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Sustainable Economic Growth in Georgia and the Monetary Policy Transmission Mechanism

Summary: The paper examines the impact of the monetary policy transmission mechanism on sustainable economic growth. Monetary policy transmission mechanisms can influence real output, also, there is a huge impact on economic growth. For analyzing the importance of the topic, we examine data for the last twenty years, using mathematic models. In recent years, Georgia face different challenges there are a variety of conventional and unconventional approaches, the key to future development

Keywords: Monetary policy, transmission mechanism, Central Bank, Economic growth

A. Overview

The main characteristic of the economic system of the country is instability, which affects its financial system. This is the main reason why the sustainability of the financial system is studied by economists: monetary mechanisms are created as the main financial regulators, and certain flexible restrictions are established according to the frequency of economic signals.

Monetary policy is not only created by the economic goals of the state but different entities from it. Monetary policy reflects the counterbalance that the central bank and credit institutions will take to "give" money the proper direction for sustainable economic growth. In order to the activities carried out by the National Bank to serve positively sustainable economic development of the country, there are various channels through which monetary signals are transmitted.

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The monetary policy transmission mechanism is the process by which the monetary policy implemented by the central bank is transmitted through the financial markets to businesses and households.

There are a number of definitions offered by researchers and authors interested in studying the topic: "The transmission mechanism of monetary policy describes the change in the nominal money supply or short-term interest rate on real variables such as the combined volume of production and employment."(1) "The monetary transmission mechanism is the process through which the central bank's interest rate policy is implemented, that ultimately affects inflation rates"(2) The transmission mechanism is a set of channels through which monetary impulses are mobilized by central banks.

The central bank collects the necessary information, about the real and financial sector and develops methods to influence the desired element of the system. The outcomes depends on the cycle in which the economy is. This outcomes is a channel of transmission of monetary policy. The Central Bank influences changes in the economic and financial subsystems, using the following key indicators: money supply, trade balance, exchange rate, household incomes, the structure of money aggregates, the structure of incomes and expenses of economic agents, credit facilities of banks and companies, and the level of provision of borrowed funds of farms. At the same time, central banks generate methods that have a beneficial effect on the functioning of the economy.(3)

In most developed countries, transmission channels influence monetary policy and interest rates. It is known that changes in interest rates reduce costs in the private non-financial sector, while increasing the cost of funds, which in turn is the negative effect of the wealth. At the same time, the value increases, as well as interest rates affect the exchange rate. Together, the channels of monetary policy can be referred to as the monetary view of monetary policy, which explains the Keynesian IS-LM model, which considers the impact of monetary policy on interest rates, the interrelationship of variations in the money supply with the demand for money. The IS-LM economic model shows, that the equilibrium level of the interest rate increases during budget deficit, and the rate of economic growth decrease in accordance with the structural changes in investments driven out of the production. Stimulation of production in the medium term and, gradual increase of prices in the long term, is connected to the budget deficit. However, some researchers who study this condition do not give a reason for such an assumption.

Multiple primary pathways for the transmission of monetary policy are set apart:

1. Interest rate channel
2. Channel for Exchange rate
3. Credit channel
4. Channel for Trade balance
5. Channel for Inflation expectation
6. Market expectation channel

However, the National Bank of Georgia uses only interest rate, exchange rate, credit and expectation channels as means of transmitting monetary policy.

In the last century, the interest rate channel was the main channel in the Keynesian IS-LM model of money transmission. The given model can be represented as a diagram M↑⟹i_(r)↓=I↑=y↑, where M↑-represents that the result of expansionary monetary policy is a decline in real interest rate (i_(r)↓), which in turn reduces the cost of capital, leading to an increase in investment spending (I↑) and of course an increase in aggregate demand and output (4). The most important feature of the interest rate channel is the influence of the real interest on consumer decisions, rather than nominal interest rate. It is the real interest rate that affects spending, not the nominal rate, which is the most important mechanism for monetary policy to stimulate the economy, even though the nominal rate tends to zero during deflation. The following mechanism indicates that monetary policy can be more effective even when the nominal interest rate has already declined to zero:

$$M \uparrow = P^e \uparrow = \pi^e \uparrow = i_r \downarrow \Longrightarrow I \uparrow = Y \uparrow,$$

Where the nominal interest rate is within zero, an expansion of the money supply (M↑) may increase the expected price level (P^e↑) and consequently expected inflation (π^e↑), thus decrease in the real interest rate (i_r↓) even then , when the nominal interest rate is fixed at zero and spending is stimulated through the interest rate channel, (a mechanism that is key to monetarists to explain how the Great Depression was overcome in the US) (4). In 1995, Taylor, in his research on the interest rate channel, provided empirical evidence for the substantial influence of consumption and investment spending on the interest rate. He considered the interest rate channel to be the strongest transmission mechanism.

In the conditions of flexible exchange rate, special attention is paid to the use of the monetary policy transmission mechanism, namely the impact

of the exchange rate on net exports. The exchange rate channel includes the effect of interest rates, to the extent that when the real national interest rate falls, national currency deposits become less attractive compared to foreign currency denominated deposits, which ultimately leads to currency depreciation. This, in turn, significantly decreased the price of domestic goods compared to foreign ones, and increases net exports (NX↑) and production volume. Let's look at the transmission scheme of the currency channel:

$$M \uparrow = i_r \downarrow \Longrightarrow E \downarrow \Longrightarrow NX \uparrow \Longrightarrow Y \uparrow.$$

The credit channel of monetary policy transmission is a set of factors strengthening the interest rate effect in both the short and long run. According to the theory of the credit mechanism, monetary policy, by changing domestic financial premium savings, directly affects interest rates, the extent of which reflects the imperfection of credit markets. Thus, it can be understood that a change in monetary policy by lowering or increasing the rate in the open market usually changes the domestic financial premium in the same direction. The importance of studying the credit channel is due to the desire to create new instruments of monetary policy and to maintain the effectiveness of the implemented policy. Monetary policy affects the real sector of the economy. The credit channel describes the impact of monetary policy on the volume of credits and the banking sector as a whole. In the conditions of increased interest rates, access to credit becomes difficult, as well as the number of good credit projects decreases, which causes banks to tighten credit standards and reduce the number of loans. Reduced credit minimizes aggregate demand and, ultimately, the inflation rate. A reduction in the policy rate has the opposite effect, it leads to an increase in lending and encourages investment. As a result, aggregate demand and the price level increase.

The influence of monetary methods through the channel of market expectations is the good example, we can cite. The stock market is a place where the created demand and supply for the company's securities can be met by different owners of capital. The goals can be different: to complete the portfolio of investment assets, to find a source of financing for the company, to merge companies, to influence the trend and many others (for example, the time for submitting the annual balance sheet is approaching, where it will be possible to review the relationship between income and expenses). During the declaration of income and expenses, it is revealed that the company's income from one sector has increased significantly. As a result of the expansion of production, jobs are created and it becomes possible

to use borrowed funds to buy shares of other companies. The reaction of the financial environment will be no less logical, just because the demand for credit money has increased during these two years, to increase the circulation of loans in the economy, companies will be able to expand their assets. This leads us to the best financial situation. In turn, the National Bank will wait for a growing reaction from the market, which means that there will be more factors that will strengthen money circulation, which in turn will ensure a possible strengthening of inflationary expectations. At this time, the central bank's task will be to study the necessary control points, after which the increase in the stock market may lead to a decrease in confidence in the national currency, "inflating" the economy with a large amount of unused money carries the threat of inflation. The market expectation channel serves to increase the confidence of the monetary policy towards the loans of economic entities and the national currency rate.

The bank lending channel itself includes a decrease in credits, which in turn has a negative impact on the real economy. Under the balance sheet channel, it is meant that banks are reducing their lending, following the tightening of monetary policy in connection with the restriction of the situation of creditors. The effect of monetary policy through the channel of bank lending can be imagined as follows:

$$M \uparrow \Longrightarrow \textit{Bank Deposits} \uparrow \Longrightarrow \textit{Banck Credits} \uparrow \Longrightarrow I \uparrow \Longrightarrow Y .$$

Through the channel of bank lending, it has a great impact on the costs of not so large companies, whose dependence on bank credits is high. The impact is less on large firms, to the extent that they can access credit funds from the bond and stock markets by bypassing the banks. The balance sheet channel arises due to asymmetry in credit markets. The channel chart of the balance sheet can be defined as follows:

$$M \uparrow \Longrightarrow P^{e} \uparrow \Longrightarrow \textit{Adverse Selection} \downarrow \text{Dishonesty risk} \downarrow$$
$$\Longrightarrow \text{presented loan} \uparrow \Longrightarrow \text{I} \uparrow = \text{Y} \uparrow .$$

Expansionary monetary policy (M↑), which leads to an increase in stock prices (P^e↑), leads to an increase in firm value, investment spending (I↑), and aggregate demand. In addition, (Y↑) is associated with a reduction in adverse selection and the risk of dishonesty.

B. Overview of Current Situation in Georgia

After independence (1991), in the first stage of economic reforms, the regulation of monetary policy in Georgia was associated with great difficulties (the National Bank was responsible to the execute government, there were many large state banks), the solution and regulation of which was primarily the responsibility of banks. It was related to solving the issue of commercialization and stakeholders. It was necessary to develop the international credit market, set limitations to the credit, prohibit administrative intervention in the regulation of interest rates, prohibit direct financing of the budget deficit by the National Bank, and others.

International Monetary Fund was the main actor in implementation reforms and achievements Georgia gained in the way of perfection of the monetary policy. Simultaneously with achievements, there was a number of mistakes from different origines (political, methodological, lobbying, exceeding competence and others).

The choice made by Georgia towards Europe is a difficult and not very short path, and therefore, success can be achieved by the gradual establishment of European values. This refers to the monetary policy, which will still have to correct a lot of "committed" mistakes, which the country has made a strong effort in the last decade)...

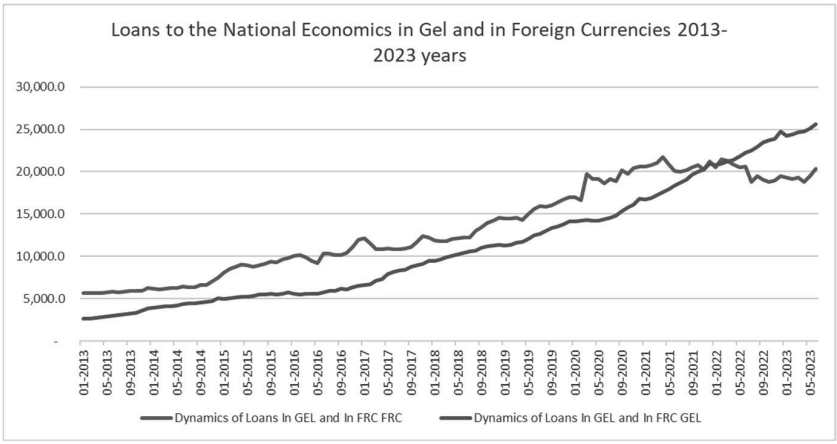
Until 2011, the reserves of commercial banks in Georgia consisted entirely of foreign currency - even funds raised in GEL were reserved in foreign currency. The reserve rate was between 5% and 10% depending on the types of liabilities. Since 2011, the National Bank has introduced 10% and 15% reserve rate, which are still valid today.

The increase in the mandatory reserve ratio of commercial banks was due to the recomendation of the International Monetary Fund in order for the National Bank to reduce the rate of dollarization in Georgian economy. In 2008-2010, the rate of dollarization of the country's economy in terms of debt was on average 72%, and within the period this rate increased to 78%. The introduction of new reserve norms was effective in reducing the level of dollarization, since in the next period, from 2011 to December 2014, it was characterized by constant decline. In November 2014, the indicator of dollarization of the economy decreased significantly and amounted to 60%.

The currency crisis that developed at the end of 2014 had a negative impact on the effective reserve policy of the National Bank. As a result of the drop in the exchange rate of the lari, the rate of dollarization of the funds raised by commercial banks increased sharply, and according to the loans issued, rate was 64-65%. According to the data of 2016, the rate of dollarization of deposits fluctuated within 68%. And as for 2017, it was 70%

in January and 68.8% in February. As of September 1, 2021, the ratio of total loans was 48.02 percent. By the end of June 2023, the ratio of gross loans was 54.81 percent.

Chart 1.



source: nbg.gov.ge

It should be noted that the volume of loans issued in GEL exceeds the loans issued in dollars from the second half of 2021. The amount of loans issued by commercial banks (except for interbank loans) in June 2023 increased by 1.60 billion GEL (by 3.50%) compared to the previous month to 47.33 billion GEL at the end of June. In the same period, the amount of loans issued in national currency increased by 633.62 million GEL (by 2.50%), while the volume of loans issued in foreign currency increased by 968.12 million GEL (by 4.74%).

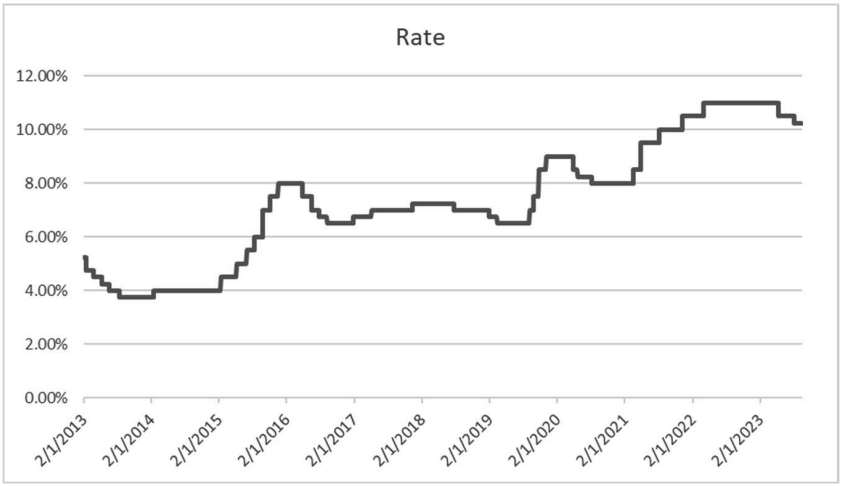
At the end of June 2023For resident legal entities, , commercial banks issued loans in the amount of 7.63 billion GEL in national currency and 13.17 billion GEL in foreign currency. During June 2023, the lending volume of the sector of resident households increased by 1.95%, i.e. by 480.75 million GEL, and by the end of June it was 25.16 billion GEL.

Reserve requirements are an effective tool in dollarization of the economy, main purpose of the tool is to regulate the money supply in the country. Commercial banks reserve requirement is the main factor in creation new money. The virtual money is created by an individual bank, although it is

the result of the activities of all banks and other financial intermediaries operating in the country under the conditions of the partial (fractional) reserve system. Fractional reserve system is a system in which banks use only a part of their resources stored on deposits as reserves.

In 2015, the National Bank started to tighten the monetary policy and increased the interest rate from 4.5% to 8%. Soon, in 2016, the bank considered it necessary to reduce the policy rate from 8% to 6.5%, and in 2017, the policy rate was 6.75%. The mentioned action was done by National Bank because, wanted to balance the reduced foreign demand with local demand, although it is significant that the mentioned measures are less effective due to the high dollarization rate in Georgia. As of March 2022, the refinancing rate was 11%, and as of August 2023, it is 10.25%. By setting the refinancing rate, the National Bank determines the cost of resources accumulated by banks: the higher the rate is, the higher the cost of refinancing banking operations.

Chart 2. Dynamics of monetary policy rate 2013-2023 years



Source: nbg.gov.ge

The National Bank of Georgia uses the Forecasting and Policy Analysis System (FPAS), where the presented transmission mechanism model does not have a forecasting function. In the conditions of the inflation targeting regime, the goal of the monetary policy of central banks is to manage

inflation and inflationary expectations. For this, the central bank uses the monetary policy rate (short-term nominal interest rate) as a policy tool. The primary choice made by central bank is how to steer the interest rate in order to ensure that the desired level of inflation is reached. As a result, price stability will be obtained as a necessary condition for sustainable economic growth. For this reason, the National Bank of Georgia, like many other central banks, uses its own forecasting and policy analysis system to formulate its current and future monetary policy. However, this model does not have a predictive function.

The New-Keynesian approach(5) on which FPAS relies, describes the dependence of characteristics, the process of the monetary policy transmission mechanism, where changes in the interest rate work through the economy to affect the rate of inflation. If monetary policy is implemented according to similar models, then after some time, the economy reaches equilibrium (for example, the real variables are at their potential level and the target inflation is reached) (6).When monetary policy is implemented with the main goal of price stability, the level of real variables is also independent of monetary policy for a long time. In the short run, monetary policy has a real effect because of unchanged prices. Unchanged prices are maintained for 8 to 11 months. However, in countries with growing markets, the frequency of price changes ranges from 1.5 to 3 months. In the economic model of Georgia, moderate price stability is assumed. Accordingly, the result is reflected in changes in the nominal interest rate, which is transferred to the real interest rate, which leads to a temporary deviation of the real variables. In the long run, the effect of price invariance disappears and returns to bed. And supply negative factors determine the equilibrium level of real variables and monetary policy has no influence on it. However, the only thing that can control the inflation rate over the long term is monetary policy. In the model, changes in the policy rate affect the economy through various channels. Let's say, the central bank decides to cut its policy rate, it will do so via the exchange rate and interest rate channels. Changes in the monetary policy rate affect market interest rates (mortgage and bank deposit rates) and, at the same time, expectations about the future condition of the economy. Lower prices in the short run lead to lower nominal interest rates and lower interest rates. These changes affect the spending, savings and investment behavior of individuals and firms in the economy. For example, low interest rates encourage spending, which has a negative effect to accumulate. Changes in the official interest rate affect the demand for existing goods and services.

Countries with an open economy, like Georgia, it is very important to take into consideration the effect of the real exchange rate on aggregate

demand and net exports. depreciation of the exchange rate increases the competitiveness of local export and stimulates foreign demand for Georgian products. Additionally, the replacement of imported goods and services by local ones will increase the demand in the future. In 2015, the International Monetary Fund considered this process statistically and economically significant.

It is important to include this detail since the country's strong dollarization increases the effect of the balance sheet on the standard demand equation. Economic agents obtain most of their revenue in local currency, although loans are typically denominated in dollars. Also, due to such currency mismatch, when the nominal exchange rate of GEL/USD depreciates, the prices associated with income growth suppress local demand. For example, some scholars argue that through this mechanism, the economy can experience a self-regulating crisis with a devalued currency and lower output. According to the second part of scientists, this makes the Georgian economy especially dependent on the dollar exchange rate, which is exactly what happened in the recent past. When the GEL depreciates against the dollar, while it remains unchanged against the currencies of the country's trading partners (the real effective exchange rate does not depreciate accordingly and net exports are no longer stimulated). In order to capture the effect of balance accounts, the production equation includes a cut-off for the nominal exchange rate of GEL/USD (Equation 1)

$$1.\ S_t^{\frac{GEL}{USD}} = P_S S_{t-1}^{\frac{GEL}{USD}} + (1 - P_s)\left(\Delta S_t^{\frac{GEL}{USD}} + \left(\Delta Z_t - \pi_t^{tar} + \pi_{ss}^{us}\right)\right)$$

where, $S^{\frac{GEL}{USD}}$, is the nominal GEL/USD exchange rate, ΔZ, is the real exchange rate appreciation, while –π^tar and π_ss^us are local and US target inflation, lastly, it is expected that both standard price supply shocks and high frequency supply shocks will have an impact on local inflation. ε_t^(u^π)+P_l ε_(t-1)^(u^π) where -1<P_l<0.

The monetary policy rule's characteristics show that the target inflation targets are the source of policy rate's adjustment. Interest rates fluctuate for a variety of reasons. Basically, a monetary policy rule has the following (mostly standard) functional specification(*6*):

$$2.\ i_t = \gamma_1 i_{t-1} + (1 - \gamma_1)\left[i_t^N + \gamma_2 E_t(\pi_{4,t+4} - \pi_{t+4}^{tar}) + \gamma_3 Y_t\right] + \varepsilon_t^i - \gamma_4 \varepsilon_t^{tar}$$

where i_t^N is the neutral nominal interest rate, π_(4,t+4) – annual expected inflation next year, π_(t+4)^tar – target inflation next year (differs from current indicators, if target change is planned). Along with the standard

monetary policy shock $[\![\varepsilon\_\hat{}i]\!]$ ^ the policy rate has a negative impact on changes in target inflation as a deflationary challenge.

This functional characteristic may lend itself well to optimal monetary policy (minimizing the loss of the social good) when rates below zero are not considered. There is a rate close to zero, since the rate of monetary policy in Georgia is normal, it was not desirable to fall to zero in the future. According to this equation, when the economy is in equilibrium (there is no threat of shocks) the monetary policy rate is at its neutral level, which in turn is the equilibrium, plus the real interest rate plus target inflation.

3. $i_t^N = r_t + \pi^{tar}$

Monetary policy is neither optimum nor expansionary when the policy rate is at its neutral level. Fundamental variables like the risk premium in Georgia and productivity growth (as indicated by real interest rate trends) affect the equilibrium real interest rate. In our country, the real exchange rate is positively correlated with productivity. This lowers the real interest rate. On the other hand, the higher the risk premium, the higher the demand for investor compensation, which can push the long-term interest rate higher. All of the factors mentioned above can affect the current monetary policy situation by changing the natural rate.

C. Conclusions

(Based on the analysis of monetary policy transmission channels and the analysis of the current situation in Georgia, we can say that:

Thus, having discussed the monetary policy transmission channels and analyzed the current situation in Georgia, we can say that:

1. A key feature of credit channels is their emphasis on the ways in which monetary policy affects the economy through asset prices and interest rates.
2. It is imprudent to tighten or, conversely, to loosen monetary policy when short-term interest rates are decreasing and increasing, to the extent that most regulators use given rates as the primary monetary policy tool. The movement of the nominal interest rate often does not correspond to the dynamics of the real interest rate, and therefore, the real and not the nominal rate is an important element in the monetary transmission channel.

3. The most important task of the monetary policy is to prevent unexpected price fluctuations and ensure price stability, which in turn contributes to sustainable economic development.
4. Monetary policy has a significant impact on the functioning of the economy, it is necessary for the central bank to act immediately in response to a demand shock. However, in some cases, shocks are not immediately identified by monetary authorities. All this becomes clear after only a few quarters, which is a delayed response to the shocks. A delayed reaction can threaten economic stability.
5. It is important to consider the role of the impact of monetary policy changes on the economy as a whole. First, the tightening of monetary policy will be followed by a decrease in GDP and price levels. On the other hand, final demand will moderate the impact of monetary policy.

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