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PRICE STABILITY TARGET OF THE CENTRAL BANK AND ITS INTEREST POLICY CASE STUDY OF NORTH MACEDONIA

Abstract

Continuous increase in the general level of prices or excessive volatility are among the most important problems of the economy. If the price stability is considered as the main objective in monetary policy, first of all, the factors causing instability in the general level of prices should be identified and then appropriate monetary policy tools should be used.

The main objective of the Central Bank of North Macedonia, set by law, is to ensure the price stability. To achieve the final target, the Central Bank sets the intermediate target of monetary policy. The Central Bank since January 2002 has been implementing a fixed exchange rate strategy against the Euro. Therefore, ensuring the stability of the exchange rate is one of the intermediate objectives of monetary policy. While the effects of the COVID 19 pandemic were overcome in 2021, the global food crisis that broke out in 2022 affected the whole world, while the North Macedonian Economy experienced high price increases that have not been seen for many years. As a matter of fact, the country reached double-digit inflation in 2022. Inflationary pressures in the economy are mainly caused by the prices of products in which food and energy have a high share in the consumption basket. Due to the increase in prices, the Central Bank of North Macedonia has gradually narrowed its monetary policy since 2022. As a contractionary monetary policy instrument, additional measures were taken in compulsory reserves, particularly in interest rates. In order to ensure the price stability, the monetary policies implemented should be supported by fiscal policies. The government's taking parallel steps with the central bank in this regard will reduce the pressure on prices.

Keywords: Price stability, inflation, monetary policy, central bank

Jel Clasification: E31, E40, E50

Introduction

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Nowadays, Governments and Central Banks determine price stability as the main target of their Economic Policies. The countries that implement price stability aim at changes that will not be affected by minor price movements and that this can be sustained.

The main objective of the Central Bank of North Macedonia, set by law, is to ensure price stability. To achieve the final target, the Central Bank sets the intermediate target of Monetary Policy. Thus, from April 1992 to September 1995, the Central ank implemented the strategy of targeting the M1 money supply as an "Intermediate Target" of Monetary Policy. Since October 1995, the central bank has been implementing a fixed exchange rate strategy of the Macedonian denar against the German mark, and from January 2002 against the Euro. Therefore, ensuring the stability of the exchange rate is one of the intermediate objectives of Monetary Policy[1].

The beginning of the Russia-Ukraine war in February 2022 directly affected many countries, especially the European continent. As a result of the embargo and the closure of the grain corridor, the global food crisis has affected the whole world, while high price increases have been experienced in the economy of North Macedonia for many years. As a matter of fact, the country reached double-digit inflation in 2022.

Interest rates in the country, which have been on a downward trend in recent years, have recently been fixed at 1.25%. As a result of the increase in prices and high inflationary expectations, the central bank increased interest rates after 6 years in April 2022. The interest rate hike has been accepted as an indication that the central bank has adopted a contractionary Monetary Policy to suppress inflation and that interest rates will increase gradually. As a matter of fact, when we came to June 2023, the interest rate in the country has increased from 1.25% to 6 percent.

[1] Dervis, B. (2021) *Ekonominin Temelleri.* Gostivar, North Macedonia. p. 252

1. LITERATURE REVIEW AND THE THEORETICAL FRAMEWORK

The classical Economics Approach attributes the main reason for price increases to increases in the money supply. Irving Fisher, one of the leading economists of the classical approach, put forward the quantity theory of money and expressed the one-to-one relationship between inflation and money supply. According to Fisher equation, a 1% increase in the inflation rate leads to a 1% increase in the nominal interest rate. This one-to-one relationship between the inflation rate and the nominal interest rate is called The Fisher effect (Mankiw, 2007, p.101)[2].

According to Friedman (1968), the demand for money is a stable quantity. Frideman revealed the importance of the growth rate of the money supply in the relationship between interest rates and prices. In this context, the positive effects of interest rate hikes on prices vary depending on the direction of monetary growth. Accordingly, the positive effects of interest rate hikes on prices, which are caused by other effects (wealth, expected inflation, price effect…) that suppress the liquidity effect in periods of monetary expansion, are more evident than interest increases in the period when there is no monetary expansion.

Another similar explanation for the existence of a positive relationship between interest rates and the general level of prices was made by Hannsgen (2004).

Accordingly, the fact that interest rates are a fundamental variable affecting production costs reveals the existence of a "cost-push" channel in the transmission of monetary policies[3].

Central Banks try to control the aggregate demand and therefore the price level with money supply management. Thus, in the monetary targeting strategy, is assumed that there is a strong relationship between the money supply and the general level of prices over aggregate demand (Akbakay, 2016: 78)[4].

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[2] Kolcu, F. (2023). Türkiye'de enflasyonun belirleyicileri. *Hitit Sosyal Bilimler Dergisi, 16(1)*, 31-56. doi: 10.17218/hititsbd.1207652

[3] Aklan, N. A., Akay, H. K. & Çınar, M. (2014). Türkiye'de Faiz Haddi ve Enflasyon İlişkisi: Gibson Paradoksu'na Yönelik Bir Değerlendirme. International Conference in Economics Prague, Czech Republic September 03-05, 2014.

[4] Burtan Doğan, B. & Akbakay, Z. (2016). Enflasyon Hedeflemesi Stratejisi ile Fiyat İstikrarının Sağlanması . Ordu Üniversitesi Sosyal Bilimler Enstitüsü Sosyal Bilimler Araştırmaları Dergisi , 6 (3) , 629-642 .

According to the research conducted by Hannsgen (2004), the fact that interest rates are a fundamental variable affecting production costs reveals the existence of a “cost-push” channel in the transmission of Monetary Policies[5].

Aklan, N.A., Akay, H.K. and Çınar, M (2014), there is a positive and statistically significant relationship between the nominal interest rate and the general price level in the long run.

In the study of Uğur, B. & Atılgan, D. (2021), the effect of money supply on inflation in terms of 5 selected emerging economies between the period 1995-2017 was examined by panel data analysis with the addition of the real income (Gross domestic product) control variable. Findings indicate that a 1% increase in money supply growth rate (M2) for selected 5 emerging economies increases inflation by 0.70%.

In the study of Kılavuz, E. & Altınöz, B. (2020) , the relationship between inflation and three different measures of money supply in Turkey was analyzed using quarterly data 2006:Q4-2018:Q4 and a boundary test approach. In the results of the analysis for M2, a positive and statistically significant relationship was found from money supply to inflation. This result partially confirms the idea of Monetarist theory that inflation is a monetary phenomenon. An increase in the money supply does not have a positive but very strong effect on inflation in the long run.

Let's consider the theoretical operation of the Contractionary Monetary Policy with alternative methods in order to maintain the central bank price stability, in other words, to reduce the inflationary pressure.

A. Goods and money market (IS-LM) method

The IS-LM method is used to analyze the situation between Monetary Policy and the goods market (demand). With this method, the impact of monetary policy changes on macroeconomic activities is measured.

In part A of Figure 1, the Central Bank will reduce the money supply in the market to curb price increases, which will shift the LM0 curve to the left to LM1. The new equilibrium will be achieved at point B where IS=LM1 intersects. At the new equilibrium level, while the interest rates will rise to I1, the liquidity in the economy will decrease.

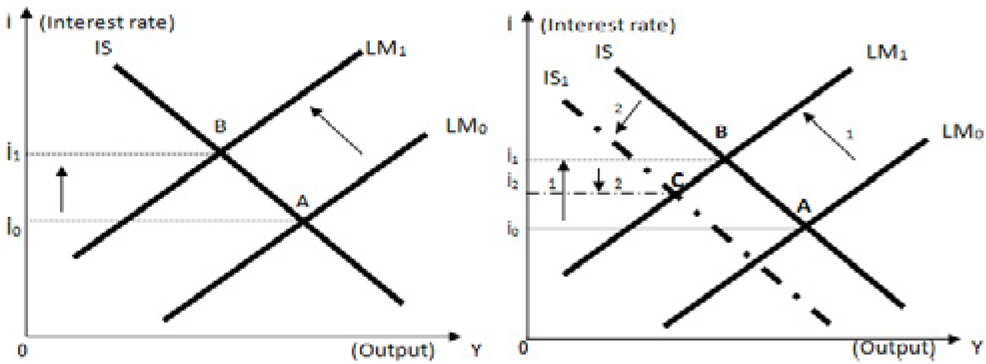
[5] Hannsgen G (2004), Gibson’s Paradox, Monetary Policy and the Emergence of Cycles

With this method, the Central Bank aims to keep the public holding less money by raising interest rates and, accordingly, to control price increases by reducing total demand.

As a result of the Contractionary Monetary Policy implemented in part B of Figure 1, there is a change in the goods market (demand) depending on the increasing interest rates.

Since the increase in interest rates decrease the total expenditures, the IS curve shift to the left and return to IS1 position, and the new equilibrium will shift from B to C. An important issue to be considered here is the change between the rate of increase in interest and the rate of decrease in interest. This change is due to the shift in the LM and IS curves. As in the B part of the figure, the shift in LM is greater than IS, which raises the interest rates to I2 relative to the starting point I0. Since the decrease in total expenditure (demand) caused by the decreasing money supply due to the shift in LM is smaller than the decrease in the money supply, the interest rate rises compared to the beginning.

Figure 1. The effect of shifting IS-LM curves on the interest rate

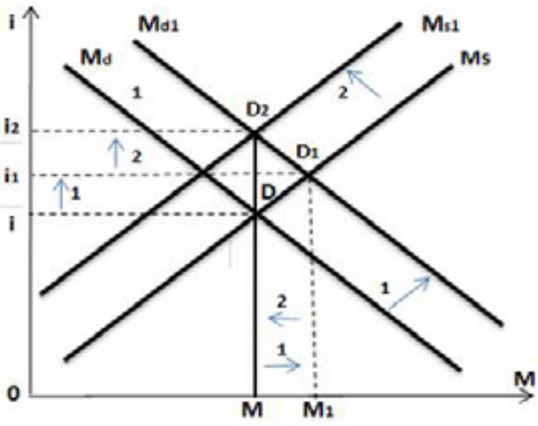


A **B**

B. Money supply and demand (Money market) model

If the Central Bank wants to suppress inflation, in other words, to ensure price stability, then it will implement a contractionary monetary policy despite the increasing money demand.

Figure 2. Contractionary Monetary Policy



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The increase in money demand caused the balance to be formed at a higher interest rate. At equilibrium level D1', the new money demand curve is equalized with the money supply. D1= Ms = Md1. In creasingdemand for money will increase total expenditures and will also push prices up. The Central Bank will reduce the money supply with the help of monetary policy tools in order not to deviate from its main target. In this case, the money supply curve will shift to Ms1 and the new equilibrium in the economy will be achieved at point D2. At this point, the amount of money in the market decreased and returned to its previous level. However , the increase in money demand increased the interest rate and as a result of the contraction of the money supply by the central bank, interest rates has risen again[6].

2. THE INTEREST POLICY OF THE CENTRAL BANK OF NORTH MACEDONIA DESPITE PRICE INCREASES

There are basically two sources of the increase in the general level of prices. The first is demand inflation, which occurs due to demand, and the other is cost inflation, which is caused by supply. The price increases in the country in recent years are due to the increase in costs. While increasing production

[6] Dervis, B. (2021). Ekonominin Temelleri, p. 256

costs increase prices , they also reduce purchasing power[7]. The high price increases in consumer prices, especially in food and energy, caused the inflation in North Macedonia to reach 20 percent. This is the highest rate recorded in over 28 years. Before 2022, the average inflation rate in the country was below 3 percent.

Table 1. N. Macedonia Inflation Rates (2017 – 2023 Q2)

2017	2018	2019				2020				2021				2022				2023	
2017	2018	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
2.4	0.9	1.4	0.3	0.3	0.4	0.5	1.7	1.9	2.3	2.1	2.7	3.7	4.9	8.8	14.5	18.7	18.7	14.7	9.3

Source: Institute of Statistics of North Macedonia (https://www.stat.gov.mk/OblastOpsto.aspx?id=15)

The increase in prices as of the end of 2021 is due to the increase in demand after the end of the COVID 19 epidemic. At the beginning of 2022, the increase in costs as a result of the Russia-Ukraine war and rising energy prices pushed the economy into supply-side inflation.

Price increases affected not only North Macedonia, but the whole region, and even the whole of Europe. The European Central Bank increased interest rates by 0.5 percentage points in July 2022 for the first time in order to maintain price stability in the face of inflationary pressures. Interest rate hikes continued in later returnees. As of June 2023, interest rates in Europe have increased to 4 percent[8].

As of the end of 2021, the North Macedonian central bank switched to a contractionary monetary policy by intervening in the foreign exchange market in order to maintain the stability of the denar rate[9]. As of April 2022, it has been announced that there will be a change in required reserve ratios and most importantly interest rates will increase gradually but continuously in order to increase domestic savings. The following table shows the interest rates on treasury bills between January 2022 and June 2023.

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[7] Dervishi, B. (2023). The effect of minimum wage increases on inflation. *International Journal of Research in Business and Social Science (2147-4478)*, *12*(3), 258-262.
[8] From March 2016 to June 2022, interest rates in Europe were set at 0 (zero)percent.
[9] Since October 1995, the Central Bank has been applying the fixed (nominal) exchange rate strategy of the Macedonian denar to the German mark and from January 2002 to the Euro. Therefore, ensuring the stability of the exchange rate is one of the intermediate objectives of the monetary policy..

Table 2. Interest Rates in North Macedonia (January 2022 – June 2023)

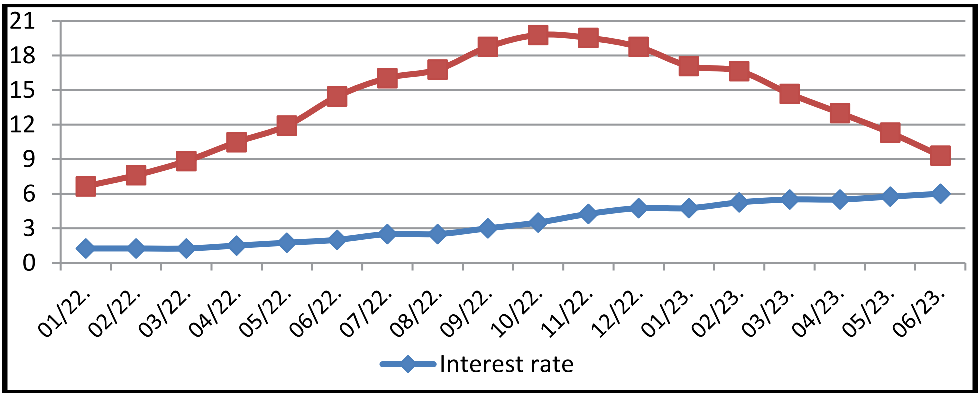
2022												2023					
1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6
1.25	1.25	1.25	1.5	1.75	2.0	2.5	2.5	3.0	3.5	4.25	4.75	4.75	5.25	5.5	5.5	5.75	6.0

Source: Central Bank of North Macedonia (https://www.nbrm.mk/statistika_na_kamatni_stapki.nspx)

The double-digit inflation rate (10.5%) in April 2022 carried the contractionary monetary policy implemented by the central bank one step further by increasing the interest rates by 0.25 points. The central bank has inititated to gradually increase the interest rates over the last 15 months and has increased the treasury bill interest rate, which was 1.25% in the beginning (March 2022), to 6 percent in June 2023.

The following figure shows the course of the interest rate depending on the inflation rate. While the increase in the general level of prices at the end of 2021 and the beginning of 2022 was attributed to the changes in the total demand in the economy, the country's economy faced supply-side inflation as a result of the increase in energy and food prices as of the first quarter of 2022. The Central Bank of North Macedonia took an important step in the fight against inflation by increasing the treasury bill interest rate from 1.25% by 0.25 points. In the following periods, interest rates were increased many times.

Figure 3. Interest rate rise and inflation



Source: Central Bank of North Macedonia (https://www.nbrm.mk/statistika_na_kamatni_stapki.nspx)
Institute of Statistics of North Macedonia (https://www.stat.gov.mk/OblastOpsto.aspx?id=15)

When we examine the data on inflation and interest rates for the January 2022 – June 2023 period, we can see that increasing interest rates suppressed price increases. However, it should be noted that the inflation rate is still not at the desired level. It would be incomplete and wrong to say that only an increase in the interest rate reduces inflation. While the Central Banks are implementing their monetary policy, it is very important that they are supported by the Government with correct and determined Fiscal Policies. Otherwise, while the Central bank implements a Contractionary Monetary Policy in order to ensure price stability, the Government's expansionary fiscal policy will render the Monetary Policy ineffective.

When we look at North Macedonia, with the contractionary Monetary Policy implemented by the Central Bank, the Ministry of Finance has opened the Fiscal Consolidation Plan. The government aimed to control the aggregate demand in the economy by reducing public expenditures with Fiscal Consolidation. In addition, the tax reform, which has been discussed for a long time, is expected to be brought to the agenda again and to be implemented after the necessary Legal Regulations.

3. INFLATION – INTEREST BIDIRECTIONAL RELATIONSHIP

In order to ensure price stability, the central bank intervenes in the market by applying contractionary or expansionary Monetary Policy by using Monetary Policy tools. However, it is necessary to analyze the factors that disrupt price stability (causing inflation). If inflation has arisen from the changes in the total demand in the economy, expenditures are reduced by directing the liquidity in the economy to savings with the method of increasing interest. If the source of inflation is due to costs (production factors and input costs), then increasing the interest rate will increase prices even more. Since interest is the cost of capital used (financing), increasing this cost will cause price increases and inflation.

When we look at the Economy of North Macedonia, the price increases at the beginning consisted of the increase in total demand, while the source of the inflation that emerged in the middle of 2022 was the increase in energy and food (cost) prices. Therefore, the country's economy was faced with cost inflation and then demand inflation. Although prices started to increase in the last quarter of 2021, the Central Bank did not change the interest rate until

April 2022. The Central Bank, which adopted a Contractionary Monetary Policy towards the end of 2021, initially changed the required reserve ratios.

The relationship between inflation and interest should basically be determined by looking at the source of inflation. In demand-side inflation, an increase in interest rates is considered a correct step in the fight against inflation as it will reduce total expenditures, while in cost-side inflation, an increase in interest rates will increase inflation rather than lower it, as it will increase input costs. If inflation is both demand-side and supply-side, as in the North Macedonian Economy, then it is necessary to analyze the effect of the source of inflation well. For example, if the effect of demand inflation is 70 percent and the effect of cost inflation is 30 percent, the costs will be reduced by lowering the interest rate, which means a decrease in prices. The increase in prices due to the demand that will arise as a result of the decrease in interest rates will be less than the price decreases that will occur as a result of the decrease in costs.

Conclusion

While trying to overcome the negative effects of the pandemic on the economy, the world economy came to the brink of crisis again with the Russia-Ukraine war at the beginning of 2022. After the pandemic, the economy started to revive, the total demand increased and the inflation rate accelerated upwards. However, the war between Russia and Ukraine led to an increase in the costs of energy and food mines, price increases were experienced in many countries, especially in European countries, and the inflation rate reached historical levels.

According to Literature Review, it is mentioned that there is a linear relationship between money supply and inflation and between interest rates and inflation. In addition, it is assumed that there is a strong relationship between the money supply and the general price level, based on aggregate demand.

In the theoretical part of the study, the theories put forward by the economic schools (classical, keynesian) of the interaction between price stability and interest rates are also discussed. According to Fisher equation, a 1% increase in the inflation rate leads to a 1% increase in the nominal interest rate. According to Keynes, inflation is affected by increased aggregate demand due to low interest rates. Frideman, on the other hand, explains the positive effects of interest rate hikes on prices by the existence of a positive and statistically significant relationship between the nominal interest rate and the general price level in the long run.

In the above study, the possible effects of the Contractionary Monetary Policy implemented by The Central Bank despite the recent high inflation in North Macedonia are discussed theoretically and the current situation is analyzed. Increasing demand for money will increase total expenditures and will also push prices up. The Central Bank will reduce the liquidity in the economy by reducing the money supply in the market in order not to deviate from its main target (price stability). With this method, The Central Bank aims to keep the public holding less money by raising interest rates and, accordingly, to control price increases by reducing total demand.

North Macedonia has faced double-digit inflation rate after a long period. In order to maintain price stability in the face of inflationary pressures, the European Central Bank increased interest rates by 0.5 percentage points in July 2022. Interest rate hikes continued in later returnees. As of June 2023, interest rates in Europe have increased from zero to 4 percent.

North Macedonia's Central Bank also switched to a Contractionary Monetary Policy by intervening in the Foreign Exchange Market in order to maintain the stability of the local currency (denar), despite the increasing inflation. The Central Bank then announced a change in reserve requirement ratios to increase domestic savings, and finally, it would gradually but continuously increase interest rates. As a matter of fact, in the period of April 2022 – June 2023, the central bank increased interest rates several times and increased interest rates from 1.25% to 6 percent. Naturally, it is desired to prevent rising prices by reducing total demand and total expenditures in the economy by increasing interest rates in order to ensure price stability and fight against inflation. An important issue that should not be forgotten here is that if inflation is not demand-side, it is supply (cost)-side. If inflation is caused only by increases in aggregate demand, price increases will be curbed by raising interest rates. However, if inflation is caused by increased production costs, prices will rise even more as interest rate hikes will increase financing costs. While the initial price increases in North Macedonia were due to aggregate demand, the increase in food and energy prices in particular increased the inflation rate in the country, as it increased the finances. Therefore, Policy Makers have to decide by determining the causes of inflation, by calculating how much the increasing interest rates will decrease the total demand and how much they will increase the financing costs.

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