Evaluating The Effectiveness Of The Exchange Rate-Channel In Transmitting The Impact Of Monetary Policy To Inflation In Algeria: From (1990 - 2017) - An Econometric Study

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Abstract:

This study aims to evaluate the effectiveness of the exchange rate channel in transmitting the impact of monetary policy to inflation in Algeria during the period (1990 – 2017), by trying to answer the problem of the study which is: in measuring the effectiveness of the exchange rate channel in transmitting the effects of monetary policy to inflation in Algeria, relying on the SVAR autoregressive methodology.

The results of the study led to the acceptance of the second hypothesis, which is that there is little relative effectiveness of the exchange rate channel in transmitting the effects of monetary policy to inflation in Algeria, which reached a rate of (0.09%).

Key Words: exchange rate channel, monetary policy, inflation, auto regression (Svar).

JEL classification: E43, E52, O44, C32 .

Introduction:

Monetary reform in Algeria, with the issuance of the Monetary and Loan Law (90-10), allowed the restoration of the effective role of the monetary markets and the interbank exchange market in controlling monetary circulation and the movement of funds in the economy. The establishment of the monetary market and the exchange market in Algeria was considered a qualitative shift in the Algerian monetary system. This trend gave monetary policy a full role in controlling economic activity and determining the behavior of economic agents.

In the light of the monetary and financial reforms that Algeria has experienced since 1990, it was characterized during this period by the absence of inflation due to the liberalization of the formation of relative prices, and the fight against inflation by the monetary authorities in Algeria constituted a major goal of monetary policy at this stage. Since monetary policy decisions require a monetary transmission mechanism through a group of main channels to transmit their effects to achieve the ultimate goals of monetary policy, including inflation, and through the exchange rate channel, we pose the following main question.

- **The Problem:**

Based on the above, the main problem of the study can be presented as follows:

To what extent is the effectiveness of the exchange rate channel evaluated in transmitting the impact of monetary policy to inflation in Algeria during the period (1990 -2017) ?.

- **Hypotheses of the study:**

In order to answer the research problem, we will test the following main hypotheses.

- The exchange rate channel is effective in transmitting the effects of monetary policy to inflation in Algeria during the study period. The main hypothesis can be divided.

  ✓ **into two hypotheses:**

- The exchange rate channel can be effective in transmitting the effects of monetary policy to inflation in Algeria during the study period and to a large extent. The

exchange rate channel can be effective in transmitting the effects of monetary policy to inflation in Algeria during the study period and at a weak rate.

- **Objectives and Importance of the Study:**

    This study seeks to measure the effectiveness of the exchange rate channel in transferring the effects of the change in the rediscount rate as a representative of monetary policy to the consumer price index as a representative of inflation, through the transmission mechanism. Monetary exchange rate channel. The effectiveness of this channel will then be evaluated during all study periods. This study also derives its importance from the importance of the exchange rate channel in transferring monetary policy decisions to the ultimate goals of monetary policy, which are reducing inflation rates in Algeria.

- **Methodology applied:**

    To address the problem of the study, we relied on the descriptive analytical approach to address the theoretical framework of the study variables, and the standard approach using the Structural Auto regression (Svar) methodology , Using the program Eviews 10.

1. **The reality of the exchange rate channel in Algeria.**

    The exchange rate policy in Algeria was characterized by several transformations that were reflected in the value of the Algerian dinar, the most important of which was those that took place during the last decade of the 1990s. In order to achieve the ultimate goal of Reaching the convertibility of the Algerian dinar. Since November 1990, the Algerian monetary authorities have followed a policy of gradual slippage. The slippage process accelerated during that year, with the aim of reaching the level that allows the stability of the dinar, and thus the possibility of liberalizing foreign trade. This adjustment in the exchange rate was made in accordance with the agreement. Which was concluded between Algeria and the International Monetary Fund (Walid, 2016).

This agreement was concluded on September 30, 1991, and through it the decision was made to reduce the dinar by 22%. However, another agreement was made with the International Monetary Fund on April 16, 1994. Which required another reduction of 40.17%, bringing the number of units corresponding to the US dollar to 36 dinars per dollar, which was also accompanied by great efforts to liberalize the national economy. (amine, 2010).

In 1994, the Algerian authorities established a program to correct the real appreciation of the dinar between April and September 1994, when the dinar was reduced by 70%. Starting in 1995, Algeria followed a directed floatation system based on Robinson's theory of elasticity's and on the recommendation of the International Monetary Fund (FMI), In what is known as the structural stabilization program, where the currency was reduced by more than 40%, the reductions continued within the framework of the structural adjustment program, where the actual real exchange rate rose by more than 20% between the years (1995-1998) (abdelrazzaq, 2009).

The exchange rate in Algeria was also known for its great stability, especially after the year 2000, due to the financial surpluses that became in the possession of the Central Bank as a result of the rise in fuel prices, as these surpluses were given to the Central Bank. Flexibility in managing the exchange rate. However, since mid-2014, there has been a significant decline in the price of oil, which led to a reduction in the dinar's exchange rate against the dollar. This reduction is due to the state adopting a reduction policy The dinar is to cover the deficit in the balance of payments and increase revenues so that the state can reduce the value of the deficit and meet wages. Although the exchange rate of the dollar has decreased against other foreign currencies, Algeria's dependence The oil supplier as the only supplier has had a significant impact on the stability of the exchange rate in Algeria (Walid, 2016).

2. Monetary policy (rediscount rate) in Algeria:

The rediscount rate is considered one of the traditional quantitative methods used by the central bank with the aim of influencing the money supply (bouhassoun, 2019). It represents a form of financing carried out by the central bank to supply commercial

banks Liquidity, as increasing rediscount rates lead to a reduction in the volume of money in society, which is why the central bank, when it wants to reduce the money supply, resorts to raising the rediscount rate (ali, 2018). which leads to higher interest rates. Before the issuance of Law (90-10), the Bank of Algeria treated economic sectors according to the differentiation standard in granting loans by applying a rediscount rate specific to each sector, but since 1992 it has been compensated by a system The unified determination of the rediscount rate, which is changed approximately every 12 months, and the Monetary and Loan Council determines the methods and conditions for determining it (algeria, 2003). At the beginning of each trimester, the maximum total amounts that are possible are programmed To re-discount from the Bank of Algeria to each commercial bank (algeria, 1997). As for the period from 2017 until 2022, the Bank of Algeria reduced the exchange value of the Algerian dinar against the US dollar by about 20%. It continued to decline compared to major currencies as a result of the Algerian authorities' adoption of a quantitative easing policy starting from 2017 (Bouzaine, 2023).

3. The mechanism of transition from the exchange rate to inflation.

The indirect channel for transferring the effect of the exchange rate to prices arises through the effect on aggregate demand, as the rise in the exchange rate (decrease in the value of the national currency) makes local products relatively cheaper in relation to For foreign consumers, exports will rise and then aggregate demand will increase relative to output, leading to an increase in the level of domestic prices and vice versa in the event of a decline in the exchange rate (Widad, 2021). Changes in the price of Exchange to domestic prices through the cost of imported inputs and finished goods.

4. Standard study:

Through this section, the self-warning method will be used to measure the effectiveness of exchange rate channels in transmitting the impact of monetary policy to inflation, as follows:

4-1. Methodology and estimation of the study model:

We will estimate the study model according to the methodology of the structural autoregressive model (SVAR), as this includes:

The model includes the following variables according to economic theories in this order (CPI, TC, DR). We assume that the direction of influence on the variables is as follows:

DR $\longrightarrow$ TC $\longrightarrow$ CPI

Which means that the vector of model variables is:

$$Z_t = (DR, TC, CPI)$$

Whereas:

- The first variable: represented by the rediscount rate (DR), is not affected by shocks to other variables, except for a structural shock in the rediscount rate.

- The second variable: represented by the exchange rate channel (TC), is affected by structural shocks in the rediscount rate (DR), in addition to an endogenous response.

- The third variable: the inflation rate (CPI), is affected by structural shocks in the rediscount rates (DR and TC), in addition to an endogenous response.

Table (1): ADF and PP test results for the study variables

Variables	ADF	ADF	PP	PP	The result
	At First Difference	At Level	At First Difference	At Level	
DR	0.7075	0.8055	0.1513	0.7583	0.3754
TC	0.7792	0.6391	0.6833	0.6409	0.9932
CPI	0.8789	0.9310	0.8312	0.9272	1.0000

The Source: Prepared by the researcher based on the outputs of the statistical program Eviews10.

Through this table, the results of the (PP) test show that the probability value is greater than 0.05 for all study variables at the (Level) level, thus accepting the null hypothesis, which means that all-time series contain walls. The unit is therefore unstable at level. After applying the first-order difference method, we notice that the probability value is smaller than 0.05, which means that all-time series are free of walls.

Unity, and thus its stability at the first difference, from which it can be said that all variables used in this model are stable after taking the first difference, and are integrated of the first degree according to the Phillips-Perron (PP) test. As Of Regarding the expanded Dickey-Fuller (ADF) test for the stability of time series, we note that all the time series for the study variables, which are (CPI, DR, TC), are unstable at the level (Level) of the (ADF) test. That is, the value The probability is greater than 0.05 for all study variables, but after taking the first difference, the results showed that the variables used in the study are integrated in the first order at a 1% significance level for each of (CPI, DR, TC).

Figure (1): Results of the stability test of the study model
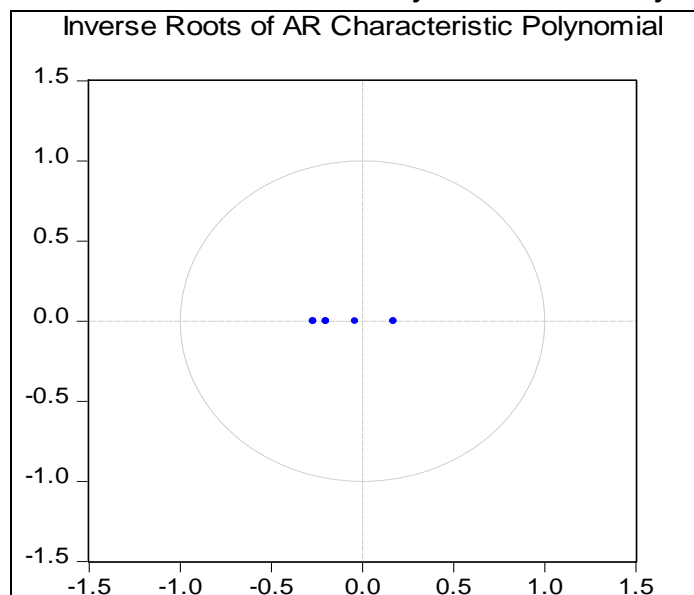
The Source: Prepared by the researcher based on the outputs of the statistical

program Eviews10.

4 -2. Determine the number of lag periods in the model after it stabilizes.

It became clear from the results of tests to determine the number of slowdown periods in the model after it stabilized, that the number of slowdown periods It was estimated at one period (01), and therefore the number of slowdown periods of the second model adopted is one period of time, and the following table shows this.

Table (2): Results of the test to determine the number of lag periods in the second model after its stability during the period (1990-2017)

VAR Lag Order Selection Criteria
Endogenous variables: DCPI DTC DDR
Exogeno   s variables: C
Date: 07/02/23   Time: 18:00
Sample: 1990Q1 2017Q4
Included observations: 103

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-1305.652	NA	1300981.	25.43013	25.53245*	25.47158*
1	-1289.614	30.51826	1300424.*	25.42940*	25.94100	25.63662
2	-1281.690	14.46455	1523444.	25.58621	26.50708	25.95919
3	-1268.080	23.78413	1601613.	25.63262	26.96277	26.17137
4	-1249.565	30.91781	1535656.	25.58379	27.32322	26.28832
5	-1230.299	30.67522	1457235.	25.52038	27.66909	26.39068
6	-1218.220	18.29444	1598448.	25.59651	28.15450	26.63259
7	-1205.622	18.10235	1747294.	25.66257	28.62983	26.86441
8	-1182.220	31.80836*	1561044.	25.51884	28.89539	26.88646

* indicates lag order selected by the criterion
LR: sequential modified LR test statistic (each test at 5% level)

The Source: Prepared by the researcher based on the outputs of the statistical program Eviews10.

4-3. Estimating a structural autoregressive model of the model.

Based on the results of previous tests, which allow us to estimate and evaluate the effectiveness of the exchange rate channel in transmitting the impact of monetary policy to the inflation rate in Algeria, and after our estimation of the legal VAR model, and in order to estimate Structural autoregressive model (SVAR) for the model under study. The results of determining the matrices A and B, as well as the transition matrix S for the model, appear in the following table.

Table (3): Estimation results of the structural autoregressive SVAR model for the second model during the period (1990-2017)

Structural VAR Estimates
Date: 07/02/23   Time: 18:09
Sample (adjusted): 1990Q3 2017Q4
Inc   uded observations: 110 after adjustments
Estimation method: Maximum likelihood via Newton-Raphson (analyt   c
      derivatives)
Convergence achieved after 36 iterations
Structural VAR is over-identified
Estimated A matrix:

1.000000	0.000000	0.000000	0.000000
0.000000	1.000000	0.000000	0.000000
0.000826	-0.291137	1.000000	0.000000
2.84E-05	-0.025151	-0.058894	1.000000

Estimated B matrix:

247.7493	0.000000	0.000000	0.000000
0.000000	1.756642	0.000000	0.000000
0.000000	0.000000	2.522743	0.000000
0.000000	0.000000	0.000000	0.886981

Estimated S matrix:

247.7493	0.000000	0.000000	0.000000
0.000000	1.756642	0.000000	0.000000
-0.204744	0.511424	2.522743	0.000000
-0.019088	0.074301	0.148574	0.886981

The Source: Prepared by the researcher based on the outputs of the statistical program Eviews10.

The transition matrix (S) of the Structural Autoregressive Vector (SVAR) model for this model is represented by the matrix (S), which is as follows:

Estimated S matrix:

247.7493	0.000000	0.000000	0.000000
0.000000	1.756642	0.000000	0.000000
-0.204744	0.511424	2.522743	0.000000
-0.019088	0.074301	.148574	0.886981

It is this matrix (S) that will allow us to move on to analyzing the structural impulse response functions of this model and analyzing its variance.

4-4. Analysis of the response functions for the accumulated shocks in relation to the model variables:

The results of estimating and simulating the impulse response functions for the variables of this model, extending over (10) time periods, showed that There is a response to the sudden shock to the rediscount rate on the variables included in the model, and the table in Appendix No. 03 shows the results of this test.

- **The response of the inflation rate to a structural shock in the rediscount rate.**

By analyzing the impulse response functions over ten time periods, we observe that the occurrence of a single shock is structural By one standard deviation in the rediscount rate, it will have a significant and positive impact on the consumer price index during the third year, and this multiplier will be within a small percentage of (0.03%), in While in the sixth year it decreases to significant and positive but weak levels that reach the limits of (0.0005%) for the consumer price index, in the long run, the occurrence of a single structural shock By one standard deviation, it will have a positive significant impact on the consumer price index with a multiplier of (5.67%) in the tenth period of response.

- **Response of the exchange rate channel to a structural shock in the rediscount rate:**

A single structural shock of one standard deviation in the rediscount rate will have an impact A positive, significant impact on the exchange rate of (0.07%) in the third period, while a single negative structural shock of one standard deviation in the rediscount rate will have a positive but weak impact on the exchange rate. Exchange rate, as this multiplier was estimated at (0.0003%) in the sixth period. As for the last period of the response, the occurrence of a negative structural shock of one standard deviation in the rediscount rate will have a positive moral impact on the exchange rate, with a multiplier of (5.33%).) in the tenth period.

4-5. Analysis of the breakdown of the variance of the forecast error for the model:

below shows the results of the analysis of the components of the variance of the error term for the change in its dependent variables as a result. The change in the model variables, in the presence of the exchange rate channel, and this in the short, medium and long term, which is shown in the following table.

Table (4): Results of the forecast error variance partitioning analysis for the second SVAR model during the period (1990-2017)

Variance Decomposition of DCPI:

Period	S.E.	Shock1	Shock2	Shock3	Shock4
1	1.756642	0.000000	100.0000	0.000000	0.000000
2	1.782665	0.022752	98.90763	0.097210	0.972409
3	1.785235	0.022743	98.66845	0.096932	1.211878
4	1.785528	0.023654	98.63608	0.096978	1.243292
5	1.785559	0.023788	98.63270	0.096975	1.246540
6	1.785562	0.023807	98.63238	0.096975	1.246836
7	1.785562	0.023809	98.63236	0.096975	1.246861
8	1.785562	0.023809	98.63235	0.096975	1.246863
9	1.785562	0.023809	98.63235	0.096975	1.246863
10	1.785562	0.023809	98.63235	0.096975	1.246863

Variance Decomposition of DTC:

Period	S.E.	Shock1	Shock2	Shock3	Shock4
1	2.582190	0.628701	3.922706	95.44859	0.000000
2	2.700675	2.732817	7.111403	89.31665	0.839131
3	2.704414	2.776213	7.104827	89.14593	0.973031
4	2.704682	2.775788	7.104505	89.13008	0.989626
5	2.704709	2.775960	7.104477	89.12837	0.991190
6	2.704711	2.775960	7.104468	89.12824	0.991330
7	2.704711	2.775961	7.104467	89.12823	0.991342
8	2.704711	2.775961	7.104467	89.12823	0.991343
9	2.704711	2.775961	7.104467	89.12823	0.991343
10	2.704711	2.775961	7.104467	89.12823	0.991343

Variance Decomposition of DDR:

Period	S.E.	Shock1	Shock2	Shock3	Shock4
1	0.902605	0.044720	0.677638	2.709510	96.56813
2	0.949754	0.207118	0.629916	2.492181	96.67079
3	0.954274	0.272435	0.660491	2.470271	96.59680
4	0.954647	0.276713	0.662855	2.468409	96.59202
5	0.954678	0.277196	0.663207	2.468247	96.59135
6	0.954680	0.277231	0.663235	2.468235	96.59130
7	0.954681	0.277234	0.663238	2.468234	96.59129
8	0.954681	0.277234	0.663238	2.468234	96.59129
9	0.954681	0.277235	0.663238	2.468234	96.59129
10	0.954681	0.277235	0.663238	2.468234	96.59129

Factorization: Structural

The Source: Prepared by the researcher based on the outputs of the statistical program Eviews10.

Based on the results of the table above, most of the circumstantial fluctuations in the variables (expected error for each variable) appear as follows:

- Fluctuations in the inflation rate of (98.63%), resulting from shocks in the variable itself during all periods. The response, at a rate of (0.09%), results from a shock in the exchange rate in all response periods, and at a rate of (1.24%), results from a shock in the rediscount rate in all remaining response periods.

- Exchange rate fluctuations at a rate of (89.14%), resulting from shocks in the same variable in the third period of response, at a rate of (89.12%) during the entire response periods, and at a rate of (0.97%), resulting from shocks in the exchange rate Re-discount in the third period of response, and at a rate of (0.99%) during the rest of the entire response periods.

- Fluctuations in the rediscount rate (96.59%), resulting from shocks in the same variable during the entire response periods.

From the above, it is clear that most of the circumstantial fluctuations for all variables during the response period are related to shocks in the variables themselves, and to shocks in the other variables that explain them, and the rediscount rate shock also contributes to explaining Fluctuations in the exchange rate channel were (0.09%) in the short, medium and long term, which shows the extent of the influence of this rate in explaining fluctuations in inflation rates. As for the rediscount rate, it was (0.01%) in the short, medium and long term.

Conclusion:

Through this research paper, we have attempted to measure the effectiveness of the exchange rate channel in transmitting the impact of monetary policy to inflation in Algeria, while evaluating this effectiveness by testing two basic hypotheses that were proposed in accordance with economic theory.

- The results of the theoretical and measurement study reached a set of results, which were as follows:

- The exchange rate policy in Algeria was characterized by several transformations that were reflected in the value of the Algerian dinar, aiming primarily to reach a level that allows the dinar to stabilize and protect it from deterioration.

- The results of the benchmark study confirmed, through the analysis of impulse response functions, that a single structural shock of one standard deviation in the rediscount rate will have a significant and positive impact on the inflation rate in Algeria. This multiplier is within a small percentage of (0.03%), while the occurrence of a single structural shock of one standard deviation in the rediscount rate will have a positive moral impact on the exchange rate of (0.07%) during the study period.

- The benchmark study confirmed, through analysis of the results of the forecast error variance, that most of the circumstantial fluctuations for all variables during the response period are related to shocks in the variables themselves, and to shocks in the variables. The rediscount rate shock also contributes to explaining the fluctuations in the exchange rate channel by (0.09%) in the short, medium and long term, which shows the extent of the impact of this.

   Based on the results of the study, and based on economic theory, we can make some of the following proposals:

- The rediscount rate tool does not have a direct impact on inflation using the exchange rate channel only, but rather it is a more effective tool when monitoring monetary aggregates in Algeria.

- The exchange rate in Algeria represents an intermediate target for monetary policy more than a channel for transmitting the effects of monetary policy, and this is due to the stagnation of the production structure in Algeria.

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Appendices:

Appendix (1): Results of testing the serial correlation problem for the residuals of the SVAR model during the period (1990-2017)

VAR Residual Serial Correl   tion LM Tests
Date: 07/02/23   Time: 18:47
Sample: 1990Q1 2017Q4
Included observations: 110

Null hypothesis: No serial correlation at lag h

Lag	LRE* stat	Df	Prob.	Rao F-stat	df	Prob.
1	16.31418	16	0.4313	1.023336	(16, 300.0)	0.4315

Null hypothesis: No serial correlation

at lags 1 to h						
Lag	LRE* stat	Df	Prob.	Rao F-stat	df	Prob.
1	16.31418	16	0.4313	1.023336	(16, 300.0)	0.4315

*Edgeworth expansion corrected likelihood ratio statistic.

The Source: Prepared by the researcher based on the outputs of the statistical program Eviews10.

Appendix (2): Results of the model's impulse response function analysis test during the period (1990-2017)

Response of DCPI:

Period	Shock1	Shock2	Shock3	Shock4
1	0.000000	1.756642	0.000000	0.000000
	(0.00000)	(0.11843)	(0.00000)	(0.00000)
2	0.026889	-0.239562	0.055581	0.175790
	(0.17357)	(0.17252)	(0.16369)	(0.15167)
3	-0.001335	0.038024	-0.000237	-0.087870
	(0.04529)	(0.06230)	(0.02005)	(0.07477)
4	-0.005411	-0.001613	0.001574	0.031847
	(0.01207)	(0.01670)	(0.00830)	(0.03106)
5	0.002074	-0.000715	3.94E-05	-0.010244
	(0.00424)	(0.00557)	(0.00255)	(0.01185)
6	-0.000784	0.000522	2.82E-05	0.003090
	(0.00146)	(0.00189)	(0.00076)	(0.00436)
7	0.000239	-0.000189	7.22E-06	-0.000899
	(0.00047)	(0.00062)	(0.00024)	(0.00157)
8	-7.30E-05	6.37E-05	-1.03E-06	0.000256
	(0.00015)	(0.00019)	(6.9E-05)	(0.00055)
9	2.09E-05	-1.92E-05	7.62E-07	-7.16E-05
	(4.7E-05)	(5.7E-05)	(2.0E-05)	(0.00019)
10	-5.96E-06	5.67E-06	-1.87E-07	1.98E-05
	(1.5E-05)	(1.7E-05)	(5.6E-06)	(6.4E-05)

Response of DTC:

Period	Shock1	Shock2	Shock3	Shock4
1	-0.204744	0.511424	2.522743	0.000000
	(0.24327)	(0.24531)	(0.17008)	(0.00000)
2	-0.396739	0.507076	0.387568	-0.247393
	(0.25901)	(0.25728)	(0.24187)	(0.22289)
3	-0.061043	0.030923	0.074600	0.099814
	(0.08547)	(0.08367)	(0.10093)	(0.07059)
4	-0.003024	0.008915	0.011556	-0.035043
	(0.02160)	(0.02408)	(0.02613)	(0.02712)
5	-0.004078	0.002878	0.002147	0.010765
	(0.00568)	(0.00697)	(0.00624)	(0.01085)
6	0.000555	-0.000332	0.000361	-0.003217
	(0.00174)	(0.00223)	(0.00160)	(0.00423)
7	-0.000302	0.000259	5.69E-05	0.000921
	(0.00050)	(0.00066)	(0.00033)	(0.00159)
8	6.70E-05	-5.92E-05	1.26E-05	-0.000261
	(0.00015)	(0.00020)	(9.7E-05)	(0.00058)

9	-2.29E-05	2.15E-05	1.12E-06	7.25E-05
	(4.8E-05)	(5.7E-05)	(2.1E-05)	(0.00020)
10	5.81E-06	-5.58E-06	5.33E-07	-2.00E-05
	(1.6E-05)	(1.6E-05)	(6.5E-06)	(6.8E-05)

Response of
DDR:

Period	Shock1	Shock2	Shock3	Shock4
1	-0.019088	0.074301	0.148574	0.886981
	(0.08659)	(0.08673)	(0.08516)	(0.05980)
2	0.038781	-0.012703	0.020151	-0.292005
	(0.09312)	(0.09220)	(0.08817)	(0.08015)
3	-0.024751	0.018238	0.003868	0.087440
	(0.03589)	(0.04504)	(0.01800)	(0.05139)
4	0.006397	-0.005123	0.000768	-0.025363
	(0.01108)	(0.01597)	(0.00751)	(0.02512)
5	-0.002138	0.001898	6.13E-05	0.007178
	(0.00341)	(0.00512)	(0.00183)	(0.01062)
6	0.000576	-0.000533	3.82E-05	-0.002006
	(0.00105)	(0.00150)	(0.00060)	(0.00410)
7	-0.000169	0.000162	-2.60E-06	0.000554
	(0.00034)	(0.00043)	(0.00015)	(0.00149)
8	4.60E-05	-4.50E-05	2.37E-06	-0.000152
	(0.00011)	(0.00012)	(4.5E-05)	(0.00051)
9	-1.29E-05	1.28E-05	-4.20E-07	4.16E-05
	(3.8E-05)	(3.4E-05)	(1.2E-05)	(0.00017)
10	3.51E-06	-3.51E-06	1.64E-07	-1.13E-05
	(1.2E-05)	(1.0E-05)	(3.3E-06)	(5.6E-05)

Factorization: Structural
Standard Errors: Analytic

The Source: Prepared by the researcher based on the outputs of the statistical program Eviews10.