

UDC 336.748.12(497.7) PERSONAL INFLATION CALCULATOR

Developed by:
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Supported by:
Open Society Institute Think Tank Fund Budapest

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Abstract

To avoid imprecision and to adjust the inflation to every individual's consumer basket, we created the personal inflation calculator. This calculator gives the opportunity to every person to calculate their personal inflation rate (adjusted to their consumer basket). The number is always significantly different from the average inflation rate given by the Statistical Office. That was the reason why Center for Economic Analyses made the Personal Inflation Calculator, which is available on the organization's web site. The Personal Inflation Calculator will solve the doubts of the Macedonian citizens about the influence of the inflation over their personal budgets

Key words: inflation, personal inflation, calculator

Introduction

There are no two individuals that are affected by the changes of the overall growth of the prices (inflation) to the same degree. If those two individuals were affected in the same manner, the need to use approximated values while calculating the inflation is not needed. The effects from inflation depend on the structure of the consumer basket. For that reason, the use of approximated values while calculating the influence of the universal growth of the prices (inflation) over the personal expense is not that much accurate indicator. That means that the consumer basket for most of the individuals will be different from the one that the State Statistical Office of Republic of Macedonia uses while calculating the average margin of the inflation.

What inflation is and how it is measured?

Inflation is a process that measures the augmentation of prices of goods and services in the economy.

Measuring inflation is necessary for the monetary and fiscal authorities to have an indicator on variations of the prices. Inflation can be revealed:

- annually,
- quarterly or
- monthly.

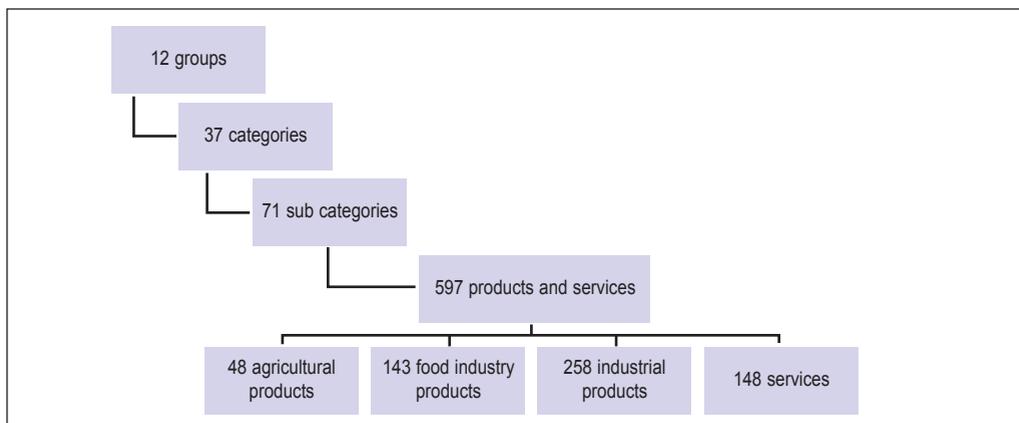
Inflation in Macedonia is measured by the State Statistical Office on a monthly basis through the CPI (Consumer Price Index) and COICOP (Classification of Individual Consumption by Purpose) methodology.¹⁶

The Consumer Price Index measures the variations of the prices of 597 goods and services in Macedonia which are available to the families in the country.¹⁷ The Consumer Price Index (CPI) of the households in Macedonia "sees" the country as a big family of 2 million citizens through its 8 offices situated in: Skopje, Ohrid, Veles, Stip, Bitola, Kumanovo, Strumica and Tetovo. On that way, the variation of the retail prices measures only:

- The consumption that is made of 597 prices of products and services available in the markets and stores in the country. Here is the breakdown: 48 of the products are agricultural, 143 are food industry products, 258 are industrial products, and 148 are services.

The structure of the indexes of the consumption prices is made up of 12 groups, 37 subgroups and 71 sub categories.

Diagram: *The classification of the goods and services for which the Statistical Office makes observations (with the COICOP methodology)*



Weights

The methodology of weights envisages updating of articles and change of weights on a yearly basis according to the consumption.

Every year, the weights with which the inflation is measured are recalculated. This editing has as a goal to reflect the change of the behavior of the consumers and to receive more adequate structure of the consumed goods and services.

16) Source: State Statistical Office of Macedonia.

17) www.stat.gov.mk

The weights in Macedonia in the period 2008-2009 are:

Weights by groups (State statistical office)	2008	2009
01 Food and non alcoholic beverages	39,6	42
02 Alcoholic beverages and tobacco	3,9	3,8
03 Clothing and footwear	7,7	7,2
04 Housing, Water, Electricity, Gas and other fuels	12,2	12,1
05 Furnishings household equipment and routine household maintenance	4,8	4,6
06 Health	3,1	2,8
07 Transport	9,0	9,0
08 Communication	4,8	4,2
09 Recreation and culture	4,0	3,7
10 Education	0,7	0,7
11 Restaurants and hotels	5,1	5,2
12 Miscellaneous goods and services	5,0	4,8

What does inflation show us?

Consumer Price Index is an approximated measure, but in the same time very useful because it's comparable and measurable. In the next three graphs is shown the inflation in Macedonia (graph A), official and basic inflation in Macedonia (graph B), and comparison of the inflation in Macedonia and the countries in the eurozone (graph C).

A) National level, inflation rate (black line), Expected inflation (red line)



Source: National Bank of Republic of Macedonia

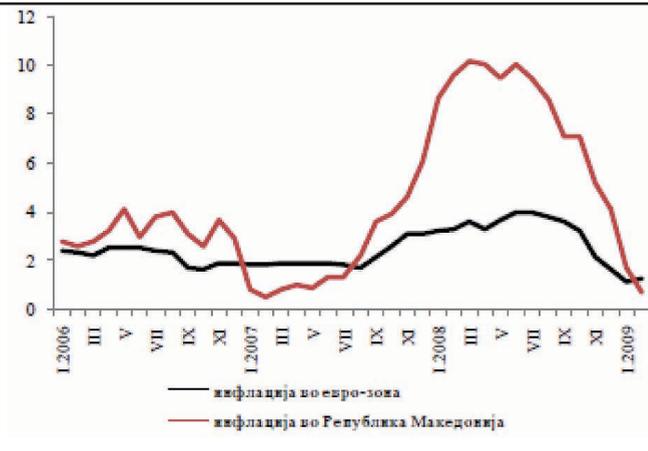
B) Official (blue line) and core inflation rate (red line) in Macedonia in percentage.



Source: National Bank of Republic of Macedonia

C) Comparison with the countries from the euro zone (red line Macedonia)

Source: National Bank of Republic of Macedonia



Measured inflation versus Perceived inflation

Characteristics of the measured inflation:

- State statistical office
- The measures are done in 8 biggest cities in Macedonia
- It covers 597 goods and services

Characteristics of the expected inflation:

- National Bank of Republic of Macedonia
- Based on survey of expectation among companies, analysts and other relevant sources

Characteristics of the perceived inflation:

- Blurred
- Not measured
- Differs from the official measured inflation
- Depends on customer's behavior and point of sale

The perceived inflation has the tendency to differ from the measured inflation given by the relevant institutions in Macedonia. It differs as the result of different shopping habits of the households and the different prices at the point of sale.

Notice: The State Statistical Office of Republic of Macedonia does observations in the 8 biggest towns in the country; however, it does not take into consideration the prices of the goods and services in the smaller cities where the prices are significantly lower than the one in the bigger towns.

Personal inflation calculator

The personal inflation calculator is available on the CEA's web page - www.cea.org.mk. The activation of the calculator is done by clicking on the "**Personal inflation calculator**," ("**Калкулатор за лична инфлација**") that could be found on the first page. It's marked with red (see picture No.1).

Picture No.1

CEA.org.mk
Center for Economic Analyses

Добро дојдовте Нашите пријатели Врски Контакт English

CEA
Center for Economic Analyses

ЦЕА производи за продажба

Личен калкулатор за инфлација

НОВОСТИ:

Review of the 10 measures of the GoM against the global crisis

- [Review of the Measures of the Macedonian Government against the Global Economic Crisis](#)
- [Review of the Measures of the Macedonian Government against the Global Economic Crisis Presentation](#)

Estimating discount rate for Macedonia

- [Establishing Public Sector Investment Discount rate](#)
- [Establishing Public Sector Investment Discount rate - Presentation](#)

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After the activation of the calculator, its first page opens. See Picture No.2.

Picture No.2

CEA
Center for Economic Analyses

OPEN SOCIETY INSTITUTE
& Soros Foundations Network

Најави се
Калкулатор

Пресметајте ја вашата инфлација

Месечен приход: 3000 - 6000 ден

Возраст: 18 - 25 години

Вработеност: Невработен

Образование: Основно

Број на членови во фамилијата: 1

Период на потрошувачка: Јануари 2009

Период за споредба: Просек 2008

Понатаму

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(с) Калкулатор за пресметка на персонална инфлација
2008 - 2009

The first page from the calculator contains several fields which need to be filled out.

Field: **"Monthly income"** - In this part you have to choose the interval in which your monthly income belongs.

Field: **"Age"** - In this part you have to choose the interval in which your age belongs.

Field: **"Employment"** - In this part you have to choose one of the following: employed, unemployed, student, retired.

Field: **"Education"** - In this part you have to choose your education from one of the following: primary school, high school, university, or others.

Field: **"Number of members in the family"** - In this part you have to choose the number that corresponds to the number of members of your family.

Field: **"Period of the consumption"** - In this part you have to choose the period (the month) for which you import the amounts you spent; in other words, the period that corresponds to your consumption.

Field: **"Period of comparison"** - In this part you have to choose the period with which you want to compare the period that addresses your consumption. In this part there are three possibilities for comparison: with the average from the previous year, with the same month from the previous year and with the previous month.

When you fill out all the parts, you have to click **"Next" ("Следно")** and a new page is opened that looks like this (Picture No. 3).

Picture No. 3

Најави се
Калкулатор

Вашата персонална инфлација изнесува -3,18 %

Вкупно потрошени средства: 18750 денари.

Вашата инфлација во периодот од Јануари 2009 споредена со периодот Просек 2008 изнесува -3,18 %, Доколку истата сума е потрошена во периодот Просек 2008, би била поголема за 596 денари, односно би изнесувала 19346 денари.

Производи и услуги	Потрошено	Инфлација (%)
Леб и жита	750	2,9
Месо	1450	6,2
Риба	250	9,8
Млеко, млечни производи и јајца	500	0,9
Овошје	600	-17,6
Зеленчук	700	10,8
Кафе, чај и какао	300	1,8
Вино	500	14
Пиво	350	2,4
Додатоци за облека	300	3
Теписи и други покривки за под	3000	1,5
Лекови	700	0
Течни горива и мазива	1500	-30,9
Телефонски и телефакс услуги	350	-1,3
Книги	500	1,9
Образование	4000	1,3
Осигурување	3000	-14,6

In the upper part of the page is written the name of the group of products for which you have to enter the amount spent (in denars). Under the name of the group are the other groups of products (numbered 1-12). The groups of products correspond to the international classification COICOP (Classification of Individual

Consumption by Purpose) that's used by the Statistical Office of Republic of Macedonia. The groups of products that are used in this personal inflation calculator are:

- 1) **Food and non alcoholic beverages**
- 2) **Alcoholic beverages and tobacco**
- 3) **Clothing and footwear**
- 4) **Housing, Water, Electricity, Gas and other fuels**
- 5) **Furnishings household equipment and routine household maintenance**
- 6) **Health**
- 7) **Transport**
- 8) **Communication**
- 9) **Recreation and culture**
- 10) **Education**
- 11) **Restaurants and hotels**
- 12) **Miscellaneous goods and services**

According to the COICOP classification, each group of products contains a subgroup of products- in the Personal Inflation Calculator made by CEA there are 73 subgroups of products. From the standard classification that is released by the Statistical Office, the following groups are left out: Big electrical appliances, therapeutic appliances, cars, telephone appliances and other unmentioned services from the reason that the consumption of these products and services is very rare or it is very hard to determine the monthly amount that is spent. The subgroups that are not part of your consumer basket for that determined period, you leave them blank. After you enter the amount spent (in denars), you click "Next" ("Следно"). Then a new page is opened (groups of products), with new subgroup that you have to fill out the amount spent. The same procedure is repeated until you go over all the 12 groups of products (with their subgroups).

After you enter the amount spent for all the groups of products, click "Next" ("Следно"). Then a new page is opened (see picture No. 4)

Picture No. 4

Најави се
Калкулатор

Вашата персонална инфлација изнесува -3,18 %

Вкупно потрошени средства: **18750 денари.**

Вашата инфлација во периодот од Јануари 2009 споредена со периодот Просек 2008 изнесува -3,18 %, Доколку истата сума е потрошена во периодот Просек 2008, би била поголема за 596 денари, односно би изнесувала 19346 денари.

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Кафе, чај и какао	300	1,8
Вино	500	14
Пиво	350	2,4
Допатоци за облека	300	3
Теписи и други покривки за под	3000	1,5
Лекови	700	0
Течни горива и мазива	1500	-30,9
Телефонски и телефакс услуги	350	-1,3
Книги	500	1,9
Образование	4000	1,3
Осигурување	3000	-14,6

In the upper part on this page, you can see the amount spent for the period chosen previously: **"Total spending? denars"** ("Вкупно потрошени средства ? денари") and the amount of your personal inflation: **"Your personal inflation is ? %"** (Вашата персонална инфлација изнесува ? %) (Вашата персонална инфлација изнесува ? %).

Under that there is a text that has the information about how much is your Personal Inflation, what is the period of calculation and the comparison, what would be the amount (in denars) if the same amount was spent in the period that the comparison is made with, and how much is the difference between the amount spent in the period observed and the period of comparison.

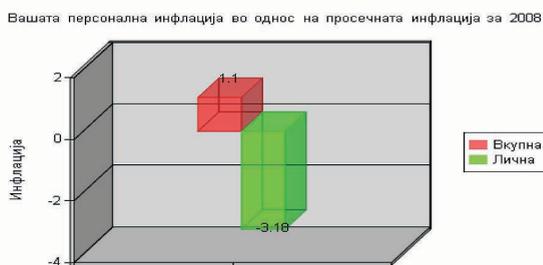
Also, on this page you can see all the subgroups of products that are part of your consumer basket, together with their inflation for the period observed.

The amount of the personal inflation indicated the average from the inflations of all the subgroups of products that are part of your consumer basket. The weights indicate the amounts that are spent for the separate subgroups of products.

On the bottom part of the page, there is the option: **"Calculate again"** ("Повторно пресметај"). This option gives you the choice to fix the amounts you entered previously and to calculate your personal inflation again.

At the end, the relation between your personal inflation and the inflation that is published by the Statistical office is represented graphically. (See picture No. 5). The average (overall) inflation is represented with the red color, and your personal inflation with green. This graph is about to present the two rates, actually it compares the influence of the inflation rate on consumer basket which may be lower or higher, and the inflation rate according to COICOP. If you want to calculate your personal inflation again for another period, with new amounts for the subgroups of products, you can choose the option: **"Calculator"** ("Калкулатор") that is in the upper left corner of the page.

Picture No. 5



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(с) Калкулатор за пресметка на персонална инфлација
2008 - 2009

Conclusion (expected results)

- We hope that the personal inflation calculator that we made will help you to get accurate results for the impact of the inflation over your personal budget, which is the only important information for you. The details that the Statistical Office and other places about the inflation will not cause you uncertainty and fear, because with the Personal Inflation Calculator you can calculate if your personal inflation is the same as the published inflation. At the end, we have to mention the saying: Someone eats rice, someone eats meat, someone eats cabbage - and the result of the State statistical office shows that all eat stuffed cabbage leaves. This saying

explains how the inflation is calculated in our economy. However, this Personal Inflation Calculator will help you to see in which group you belong.

- The fields that were filled out at the front page represent a short questionnaire that give us the opportunity to analyze the consumption and the inflation according to age, education, employment, income, etc. Along with the opportunity to analyze, this questionnaire will help us to make different reports that will be available to the public and will increase your knowledge in this area.

- Throughout visits of the web site and the calculator, we expect to measure the perceived inflation of different groups of people through the stratification according to age, income, employment and the number of members of the family. In this way, we can get a percentage with witch we can compare the inflation measured from the State Statistical Office of Republic of Macedonia and in that way we can publish advices for possible revision of the methodology for calculating the inflation. We think that with this online tool we will achieve two goals:

- deeper analysis of the measurement of the inflation in Macedonia according to groups, subgroups and products,
- debate and advises for the way of measuring the inflation according to separate groups of citizens.