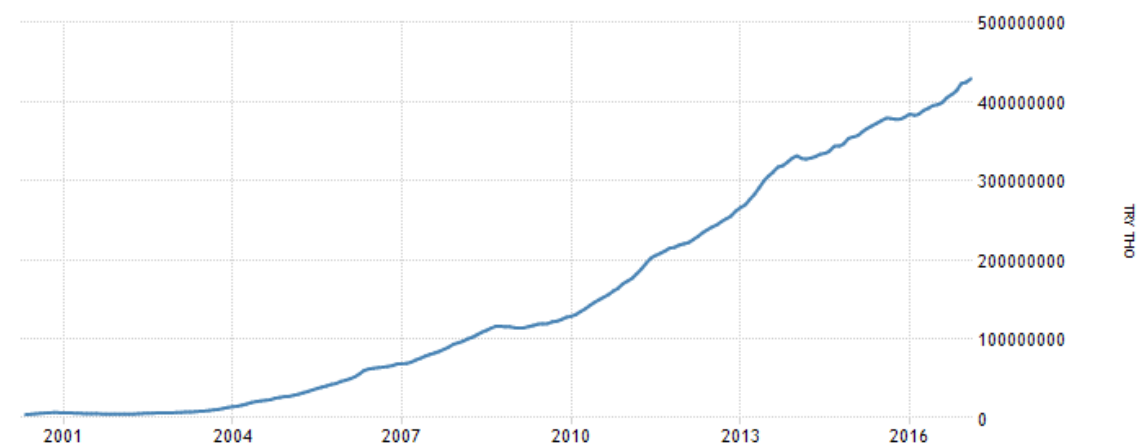
**Figure 1: Inflation Rate**

**Sources:** [www.tradingeconomics.com](http://www.tradingeconomics.com) ,Central Bank of The Republic of Turkey



**Figure 2:** Interest rate

**Sources:** www.tradingeconomics.com ,Central Bank of The Republic of Turkey



**Figure 3:** Consumer Credit

**Sources:** www.tradingeconomics.com, Central Bank of The Republic of Turkey

Turkish financial system did not collapse thanks to structural implementing change in banking and financial system. In 2001, 18 banks experienced a bankrupt but no bank bankrupted in the 2008 financial crisis even the financial system in Turkey efficiently recovered in contrast to 1994 and 2001 crisis. Furthermore, capital to asset ratio raised also the profitability in banking sector did not even decrease (Uygur, 2011). The particularly good performance was observed with the aid of balance of payment and banking reforms. On the other hand, most of firms had have severe balance sheet problems on the grounds that their performance are desperately need of credit from abroad banks. Especially in Europe, many banks and financial system adversely affected financial system and their credit volume sharply decreased. The magnitude of global financial crisis is clearly evaluated through looking at net financial shocks. Beginning with the third quarter of 2008, net flow flows stopped by net flows of GDP 1.7 percent and this event evidently indicates that Turkish financial system experienced a turmoil and faced an extensive sharply stop global funds. (Cömert and Çolak, 2014, p. 13-14). In such a bad environment, the deadlock of the

companies would encounter damage in the bank balance sheets. As result, the decline in the credits used by big firms would have contagion effects on the supply chain of these firms. In other words, the forms of domino impacts were experienced by all firms.

After brief explanation of the Turkish economy, it can be understood that the since the 2001 crisis when economic measures put into force, the Turkish economy have removed problems that have been notorious for a long time. Inflation and interest rates have fallen sharply with the strong economic transition program. In addition, the financial reforms that have been introduced have strengthened the banking sector, and these reforms have not led to bank failures in the 2008 crisis. The fact that the financial sector gets rid of this crisis is the reason why the economic reforms and Turkish financial structure are not based on securitization. Furthermore, the banking sector is obviously influenced by falling inflation and interest rates. Liquidity from abroad and robust financial environment are other factors affecting the banking sector. On the other hand, with 2008 crisis, Turkish economy is experienced as badly because of declining global trade, capital flow and increase in risk appetite. Beginnings with 2008 financial crisis, both real and financial economy were deteriorated and banking sector tightly moderated lending standart. Since banking sector is dominant financial intermediaries and mostly big firms and SME's are desperately need of bank loans. This study will reexamine the bank lending channel that has been on the agenda. Even if it is mentioned that the 2008 crisis have not caused bankruptcy and only affects the real sector in the literature, it is obviously clear that banking sectors has tightly moderated and the deteriorated impact of real economy on financial economy has been clearly discovered because of this situation, this bank lending channel empirical study will be important for effective economic policies, even for contributing to literature.

The aim of this study is to evaluate the bank lending transmission in Turkey and improve knowledge in terms of period after 2001 crisis. Within this concept, transmission mechanism and 2008 global financial crisis will be mentioned. In this section, the evaluation of transmission mechanism will be tried to detailed in order to examine how monetary transmission mechanism impact on real economy. In the third part, previous on studies related to our point will be mentioned and data used in our model will be identified. Later, Vector Auto Regression (VAR), which is generally used in the study of transmission mechanism, will be examined and finally empirical result will be underlined in order to reach our objectives. In fourth chapter, we will be discussed possible result by virtue of VAR model and we will offer political suggestion in order to build strong financial system.

## **Emprical Analysis**

### **Empirical Evidence for the Bank Lending Channel**

The bank lending channel is so popular subject in the literature that it attracted the attention of many different researchers. Some of these studies were detailed on Table 1.

**Table 1:** Literature Review

| <b>Author</b>                    | <b>Scope</b>   | <b>Method</b>                  | <b>Result</b>                                                                |
|----------------------------------|----------------|--------------------------------|------------------------------------------------------------------------------|
| Aklan and Nargeleçekenler (2008) | Turkey         | GMM                            | It was defined that banks lending is valid in spite of its deficiency.       |
| Örnek (2009)                     | Turkey         | VAR                            | Bank lending channel is found as a significant.                              |
| İnan (2001)                      | Turkey         | Descriptive Statistic Analysis | Bank lending channel is discovered as a result of results.                   |
| Erdoğan and Beşballı (2009)      | Turkey         | VAR                            | They indicated that the credit channel partially exists.                     |
| Peker et. al. (2011)             | Turkey         | VAR                            | It was identified that bank lending channel is strong and valid.             |
| Altunbas et. al. (2002)          | EU Countries   | GMM                            | The bank lending is dominant for banks associated with low capitalization.   |
| Angeloni et. al. (2002)          | 7 EU Countries | VAR                            | They found a controversial results that bank lending channel does not exist. |
| Hernando and                     | Spain          | GMM                            | It was emphasized that the bank lending channel                              |

|                                     |                              |                        |                                                                                                                                                   |
|-------------------------------------|------------------------------|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| Martinez (2001)                     |                              |                        | is not proven                                                                                                                                     |
| Farinha and Marguez (2001)          | Portugese                    | Regression             | It was underlined that bank lending is found as significant.                                                                                      |
| Brissimis et. al. (2001)            | Greece                       | Regression             | It was found that the bank lending channel is valid                                                                                               |
| Haan (2001)                         | Netherland                   | GMM                    | The bank lending channel is sensitive to monetary policy.                                                                                         |
| Alfaro et. al. (2004)               | Chile                        | VAR                    | It was defined that the bank lending channel is strength.                                                                                         |
| Park (2003)                         | Korea                        | VAR                    | It was indicated that after the currency crisis, bank lending is much more dependent on monetary policy.                                          |
| Vundi and Olweny (2016)             | Kenya                        | ARDL                   | Real GDP, money supply and interest rates spur bank credit whereas inflation rate and exchange rate have negative impact on bank credit.          |
| Chakanyuka and Serumaga-Zake (2016) | South Africa                 | The ANOVA              | It was found that economic growth, money supply and collateral value have direct and positive influence on bank credit.                           |
| Chang et. al. (2016)                | Emerging Markets             | Calibration Analysis   | It was underlined that bank credits benefit from low interest rates.                                                                              |
| Boadi et. al. (2016)                | Ghana                        | GMM System             | High inflation has deteriorated effect on bank credit whereas GDP growth stimulates bank credit.                                                  |
| Imran and Nishat (2013)             | Pakistan                     | ARDL                   | Inflation is not importance factor for bank credit but economic growth and exchange rate have substantial effect on bank credit.                  |
| Sharma and Gounder (2012)           | Six Pacific Island Countries | Regression             | Inflation hampers credit growth while economic growth has stronger effect on credit growth.                                                       |
| Elektag and Han (2015)              | Asian Countries              | SVAR                   | It was identified that monetary policy plays is priority determinants of credit growth.                                                           |
| Constant and Ngomsi (2012)          | Central African              | Regression             | It was concluded that bank credit growth depends on GDP growth.                                                                                   |
| Awdeh (2016)                        | Lebanon                      | Regression             | Bank credit is positively dependent on GDP growth, inflation, and money supply but public borrowing and lending interest rate hamper bank credit. |
| Stepanyan and Guo (2011)            | 38 Countries                 | Regression             | Economic growth is beneficial factor but high inflation is detrimental factor.                                                                    |
| Aydin (2008)                        | CEE Countries                | Regression             | Interest rate margin and economic growth are considered as main drive force of bank credit.                                                       |
| Cottarelli et. al. (2005)           | CEE and Balkan Countries     | Regression             | Bank credit is positively associated with GDP per capita but negatively public debt.                                                              |
| Célérier et. al. (2016)             | Germany, Italy and Belgium   | Regression             | Tax reform on credit is driven force factor of bank credit.                                                                                       |
| Vithessonthi (2016)                 | Japan                        | Regression             | The supply bank credit is sensitive to NPL.                                                                                                       |
| Moussa and Chedia (2016)            | Tunisia                      | Regression             | ROA, liquidity, net interest margin and inflation has important influence on bank loans.                                                          |
| Nalin and Tasdelen (2016)           | Turkey                       | Regression             | It was defined that consumer credit interest rate have deteriorated impact on bank credit.                                                        |
| Tunç (2012)                         | Turkey                       | Survey                 | Lending standard play important role in the decision of credit supply.                                                                            |
| Seyhan et. al. (2012)               | Turkey                       | VAR                    | Interest rate has detrimental effect on bank credit.                                                                                              |
| Hofmann (2004)                      | Industrialized Countries     | VAR                    | Result is revealed that Property price has persistent and important effect bank credit.                                                           |
| Aisen and Franken (2010)            | 80 Countries                 | Cross country analysis | Lower GDP has detracted effect on bank credit.                                                                                                    |
| Ewert et. al. (2000)                | Germany                      | Descriptive Statistic  | It was emphasized that rating act is regarded as a                                                                                                |

|                            |          |            |                                                                                                                                    |
|----------------------------|----------|------------|------------------------------------------------------------------------------------------------------------------------------------|
|                            |          |            | priority factor in the supply of bank credit.                                                                                      |
| Francis and Osborne (2009) | UK       | GMM        | Bank lending is dependent on bank regulation policy.                                                                               |
| Cornett et. al. (2011)     | US       | Regression | Liquidity crisis leads to hinder bank credit.                                                                                      |
| Shahbaz et. al. (2010)     | Pakistan | Regression | The domestic and foreign funding, economic growth and monetary policy spur bank credit while higher inflation lessens bank credit. |
| Taiwo and Adesola (2013)   | Nigeria  | Regression | They reached a conclusion that exchange rate and loan policy are priority to the decision of bank credit supply.                   |
| Kashyap and Stein (2000)   | US       | Regression | The influence on monetary policy on lending is more important for banks with less liquid balance sheet.                            |
| Blaes (2011)               | Germany  | Survey     | Bank's capital, market financing conditions and the bank's liquidity position are priority determinant of bank lending.            |

## Data

So as to analyze the bank lending channel, quarterly data for period between 2002q1 and 2016q4 were taken into consideration. All of the data; except for policy rates taken from IMF, was obtained from EVDS.

In this study, since bank balance sheet must be taken into consideration, total credits, total security stocks and total bank deposits were used. Within real factor, industrial production index and producer price index are used. Policy rate is important because it is leading interest indicators. However, real effective rate is also significant variables because financial crisis had hampered effect on capital flow and liquidity from abroad was impaired. All of these factors must be taken into consideration in order to analyze the performance of bank lending channel (Erdoğan and Beşballı, 2009; Seyhan et. al., 2012; Peker and Cambazoğlu, 2007). While considering theory, we use total credit as explained variable. VAR model is popular analysis method in order to investigate whether bank lending channel exists or not because of this situation VAR model will be used. Before operating VAR model, some applications are required (See, Table 2). As a result, we try to identify how an unexpected change coming from one variable over time impact total credit.

**Table 2: Data**

| Variables                         | Process                      | Abbreviation |
|-----------------------------------|------------------------------|--------------|
| Total Credit (Dependent Variable) | Reel+Log                     | LRTCR        |
| Industrial Production Index       | Reel+Log+Seasonal adjustment | LRIP         |
| Total Deposit                     | Reel+Log                     | LRTD         |
| Producers Price Index             | Log                          | LPPI         |
| Real Exchange Rate                | Log                          | LREX         |
| Policy Rate                       | -                            | PR           |
| Total Security Stock              | Reel+Log                     | LRTSS        |

## The Vector Autoregressive Model (VAR)

Economic relations are so complicated and sophisticated. As a result of this situation, simultaneous equations system is more useful and preferable than single equation model. Since macroeconomic

variables in the economic system have feedback each other, defining variables as internal or external is operationally difficult. Some team restrictions are required to eliminate this determination problem. Sims (1980) has not supported these restrictions and all variables are not distinguished as internal or external in terms of Sims methodology. According to Sims, all variables are to be equally treated. The Vector Autoregressive model developed by Sims is used to destroy these problems and properly examine relation between variables. The VAR is defined as a multidimensional linear model in which each variable is identified in terms of its own value. Within the monetary policy analysis, VAR model is regarded as superiority over other models. Determine which of the variables are internal or external is not mandatory. Although the VAR model is simplest method, this model provides better results on contrary to more complicated simultaneous model (Tari, 2008).

A simple VAR model with respect to two variables,  $Y_t$  and  $X_t$  (Katlı, 2014):

$$Y_t = \beta_{10} + \beta_{11}Y_{t-1} + \dots + \beta_{1k}Y_{t-k} + \alpha_{11}X_{t-1} + \dots + \alpha_{1k}X_{t-k} + u_{1t}$$

$$X_t = \beta_{20} + \beta_{21}X_{t-1} + \dots + \beta_{2k}X_{t-k} + \alpha_{21}Y_{t-1} + \dots + \alpha_{2k}Y_{t-k} + u_{2t}$$

Equations mentioned above,  $\beta$  and  $\alpha$  represent as unknown coefficient; however,  $u_{1t}$  and  $u_{2t}$  are error terms. Besides, the VAR model is generally symbolized in addition to two dimensional;

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Besides, the VAR model is generally symbolized in addition to two dimensional;

$$y_t = c + A_1y_{t-1} + A_2y_{t-2} + \dots + A_p y_{t-p} + u_t$$

All in all, considering the number of delays  $p$  of the VAR, VAR ( $p$ ) is stated. All variables is identified as intrinsic and VAR model has some deficiency because the direct interpretation of the parameters is not significant. Impulse- response function and variance decomposition are analyzed in order to interpret parameters (Tari, 2008).

### **Augmented Dickey Fuller Test**

The stationary test is irreplaceable required to process VAR model because whether the variables are stationary influences on consistency of analyzes. In order to process an efficient and consistent analysis, the variables used in the model must be stationary. When stationary is emphasized, average, variance and covariance in the time series are not changeable with time. Mainly, the impact of economic shocks on variables and trend or seasonality is important cause to create non-stationary among variables. The Augmented Dickey Fuller-ADF (Dickey and Fuller, 1981) is one of the most commonly applied tests to identify if series are stationary. The equation of ADF test is symbolized as follows (Çoban et. al., 2016):

$$\Delta Y_t = \alpha_0 + \alpha_1 Y_{t-1} + \sum_{i=1}^k \beta_i \Delta Y_{t-i} + \varepsilon_t$$

$$\Delta Y_t = \alpha_0 + \alpha_1 trend + \alpha_2 Y_{t-1} + \sum_{i=1}^k \beta_i \Delta Y_{t-i} + \varepsilon_t$$

With respect to the equation above, the  $\Delta$ Test states that the variable is stationary  $\Delta$ Test: the first difference operator and  $\varepsilon$ : the error terms.

$$H_0 : \gamma=0$$

$$H_1 : \gamma<0$$

When  $H_0 : \gamma=0$  is rejected, it means that  $Y$  is stationary. Rejection of  $H_0$  hypothesis means that the  $Y$  is stationary; additionally, alternative hypothesis expresses that the series have not unit root. With concept of non-stationary, Taking first difference is remedy when non-stationary variables are converted into stationary. Furthermore, process for taking differences has deteriorated impact on variables; in other words, loss information is observed. Within this concept, the co-integration method is one option to prevented data loss. In the co-integration test, the existence of co-integration between variables in the long term can be identified. In terms of stationary process, possible long run relation between variables is not defined. Due to stationary with first differences, co-integration between variables can be examined.

## Impulse Response Function

After obtained the VAR model, evaluating the relationships between variables in the model is indispensable but the clearly interpretation of the coefficient is strenuous. For this reason, Impulse response function is advised. Generally, impulse response functions are one of the most significant methods processed to describe the dynamic interaction and symmetric relation (Pindyck and Rubinfeld, 1991).

## Variance Decomposition

With considering interpretation of variables, the VAR model is not sufficient model. Owing to this situation, some methods must be used to remove these obstacles. Variance decomposition is one of the methods in which the dynamic structure of the system and the change in some intrinsic variables shocking on all intrinsic is individually evaluated. With the help of variance decomposition, how an unexpected change coming from one variable over time impact other variable is easily interpreted (Lütkepohl and Saikkonen, 1997).

## Empirical Results

With respect to VAR model, the first stage of analysis is Augmented Dickey Fuller Unit Root Test. When accepting  $H_0 : \gamma=0$ , variable is non-stationary in other words variable has unit root. On the other hand,  $H_1 : \gamma<0$  is represented as stationary series. Above mentioned in the ADF methodology, there are three options in order to investigate whether variable is stationary or not. In this study, all of them are scrutinized and t-statistic and p value is detailed. Moreover, since series have trend, we use constant and linear version within ADF test; however, other versions are detailed in appendix. After performed ADF test, the results of these tests were given on table.

Considering all version of ADF Test,  $H_0$  is rejected; that is, first difference must be used to convert variable into stationary. Thus, this situation explains that all variables are stationary on their first differences values.

**Table 3:** Augmented Dickey Fuller Unit Root

| <b>Augmented Dickey Fuller Unit Root (Constant, Linear Trend)</b> |                    |                |                          |                |
|-------------------------------------------------------------------|--------------------|----------------|--------------------------|----------------|
| <b>Variables</b>                                                  | <b>Level</b>       |                | <b>First Differences</b> |                |
|                                                                   | <b>t statistic</b> | <b>p value</b> | <b>t statistic</b>       | <b>p value</b> |
| LRIP                                                              | -3.495919          | 0.0497         | -3.408225                | 0.0607         |
| LRTCR                                                             | -0.500586          | 0.9808         | -5.606790                | 0.0001         |
| LRTD                                                              | -2.708107          | 0.2373         | -6.928099                | 0.0000         |
| LRTSS                                                             | -2.385594          | 0.3822         | -4.575133                | 0.0031         |
| LPPI                                                              | -4.975390          | 0.0008         | -6.493339                | 0.0000         |
| LREX                                                              | -2.642128          | 0.2640         | -6.558726                | 0.0000         |
| PR                                                                | -2.386290          | 0.3826         | -5.461242                | 0.0002         |

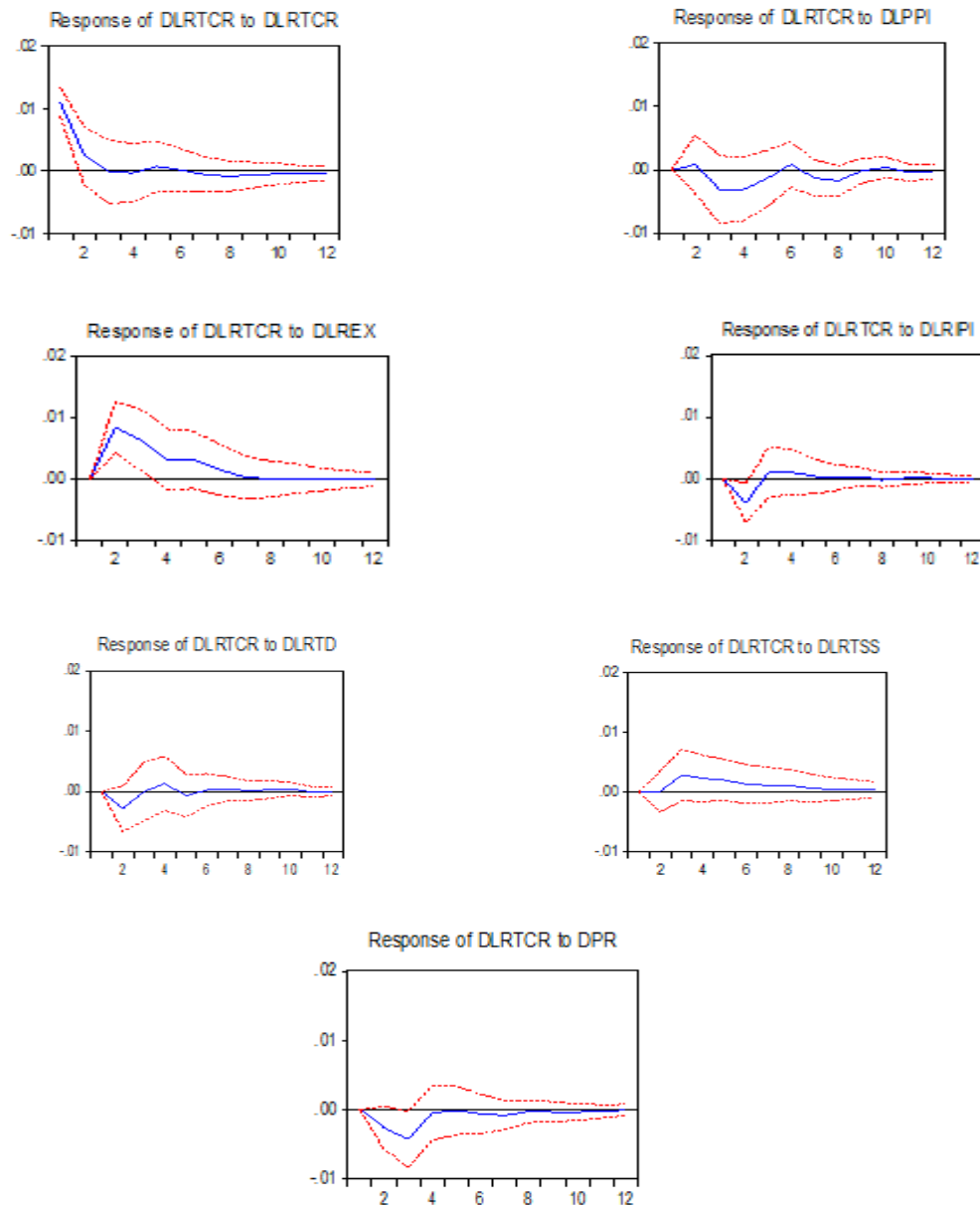
The second stage of VAR Model is lag selection. In this situation, optimal lag is to be selected as minimum value which ensures all diagnostic tests. Lag 2 is regarded as optimal lag since diagnostic test values (See, appendix) are desirable and hence our model is trustworthy and applicable.

**Table 4:** Optimal Lag Criteria

| <b>Optimal Lag Criteria</b> |             |           |            |            |            |            |
|-----------------------------|-------------|-----------|------------|------------|------------|------------|
| <b>Lag</b>                  | <b>LogL</b> | <b>LR</b> | <b>FPE</b> | <b>AIC</b> | <b>SC</b>  | <b>HQ</b>  |
| 0                           | 705.6791    | NA        | 7.71e-23   | -31.05240  | -30.77137* | -30.94764  |
| 1                           | 777.4160    | 117.9674  | 2.88e-23   | -32.06293  | -29.81464  | -31.22479* |
| 2                           | 835.0008    | 76.77970* | 2.31e-23*  | -32.44448  | -28.22893  | -30.87297  |
| 3                           | 891.4047    | 57.65731  | 2.61e-23   | -32.77354  | -26.59074  | -30.46865  |
| 4                           | 961.5729    | 49.89743  | 2.94e-23   | -33.71435* | -25.56430  | -30.67609  |

Impact-response analysis which is improved to interpret the response of the variables to the shocks to the system of equations must be applied due to fact that the coefficients obtained from the estimation as a results of the VAR, model is not easy to interpret. Within this scope, there actions of other variables can be easily interpreted in the face of future shock policies (Lütkepohl ve Saikkonen, 1997). Cholesky method is used in our analysis and Variance Decomposition of DLRTC (See appendix) is applied in order to check results of impulse response function. After operated impulse response function, the results of these tests were given on Figure 4.

With thanks to impulse response function, the shock come from other variables on total credit can be observed. Shock comes from production price index on total credit is shown on graph. It can be understood that PPI is highly effective factor and the increase in PPI reduces total credit. Furthermore, real effective exchange creates upward positive impact on total credit. Reaction from industrial production index on total credit is effective in very short period. Graph indicated that positive shock from IPI on total credit negatively impact but partially. It can be observed that policy rates (PR) is obviously effective on total credit. It means that increase in policy rate leads credit to shrink. Moreover, it can be understood that total security (TSS) and total deposits (TD) is positively correlated to total credit. It is obviously proven that when banks obtain liquidity, liquidity and assets is used as credit.



**Figure 4:** Impulse Response Function

## Conclusion

Since the 2001 crisis when economic measures put into force, the Turkish economy have removed problems that have been notorious for a long time. Inflation and interest rates have fallen sharply with the strong economic transition program. In addition, the financial reforms that have been introduced have strengthened the banking sector, and these reforms have not led to bank failures in the 2008 crisis. The fact that the financial sector gets rid of this crisis is the reason why the economic reforms and Turkish financial structure are not based on securitization. Furthermore, the banking sector is obviously influenced by falling inflation and interest rates. Liquidity from abroad and robust financial environment are other factors affecting the banking sector. On the other hand, with 2008 crisis, Turkish economy is experienced as badly because of declining global trade, capital flow and increase in risk appetite. Beginnings with 2008 financial crisis, both real and financial economy were deteriorated and banking sector tightly moderated lending standart. Since banking sector is dominant financial intermediaries and mostly big firms and SME's are desperately need of bank loans. This study will reexamine the bank lending channel that has been on the agenda. Even if it is mentioned that the 2008 crisis have not caused bankruptcy and only affects the

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All in all, it was reached that producer price index, real exchange rate and policy rate are effective determinants. Additionally, banks balance sheet has important and positive influence on total credits but industrial production index is regarded as partially effective. While considering this result, it was also found that both bank balance and macroeconomic variables used in this study is the main determinants of bank total credit.

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