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UDC: 330.567.2:336.748.12
330.567.2:338.5

**NDIKIMI I INFLACIONIT NË SHPORTËN KONSUMATORE TË
FAMILJEVE**

**ВЛИЈАНИЕТО НА ИНФЛАЦИЈАТА ВРЗ ПОТРОШУВАЧКАТА
КОШНИЦА НА СЕМЕЈСТВАТА**

THE IMPACT OF INFLATION ON HOUSEHOLDS' CONSUMER BASKETS

Abstract

Consumer price inflation is the rate at which the prices of goods and services purchased by households rise or fall. Movements in consumer price inflation indices represents the change in the cost of the basket of goods. Within each year, consumer price indices represents the change in the cost of a basket of goods or products with a fixed composition. Thus, changes in consumer price indices from month to month reflects only changes in prices, and not changes in the quality and quantity of items purchased by consumers. Inflation is a broad measure, such as the general increase in prices or the increase in the cost of living in a country. But it can also be calculated more narrowly - for specific goods. We can say that inflation represents how much more expensive a given group of goods, products, and services has become over a given period, most often a year. The cost of living of households depends on the prices of many goods and services in the household budget. To measure the average cost of living of a consumer where the cost of this basket at a given time, expressed in relation to a base year is the consumer price index (CPI). Core consumer inflation focuses on underlying trends by excluding government-imposed prices and the most volatile prices of products. If the money supply increases too much relative to the size of an economy, the value per unit of the currency decreases; in other words, its purchasing power falls and prices rise.

Keywords: *Inflation, Cost, Price, Consumer basket.*

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Introduction

Inflation is considered one of the most difficult challenges facing the national economy, affecting the continuous increase in the average price level, which has negative consequences for the production process and disrupting the stability of the economy as a whole. If a country faces inflation, this will stimulate the expansion of operations in black markets. The Central Bank is the main institution that must use monetary policy instruments with the sole purpose of applying preventive measures to control the money supply, in order to prevent an imbalance as a result of the amount of monetary assets issued in circulation in relation to the output produced, which leads to a decrease in its real value. Inflation also affects the creation of negative effects and disproportions in the distribution of income between different segments of the population, who usually have fixed incomes.

The main purpose of this research is to discover the impact of inflation on the consumer basket of households, where through the use of secondary data published by state statistical agencies and other publications of an international nature, we will examine this issue to conclude how inflation affects and what measures should be implemented in order to prevent the economic crisis in the country. This research aims to provide answers to these questions;

1) How does the increase in inflation affect the consumer basket of households?

2) What do consumers do in order to avoid the negative consequences of an unpredictable increase in the inflation rate?

In order to address these issues, the research hypotheses will be as follows:

H0- There is no statistically significant relationship between the increase in the inflation rate on the consumer basket of households.

H1- An unexpected increase in the inflation rate affects the change in consumer preferences for certain products, who are oriented towards cheaper products, and vice versa.

Understanding of inflation

One of the main indicators that is carefully followed by all economic entities is inflation. Inflation is an old economic phenomenon, its origins can be found in the time of the Roman Empire. The appearance of inflation was accelerated with the appearance of paper money, because it does not have any protective measure against the unlimited expansion of the monetary volume. Inflation appears during wars and since the first and second world wars took place in the 20th century, this is called the century of inflation.

The word “inflation” comes from the Latin word inflation which means swollen². Inflation is a serious problem that negatively affects both the production and consumption process, as well as the destruction of the social stability of the country. By inflation we mean the continuous increase in the average price level.

According to Frikman, inflation is a stable and continuous increase in prices, which occurs always and everywhere as a monetary phenomenon caused by the excess of money in comparison with the output.³

According to Gjuro Račić, inflation is understood as those economic processes that are created and developed due to the decline in the value of paper money, which means a decrease in its real value.⁴

According to Samuelson, the economy is in inflation when the general level of prices of goods and services and their costs increase. In deflation, the prices of goods and services and their costs fall.⁵

According to Ivo Pershin, inflation is a process of price increases that reduces the standard of living of the population, worsens the balance of payments, shrinks foreign exchange reserves and weakens the exchange rate.⁶

From the above definitions, we can conclude that inflation represents a negative indicator and appears in those cases when the Central Bank does not have control over the circulation of the money supply, thus affecting the depreciation of the value of money.

Inflation rate

Above we mentioned that inflation represents the continuous increase in the average price level. The inflation rate shows the general price level of the last year compared to the previous one expressed in %. Mathematically, the inflation rate is expressed as follows:

$$\text{Inflation rate} = \frac{\text{Price level}(t) - \text{Price level}(t-1)}{\text{Price level}(t-1)} \times 100$$

The price level can also be measured with the consumer price index (CPI). This index represents the average change over time in the prices paid by the final consumer of a certain basket of goods and services. Consumer price indices are important because:

- They are useful in relation to wages;
- They affect wage levels, pricing policies, taxes;

² Petrit Pollozhani, “Makroekonomia”, Tetovë, 2015, f. 279

³ Drin Salko, “Bazat e finances”, Tiranë, 2015, f. 35

⁴ Gjuro Račić, “Nauka u novcu”, Zagreb, 1956, f. 126

⁵ Paul Samuelson, “Economics”, twelfth edition, New York, 1985, f. 226

⁶ Ivo Pershin & A. Sokman, “Monetarna kreditna politika”, Zagreb, 1979, f. 96

- They are used to analyze market prices of goods and services. Mathematically, it is expressed by the formula:

$$CPI = \frac{CPI(t) - CPI(t-1)}{CPI(t-1)} \times 100$$

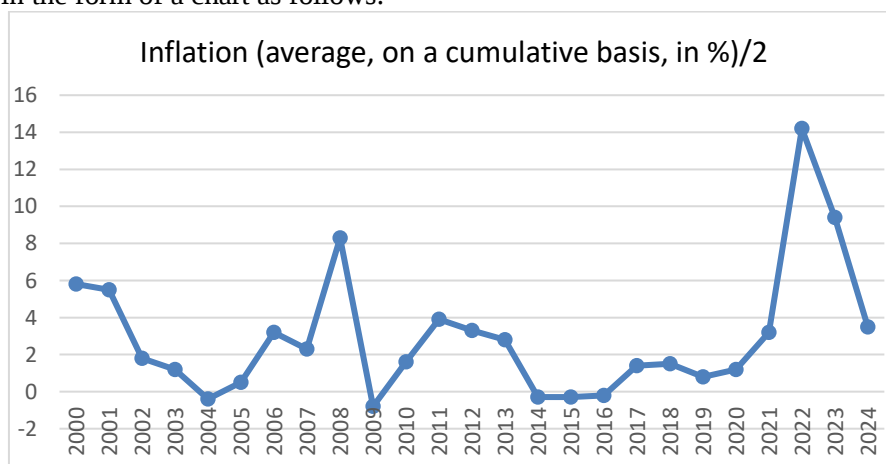
In addition to the consumer price index, the producer price index (PPI) is also used to calculate the average price level. This index measures wholesale prices and varies from one national economy to another. For example, in the USA, this index is calculated based on the prices of about 3400 goods and services.

Impact of inflation in North Macedonia

Like every country, the Republic of North Macedonia faces an increase in the prices of goods and services every year. Inflation in most cases is in direct proportion to income and this indicates that in the long term the economic status does not change. Before the Covid-19 pandemic, the dilemma was whether there would be inflation during this period and after it, while now the biggest dilemma is how long this inflation will last and whether it will be for a longer period and reach its peak or will it be a transitional period that will pass and inflation will begin to decrease.

Consumer price inflation in North Macedonia averaged 2.4% in the ten years up to 2022, below the average for the Eastern European region of 7.7%. The average figure for 2022 was 14.1%.⁷

To have an even clearer picture of what inflation has been like in our country, we will analyze statistical data and present its changes over the years in the form of a chart as follows:



Source: <https://www.nbrm.mk>

⁷ <https://www.focus-economics.com/country-indicator/north-macedonia/inflation>

Consumer basket

A convenient way to think about this is to imagine a very large “shopping basket” that contains those goods and services purchased by households. As the prices of the items in the shopping basket change, the total cost of the basket also changes. Movements in the consumer price inflation indices represents the change in the cost of the shopping basket. We consider that the consumer basket contains the goods and services that are purchased by households and their prices that are at the various points of sale where they are supplied. Consumer price indices are calculated by collecting a sample of prices for a representative selection of goods and services in North Macedonia. Within each year, consumer price indices represents the change in the cost of a basket of goods and services with fixed composition, quantity and quality. In practice, this is achieved by:⁸

- keeping the sample of representative goods and services constant.
- applying a fixed set of weights to price changes for each item, so that their impact on the overall index reflects their importance in the typical household budget.
- ensuring that replacements for brands that are no longer stocked in an individual store are of comparable quality.

Changes in consumer price indices affect price changes and do not affect the quality and quantity of products purchased by consumers. However, we can say that the content of the consumer basket for various goods and services and the amount of expenditure incurred on them varies from year to year.

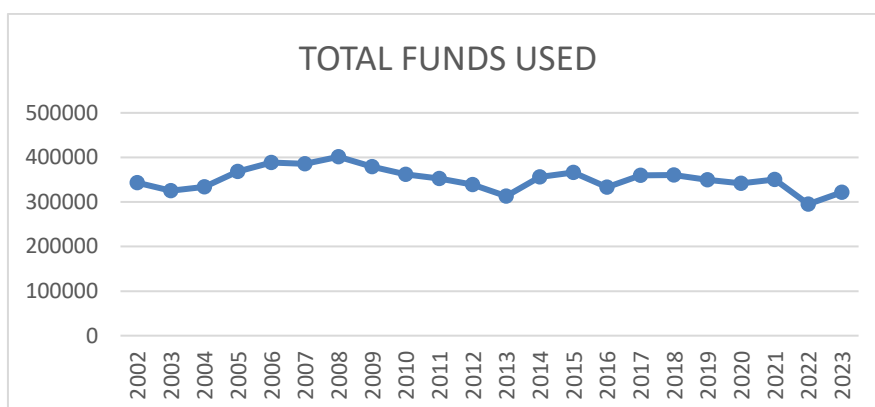
The percentage of household expenditure devoted to goods and services has generally increased over the last 20 years.

For some goods and services, household expenditure is the same because their prices are also almost fixed and change very little, such as oil and electricity.

With the increase in the price of goods and services, families change the composition of their consumer basket and become more oriented towards the purchase of basic products and in most cases significantly reduce the inclusion of luxury products.

Used funds by purpose of consumption, by COICOP classification and household type, by years

⁸ <https://backup.ons.gov.uk/wp-content/uploads/sites/3/2016/03/cpi2016basketofgoods.pdf>



Average per household in denars

Source:

<https://makstat.stat.gov.mk/PXWeb/pxweb/mk/MakStat/MakStat>

Analysis of the impact of inflation on the consumer basket (CPI)

To analyze how inflation affects the consumer basket through price increases, data obtained from the World Bank, the National Bank of North Macedonia and the Statistical Office will be used.

Methodology:

The data analysis was conducted using the regression method through the SPSS statistical software. The study period covers the years 2000 to 2023. The variables included in the study are inflation (as the independent variable) and the Consumer Price Index (CPI) as the dependent variable,

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Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.428 ^a	.183	.146	15.61477654 4094644
a. Predictors: (Constant), INF				

ANOVA^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1205.221	1	1205.221	4.943	.037 ^b
	Residual	5364.067	22	243.821		
	Total	6569.288	23			
a. Dependent Variable: CPI						
b. Predictors: (Constant), INF						
Coefficients^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	98.157	4.154		23.629	.000
	INF	2.014	.906	.428	2.223	.037
a. Dependent Variable: CPI						

Between 2000 and 2023, inflation led to an average CPI increase of 2.014 percentage points.

The p-value of 0.037 confirms the statistical significance of this effect.

The R-squared (R^2) value, which indicates the proportion of variance in the dependent variable explained by changes in the independent variable, is 18%. This means that 18% of the variations occurring in the Consumer Price Index (CPI) are explained by changes in the inflation rate.

Conclusion

The overall increase in the money supply in an economy and the impact of this supply on the increase in prices for goods and services characterizes inflation.

The impact of inflation on the consumer basket is taken as a case study of the Republic of North Macedonia, analyzing the years 2000 to 2024.

From the analysis of the data regarding the inflation rate and the graphical presentation, it can be clearly seen that the lowest inflation rate was in 2009, also -0.8%, while the highest inflation rate in our country was in 2022 with 14.2%, where in the following years it begins to decrease in 2023 to 9.4 and in 2024 to 3.5%.

From the analyzed data regarding inflation and the consumer basket which includes goods and services and from the hypotheses O previously established as follows:

H0- There is no statistically significant relationship between the increase in the inflation rate and the consumer basket of households. We can

conclude that the increase in the inflation rate affects the consumer basket of households because these have an inverse relationship with each other since with the increase in the inflation rate the consumer basket decreases.

Hypothesis H1 presented at the beginning of this paper:

H1- An unforeseen increase in the inflation rate affects the change in consumer preferences for certain products, who are oriented towards cheaper products, and vice versa,

The increase in inflation from year to year in most cases has been unforeseen, especially during the period of the Covid-19 pandemic where the prices of goods and services increased significantly, we conclude that hypothesis H1 is accepted since consumers in such conditions change their preferences mainly in basic products and replace their preferences in products with more affordable prices.

The Regression Method by applying the SPSS statistical program shows us that the average increase in CPI in 2023 and 2000 is an increase of 2.01%, while 18% of the variation in CPI is affected by changes in the inflation rate.

In conclusion, it can be concluded that the inflation rate has a significant effect on the Consumer Basket of families in our country.

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