Impact of inflation on citizens borrowing

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UNDERGRADUATE THESIS

IMPACT OF INFLATION ON CITIZENS BORROWING

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Abstract

Inflation, the persistent rise in the overall price level of goods and services, diminishes the purchasing power of money over time. In Croatia, inflation affects citizens' borrowing behavior through various channels. It reduces the real value of existing debts, benefiting borrowers with fixed-rate loans. However, inflation typically leads to higher nominal interest rates, increasing the cost of new borrowing. This can strain consumers' finances as they may need to borrow more to maintain their purchasing power amidst rising prices. Anticipated inflation may spur borrowing to capitalize on current lower costs. Lenders, wary of inflation's impact on loan repayments, may tighten lending criteria, complicating access to credit. Moreover, inflation discourages saving by eroding the value of savings, potentially prompting increased spending or investment in assets. Overall, inflation's influence on consumer borrowing in Croatia is intricate, impacting affordability, investment decisions, and financial stability.

Key words: Inflation, borrowing, consumers, Croatia, debt, interest rates, purchasing power, impact, savings, investment

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1. The research problem and the purpose of the paper

Inflation refers to the sustained increase in the general price level of goods and services in an economy over time. It means that, on average, prices are rising, and the purchasing power of money decreases. Inflation can be caused by various factors. One common cause is an increase in aggregate demand, where demand for goods and services exceeds the available supply. Other factors include increases in production costs, such as wages or raw materials, changes in exchange rates, or government policies like excessive money supply. Inflation is commonly measured using an inflation rate, which represents the percentage change in the average price level over a specific period. Economists and central banks use various price indices, such as the Consumer Price Index (CPI) or the Producer Price Index (PPI), to track and measure inflation. High and unpredictable inflation can erode purchasing power, reduce real wages, and create uncertainty, discouraging investment and economic growth. It can also negatively impact fixed-income earners, retirees, and those with savings as the value of their money diminishes. Positive effects: Mild inflation can stimulate economic activity by encouraging spending and investment. It can also help reduce the real burden of debt since borrowers can repay loans with less valuable currency.

Inflation significantly impacts consumer borrowing through several key mechanisms. First, it reduces the real value of existing debt, meaning that fixed-rate debt becomes easier to repay in real terms. However, inflation also leads to higher nominal interest rates, making new borrowing more expensive. High inflation rates reduce consumers' purchasing power, potentially increasing the need for borrowing to maintain their standard of living. Expectations of future inflation may encourage consumers to borrow now to take advantage of currently lower prices and interest rates. Increased risk for lenders due to uncertainty about the real value of loan repayments can result in stricter lending conditions. Finally, inflation can discourage saving as it erodes the value of savings, prompting consumers to spend more or invest in assets that retain value, which can indirectly increase borrowing. Together, these factors make the impact of inflation on consumer borrowing complex and multifaceted.

The aim of this paper is to explore the impact of inflation on consumer borrowing in the Republic of Croatia. The paper will cover the definition of inflation, different types of inflation,

and the economic perspective on inflation. It will analyze the causes and effects of inflation, as well as methods for measuring it. Special emphasis will be placed on mechanisms through which inflation affects borrowing, such as interest rates, the real value of debt, and changes in consumer behavior. Furthermore, it will examine the specifics of inflation in Croatia, including the standard of living and inflation statistics. The thesis will also investigate the level of consumer indebtedness in Croatia and how inflation influences their financial decisions and standard of living.

1.2. Data and methodology

The data for this research were collected from secondary data sources, including scientific and professional literature; books, conference papers, and relevant websites containing scientific and professional articles. Additionally, data were gathered from the official websites of the Croatian National Bank and the Croatian Bureau of Statistics, enabling a detailed analysis of economic and financial data. The research methods employed included descriptive method and sinthesis method. Furthermore, an analytical approach for thorough analysis of available information, as well as inductive and deductive approaches for interpreting results and developing the theoretical framework of the study. This diverse methodology ensured a comprehensive insight into the research topic and its application in the context of financial analysis and macroeconomic research.

1.3. Structure of the paper

The first chapter addresses the topic of the paper, as well as its structure, materials, and methods. The aim of this chapter is to explore the importance and complexity of the phenomenon of inflation within the economic context. It will analyze the structure of the paper, the research objectives, and the methodology to be used for collecting and analyzing relevant data.

The second chapter deals with the definition of inflation. It will provide a detailed explanation of various types of inflation such as demand-pull inflation and cost-push inflation. Additionally, it will explore different perspectives on inflation from economic theory and the impacts of inflation on the economy and individuals.

The third chapter investigates the mechanisms through which inflation affects borrowing. The focus will be on analyzing the impact of inflation on interest rates, the real value of debt, and changes in consumer behavior. Special attention will be given to both nominal and real interest rates and debt management strategies in the context of inflation.

The fourth chapter analyzes the specific context of inflation in the Republic of Croatia. It will examine living standards in the country, historical and current inflation trends, and their impact on economic conditions and policies. Additionally, it will investigate the level of personal debt among Croatian citizens and how inflation affects individuals' financial positions.

The conclusion will summarize the key findings of the inflation research. It will highlight implications for policies, the economy, and individuals, and propose directions for further research to better understand the dynamics of inflation and its impact on financial decisions and stability.

2. DEFINITION OF INFLATION

The problem of inflation has existed since the advent of money. One of the oldest recorded cases of inflation occurred between 644 and 599 BC as part of Solon's reforms in ancient Greece. Solon, one of the seven sages of ancient Greece, was known for his legislative reforms aimed at stabilizing Athenian society and economy. At that time, Athens was facing serious economic problems, including rising debts and social unrest. Many citizens were in debt, and many had lost their freedom and land because of these debts. To resolve this crisis, Solon introduced a series of reforms known as Seisachtheia (Babić, 2007).

According to Babić (2007) inflation is an economic phenomenon that reflects an imbalance within a national economy, manifested through the continuous rise in the general price level. In other words, inflation is defined as the process in which the prices of goods and services in a country consistently increase. Inflation arises due to various factors such as increased demand for products and services, rising production costs, supply disruptions, and changes in monetary policy. When demand exceeds supply, prices naturally increase. Similarly, if production costs rise due to higher prices of raw materials or labor, producers pass on these costs to consumers through higher prices. Inflation can also be caused by excessive money printing by the central bank, which devalues the currency and increases prices. At moderate levels, inflation can stimulate the economy by encouraging consumption and investment. However, high inflation rates can destabilize the economy, reducing purchasing power and creating uncertainty among consumers and businesses. Monitoring and controlling inflation are crucial for maintaining economic stability and fostering long-term growth.

Two key variables analyzed in the context of inflation are purchasing power and the price level of goods and services. Inflation occurs when there is a continuous decrease in purchasing power, meaning that the same amount of money buys fewer goods and services, or when there is a constant increase in prices. It is important to note that controlled price increases or decreases in purchasing power are not always negative. In fact, many economists and banking experts consider an annual inflation rate of 2% to be desirable for a healthy and stable economy. This moderate inflation encourages consumption and investment, contributing to economic growth (Borozan, 2019).

However, when inflation becomes high or hyperinflation occurs, serious negative consequences can arise for the economy and the standard of living. High inflation can erode purchasing power,

reduce real incomes and savings, and create uncertainty in the business environment. Hyperinflation, characterized by extremely rapid price increases, can lead to the complete destabilization of the economic system. For these reasons, monitoring inflation and implementing appropriate monetary and fiscal policy measures are crucial for maintaining economic stability and balance. Central banks, through instruments such as interest rates and money supply regulation, and governments, through fiscal policy, play key roles in controlling inflation and ensuring sustainable economic growth (Borozan, 2019).

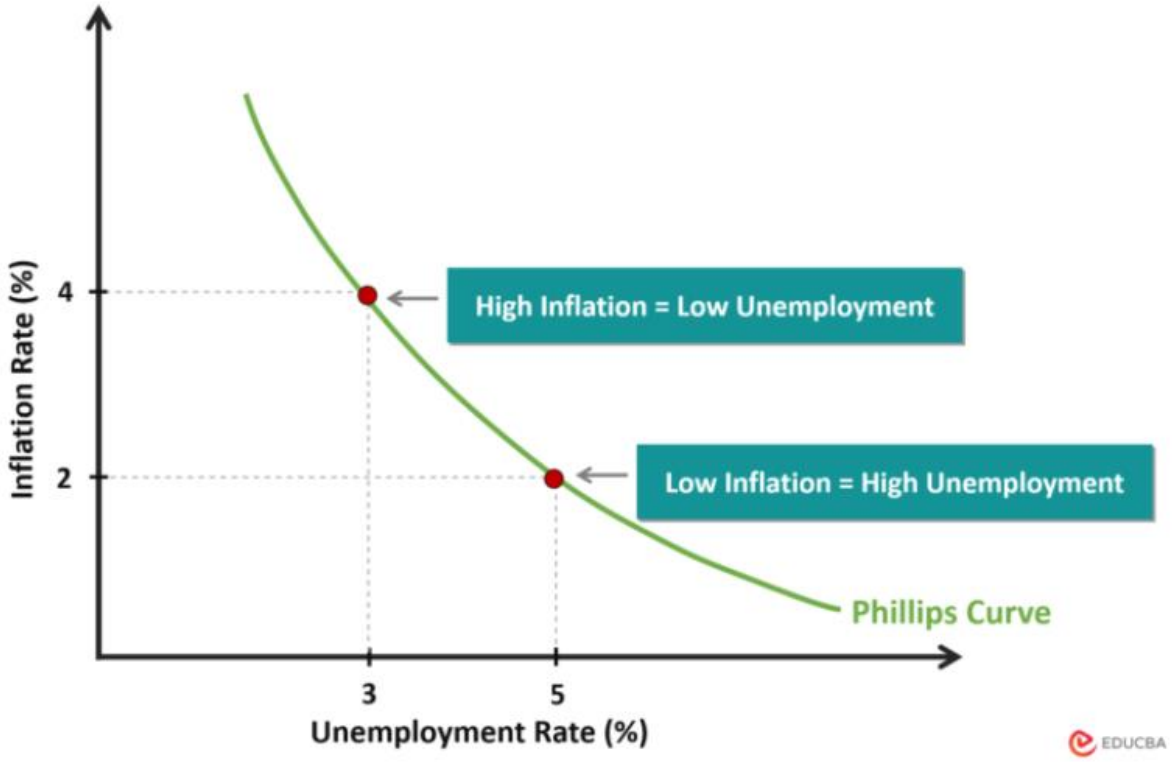
Inflation, the persistent increase in the general price level of goods and services over time, represents a key phenomenon in economics, understanding of which is crucial for shaping effective economic policy. Two prominent theories that offer different perspectives on the fundamental causes and dynamics of inflation are the classical theory of inflation and the modern theory represented by the Phillips curve (Borozan, 2019).

The classical theory of inflation is based on the premise that inflation is primarily a monetary phenomenon, arising from an increased supply of money in circulation and the growth of the velocity of money. According to this framework, inflation occurs when the quantity of money grows faster than the demand for goods and services. This theory implies a direct link between the amount of money in circulation and the price level, assuming other factors remain constant. According to the classical theory, inflation can be controlled through monetary policy interventions, such as adjusting interest rates or regulating the money supply. In this context, monetary policy serves as a key tool for maintaining price stability. However, critics of this theory argue that it oversimplifies the complex dynamics of modern economies. Specifically, it neglects factors such as expectations, supply shocks, and structural changes that can significantly influence inflationary pressures (Borozan, 2000).

The Phillips curve, named after economist A. W. Phillips, introduced a statistical model that links inflation and the unemployment rate. According to the Phillips curve, there is an inverse relationship between these two economic indicators: as inflation rises, the unemployment rate typically falls, and vice versa (Figure 1). This relationship is based on the dynamics of the labor market. In periods of low unemployment, when labor markets tighten, workers gain greater bargaining power, leading to wage increases. Wage increases cause production costs for companies to rise, which translates into higher prices for goods and services, creating demand-pull inflation. Conversely, high unemployment usually leads to wage stagnation or decline, reduced consumer demand, and lower inflationary pressures. The Phillips curve implies a trade-

off between inflation and unemployment, where policymakers must carefully balance their measures to manage economic activity. However, the relationship between inflation and unemployment is not always stable or predictable. Factors such as changes in productivity, market conditions, and adaptive expectations of economic agents can significantly influence this dynamic. Additionally, structural changes in the economy, including technological advancements and demographic shifts, can alter the relationship between inflation and unemployment (Reić & Mihaljević Kosor, 2011).

Figure 1. Pfillips curve graph



Source: https://www.educba.com/phillips-curve/

The classical theory of inflation and the Phillips curve provide complementary yet different perspectives on inflation. The classical theory emphasizes the role of monetary policy and the money supply as key factors of inflation. On the other hand, the Phillips curve focuses on the labor market and wage dynamics as significant determinants of inflation. The classical theory offers a clear and simple model for understanding inflation through the lens of monetary policy, but it may be insufficiently precise in modern economies where numerous factors influence prices. The Phillips curve offers a more dynamic view of inflation, taking into account the interactions between the labor market and inflationary pressures, but it also has its limitations

regarding the stability and predictability of these relationships (Reić & Mihaljević Kosor, 2011).

2.1. Types of inflation

In addition to modern and classical inflation theory, there are other classifications commonly used in practice, such as the classification of inflation by intensity, causes, geographical distribution, and duration.

Intensity of Inflation

Inflation can be classified based on the rate of price growth. Depending on the rate of increase, there are four main types:

Mild Inflation: This type of inflation is characterized by an annual price increase of up to 5%. On a quarterly basis, this would be approximately 1%. Mild inflation is often used as a tool to stimulate economic growth by boosting consumption. It can be a natural consequence of a growing economy, where increasing demand for goods and services encourages companies to invest and expand production. Central banks sometimes target mild inflation because it can stimulate consumption and prevent deflation, a potentially harmful state where prices continually decline. Mild inflation has minimal negative effects on the economy; it can encourage consumers to make purchases earlier, which can be beneficial for businesses. Borrowers may also benefit as the real value of their debts decreases over time. However, savers may see a reduction in the purchasing power of their savings (Ibrahim, 2019).

Moderate inflation: When the annual rate of price increase ranges between 5% and 10%, it is called moderate inflation. This type of inflation often occurs in economies experiencing strong growth phases. Moderate inflation can have mixed effects. On one hand, it can stimulate consumption and investment. However, if it accelerates, it can reduce purchasing power, especially for those with fixed incomes. Companies may also face challenges in managing rising costs (Ibrahim, 2019).

High inflation: If prices increase annually between 10% and 100%, it is considered high inflation. In this scenario, money quickly loses its value, and the economy may experience serious disruptions. High inflation can stem from various factors, including excessive growth in the money supply, rapid credit expansion, supply chain disruptions, or currency depreciation. These factors can undermine confidence in the currency and lead to rising prices. High inflation

can have serious consequences. Consumers may lose confidence in price stability, leading to hoarding of goods and a decrease in real purchasing power. Individuals with fixed incomes, retirees, and savers may be particularly affected. Companies often struggle to adjust to rapid price changes, and uncertainty can deter investment (Ibrahim, 2019).

Hyperinflation: Hyperinflation represents the most extreme form of inflation, where prices increase by more than 50% in a single month. This type of inflation often leads to catastrophic consequences and is usually associated with periods of war and revolution. Factors can include excessive money printing, loss of confidence in the government, political instability, and poor economic management. Hyperinflation leads to the complete collapse of economic systems. People lose confidence in the local currency and often switch to using foreign currencies or barter systems. Basic goods become scarce, and social and political unrest often follow. It is a destabilizing force that can have long-lasting negative effects on the national economy (Ibrahim, 2019).

Root causes of inflation

Inflation can also be classified according to its fundamental causes:

Demand-Pull Inflation: Demand-pull inflation occurs when aggregate demand within an economy grows faster than its productive capacity can accommodate. In other words, there is excessive demand for goods and services relative to their supply. Several factors can lead to demand-pull inflation, including increased consumer spending, higher business investment, government expenditures, or even export growth. Anything that stimulates total demand can trigger this type of inflation. Demand-pull inflation is often seen as a sign of economic vitality because it reflects growing consumer confidence and business activity. However, if left unchecked, it can lead to overheating the economy and result in higher prices. Central banks typically respond by tightening monetary policy, raising interest rates to reduce demand and control inflation (Borozan, 2019).

Cost-push inflation: Cost-push inflation arises from a decrease in aggregate supply within an economy while maintaining the same level of demand. In this scenario, supply-side factors push prices upward. Several factors can fuel cost-push inflation, including rising production costs due to increases in raw material prices, higher labor wages, jumps in energy prices, or government policies such as new taxes. Essentially, anything that pushes production costs upward can lead to cost-push inflation. Cost-push inflation is generally considered a negative force because it reduces consumers' purchasing power and diminishes companies' profit

margins. When faced with higher costs, companies may either absorb them, reducing profits, or pass them on to consumers in the form of higher prices. Central banks may respond cautiously to cost-push inflation because raising interest rates may not be effective in addressing supply-side constraints (Babić, 2004).

Geographical sources of inflation

Inflation can further be categorized based on its geographical sources and economic relationships between countries:

Domestic Inflation: Domestic inflation occurs when inflation remains within one country without direct links to inflation in other countries. It reflects economic conditions within that specific country. Domestic inflation can result from various factors, including changes in domestic demand and supply dynamics, monetary policy decisions, fiscal policies, and external shocks affecting the domestic economy independently. The impact of domestic inflation is mostly felt within the borders of the experiencing country. It can affect consumers, businesses, and the government. Policymakers use various tools, such as adjusting interest rates and fiscal policies, to manage domestic inflation (Babić, 2001).

Imported Inflation: Imported inflation occurs when a country has strong economic ties, such as international trade relations, with another country experiencing inflation. In this scenario, inflation from one country "spills over" into the importing country. Imported inflation can arise when prices of imported goods and services increase due to inflation in the exporting country. This can result from exchange rate fluctuations, supply chain disruptions, or changes in global commodity prices. Imported inflation can have indirect but significant effects on the economy. It can lead to higher prices of imported goods, affecting consumers and businesses. Policymakers must consider the interaction between domestic and imported inflation when formulating economic policies (Babić, 2001).

Duration of inflation

Secular Inflation: Secular inflation is characterized by its low intensity but long duration. It involves gradual and steady price increases over an extended period, often years or even decades. Secular inflation can stem from structural factors within the economy, such as changes in demographics, technological advancements, or long-term shifts in supply and demand dynamics. Secular inflation may not have the immediate disruptive effects of high inflation, but

it can erode purchasing power over time. It challenges individuals and businesses to adapt to slowly rising prices (Babić, 2001).

One-time inflation: One-time inflation is relatively short-term and typically ceases when underlying causes are resolved. It is often triggered by specific events or temporary factors. One-time inflation is caused by events that are unlikely to repeat, such as disruptions in the supply chain due to natural disasters, geopolitical tensions, or unexpected changes in commodity prices. Although one-time inflation may temporarily disrupt price stability, it is usually considered transient. Policymakers can take measures to address immediate causes, but long-term policy adjustments are usually unnecessary (Borozan, 2019).

Chronic inflation: Chronic inflation lasts for more than a year and is often associated with serious economic problems. Chronic inflation can arise from structural issues within the economy, such as persistent fiscal deficits, excessive growth in the money supply, or lack of confidence in the currency. Chronic inflation is harmful to economic stability and can lead to hyperinflation if left unchecked. It erodes the real value of money, disrupts economic planning, and can result in social and political unrest (Borozan, 2019).

Stagflation originates from the combination of stagnation and inflation, highlighting price increases amid economic stagnation, which defines "incesija" (inflation + recession) — inflation during a recession. Thus, stagflation denotes a scenario where both high inflation rates and high unemployment coexist, implying significant price hikes and rising unemployment. Stagflation can arise from reduced production capacities in the economy, often triggered by oil price increases for oil-importing countries. This unfavorable situation typically results in price hikes alongside economic growth slowdown due to higher production costs, making business less profitable. Additionally, a key indicator used to identify stagflation is the misery index, which combines unemployment and inflation rates. This poses a challenge for economic policymakers who need to adjust policies to address these complex conditions. Conventional approaches to control inflation, such as raising interest rates, can further increase unemployment during stagflation periods, while measures aimed at reducing unemployment, like increased government spending, may spur inflation. One of the most notable instances of stagflation occurred during the 1970s, caused by a sharp rise in oil prices that increased production costs and led to high inflation, alongside economic stagnation (Borozan, 2019).

Incession describes a state where the economy faces persistently low or negative growth, accompanied by low inflation or even deflation. It represents a more complex form of recession

where standard economic policies, such as lowering interest rates, fail to stimulate growth. Incession is characterized by prolonged periods of economic stagnation and weak economic activity, often with minimal or no inflation. It can be particularly damaging because prolonged stagnation can lead to reduced investments, weakened consumer confidence, and increased unemployment. The main challenge during "incesija" is finding ways to stimulate economic growth without triggering harmful inflationary pressures. Japan's experience during the "lost decade" in the 1990s serves as a significant example, where low interest rates and various fiscal measures had limited success in reigniting growth (Babić, 2001).

Understanding the different forms of inflation is crucial for economists and policymakers because it enables them to adjust appropriate strategies to address current economic conditions. Each type of inflation carries its unique consequences, requiring different approaches to maintain economic stability.

2.2. Inflationary perspective

An inflationary perspective refers to a viewpoint or analysis that focuses on inflation, particularly within an economic context. This perspective involves examining and understanding the causes, effects, and implications of inflation on the economy, financial markets, businesses, and individuals. The term "inflationary perspective" typically refers to a viewpoint or analysis that focuses on inflation, particularly within an economic context. This perspective involves examining and understanding the causes, effects, and implications of inflation on the economy, financial markets, businesses, and individuals. An inflationary perspective represents a comprehensive approach to understanding and analyzing inflation within the broader economic context. It considers not only the immediate effects of rising prices but also the underlying causes and long-term implications, making it an important viewpoint for economists, policymakers, investors, and businesses (Malik et al., 2016).

Causes of Inflation

An inflationary perspective would delve into various factors that contribute to inflation. Increased consumer demand can lead to inflation, especially if supply cannot keep up with the rising demand. This is often referred to as demand-pull inflation. Rising production costs, such as increased prices for raw materials or wages, can cause inflation. This is known as cost-push inflation. Changes in the money supply implemented by central banks can impact inflation. An increase in the money supply can lead to inflation if it grows faster than the economy.

Government spending and taxation can also affect inflation. For example, increased government spending can boost demand and trigger inflation. Changes in global commodity prices, such as oil, can cause inflation. External shocks, such as natural disasters or political crises, can also influence inflation (Malik et al., 2016)..

Effects on Consumers

An inflationary perspective would consider how inflation affects consumers' purchasing power. When prices rise, consumers may find that their money is worth less, and they may need to adjust their spending and saving habits. Rising prices mean that consumers can buy fewer goods and services for the same amount of money. Consumers may delay purchasing big-ticket items or look for cheaper alternatives. Inflation can reduce the real value of savings if interest rates do not keep up with inflation (Malik et al., 2016).

Effects on Businesses

Inflation can impact businesses in several ways. Companies may face increased production costs due to rising input prices and may need to adjust their pricing strategies. Managing inventories and long-term planning can also be challenging in an inflationary environment. Companies may face higher costs for raw materials, labor, and other inputs. Businesses may need to raise the prices of their products to maintain profitability. Inflation can increase the cost of holding inventories, affecting inventory management strategies (Malik et al., 2016).

Monetary Policy

Central banks play a crucial role in managing inflation. An inflationary perspective would involve analyzing the actions of central banks, such as adjusting interest rates or conducting open market operations, to control inflation and achieve price stability. Central banks may raise interest rates to reduce demand and control inflation. They may buy and sell government securities to influence the money supply and control the amount of money in circulation to achieve price stability (Malik et al., 2016).

Investments

Investors often consider the inflation rate when making investment decisions. In an inflationary perspective, investors might explore how different asset classes, such as stocks, bonds, real estate, or commodities, perform during periods of inflation. Some companies may benefit from inflation if they can increase the prices of their products. The fixed return on bonds can lose value during inflation. Real estate can provide a hedge against inflation as property prices and

rents may rise with inflation. Commodity prices, such as gold and oil, often increase during inflation (Malik et al., 2016).

Government Policies

Government policies, such as fiscal measures and price controls, can influence the inflation rate. An inflationary perspective would assess the effectiveness and consequences of these policies. Government spending and tax policies that affect demand and supply, as well as price controls that governments may attempt to implement to regulate the prices of essential goods, can impact inflation (Malik et al., 2016).

Long-Term Consequences

Inflationary perspectives also consider the potential long-term consequences of sustained inflation, such as its impact on retirement savings, income distribution, and economic inequality. Inflation can reduce the real value of retirement savings. It can differentially impact various groups of people, worsening economic inequality. Prolonged inflation can contribute to greater economic inequality (Malik et al., 2016).

Global Context

In a globalized world, inflation in one country can affect others through trade and financial linkages. Therefore, an inflationary perspective may also involve examining how international factors contribute to or mitigate inflationary pressures. Inflation can affect the competitiveness of exports and imports. International capital flows can influence inflation through changes in exchange rates and interest rates. Changes in global commodity prices can impact national inflation rates (Malik et al., 2016).

2.3. Causes and effect of inflation

Inflation, the persistent increase in prices of goods and services over time, profoundly impacts economic dynamics and the behavior of economic agents. When inflation occurs, it often triggers irrational behavior among businesses and consumers. Companies face the need to react quickly by raising prices or adjusting production to maintain profitability amidst rising costs. Conversely, monetary policy must intervene promptly to stabilize prices and limit the long-term negative consequences of high inflation (Matthews 2022).

Higher inflation also alters consumer behavior. As people anticipate the rapid devaluation of their money, they are more inclined to spend rather than save. This dynamic encourages increased investment in stable assets such as real estate, precious metals, and art, which retain their value during periods of high inflation. On the other hand, investments in securities may decrease because such instruments can lose value during rapid price increases. Inflation significantly affects public finances as well. The growth in nominal GDP can increase government revenues, but simultaneously, the rise in public sector wages and subsidies to maintain living standards can significantly increase public expenditures. This situation can lead to budget deficits and long-term fiscal problems. In an international context, severe inflation can lead to the devaluation of the domestic currency, exacerbating the balance of payments and reducing a country's international reserves. High prices in partner countries can also reduce exports and stimulate imports, further negatively affecting the trade balance and economic stability (Matthews 2022).

According to Matthews (2022), the causes of inflation can be categorized into several factors: demand-pull inflation, cost-push inflation, excessive growth in the money supply, depreciation of the domestic currency, and wage increases exceeding labor productivity growth. Additionally, various policies and regulations such as fiscal and monetary policies can contribute to inflation.

Demand-pull inflation arises when demand for goods and services exceeds the domestic economy's capacity to supply them, leading to price increases. When demand outstrips supply, companies often raise prices. Cost-push inflation is caused by rising production costs of goods and services, including increases in wages and the prices of materials and raw materials. When production costs rise, companies often raise prices to maintain profitability. Excessive growth in the money supply, as discussed by Blanchard (2003), especially through the issuance of bonds purchased by the central bank, can increase the amount of money in the economy. If the growth in the money supply outpaces production growth, inflation can result. A larger amount of money in circulation leads to increased demand, which can raise prices of goods and services (Blanchard, 2003).

Depreciation of the domestic currency, or its decrease in value compared to foreign currencies, can also affect inflation. It makes imports more expensive and encourages increased demand for domestic products, which can result in price increases. Wage increases exceeding labor productivity growth can contribute to inflation by providing workers with more funds for consumption, thereby increasing demand for goods and services. Policies and regulations, such

as changes in taxes or laws affecting the production and supply of goods, can also impact inflation. For example, increasing taxes on certain products can raise their prices, which in turn can affect the prices of other products. Stricter laws and regulations can reduce the supply of certain goods, which can also affect prices (Blanchard, 2011).

One of the more subtle yet significant long-term impacts of inflation is wealth redistribution. Inflation often favors debtors over creditors, as debts denominated in money with inflation become less valuable. This can affect power dynamics in the economy and society, increasing economic inequalities. Additionally, high inflation can have negative consequences on international relations and trade. To mitigate the negative consequences of inflation, governments typically implement monetary policy measures such as increasing interest rates or limiting money supply growth. However, these measures themselves can have adverse effects on the economy, such as slowing growth or increasing unemployment (Matthews, 2022).

Moderate inflation, defined as creeping inflation up to about 5%, carries several potential benefits for the economy. It is considered a means of financing government spending by increasing the money supply through currency issuance. This can be useful for funding infrastructure projects or social programs, which can stimulate economic growth when needed. Furthermore, high inflation can result in negative real interest rates. This means that nominal interest rates can be lower than the inflation rate, reducing the real value of debt and encouraging consumption and investment, which is particularly important during recessions or periods of low economic growth (Blanchard, 2011).

The phenomenon of "money illusion" suggests that workers perceive wage increases positively despite inflation. For example, they are less likely to accept wage cuts in low inflation conditions than to accept smaller increases in high inflation conditions. This perception can maintain positive sentiment among workers and consumers, stabilizing consumption and stimulating economic activity. While moderate inflation can bring certain benefits, it is important to note that high or unstable inflation can have serious negative consequences. This includes reducing purchasing power, destabilizing financial markets, and potentially undermining confidence in currency and economic policies. Therefore, it is crucial to maintain a careful balance in managing inflation to harness its potential benefits while minimizing its risks and negative effects on the economy (Blanchard, 2011).

2.4. Measuring inflation

Measuring inflation is a crucial process for understanding economic changes and making informed decisions at various levels, from individuals to governments. Inflation is defined as the percentage increase in the general price level of goods and services in an economy over a specific period of time. High inflation can erode consumers' purchasing power, while low or negative inflation (deflation) can signal economic issues such as recession. Therefore, monitoring and measuring inflation are essential tools for economic planning and strategy.

Inflation can be measured using price indices, which represent weighted averages of prices of a specified basket of goods and services. The most important price indices include (Benić, 2016):

Consumer Price Index (CPI): This index measures the change in prices of a typical basket of goods and services necessary for everyday life, including food, clothing, housing, transportation, and others. The national statistical office keeps track of these items across the country. CPI is constructed by assigning a fixed weight to each item based on its importance in household consumption expenditure. It is the most commonly used indicator of inflation (Benić, 2016).

Producer Price Index (PPI): This index measures the level of prices at wholesale or producer levels and is based on approximately 3,400 commodities, including prices of food, manufacturing products, and mining. PPI is important for understanding inflation at the production level and can indicate future changes in CPI (Benić, 2016).

Gross Domestic Product (GDP) Deflator: This index represents the ratio of nominal to real GDP and defines the average price change of all goods included in GDP, such as consumption, investment, government purchases, and net exports. The deflator is used to remove the inflationary impact from GDP (Benić, 2016).

Measuring inflation faces numerous challenges. Changes in consumer behavior, introduction of new products, technological advancements, and changes in product quality can complicate accurate measurement of inflation. For instance, if product quality improves, the price may increase, but it may not necessarily reflect inflation as consumers are getting better value for their money (Benić, 2016).

Inflation data serves various purposes, including (Matić, 2011):

Monetary Policy: Central banks, such as the Croatian National Bank, use inflation data to set interest rates aimed at maintaining price stability and supporting economic growth.

Indexing of Wages and Pensions: Many wages and pensions are indexed to inflation to preserve citizens' purchasing power.

Investments: Investors use inflation data to make investment decisions. For example, high inflation can reduce the real return on fixed-income bonds.

Inflation Rate Representation: The inflation rate measures the rate of change in the general price level over a specified period and is calculated using the formula:

$$\text{INFLATION RATE} = \frac{Index_{current} - Index_{previous}}{Index_{previous}} * 100$$

The Consumer Price Index in Croatia is calculated and published based on a basket of 600 representative goods and services. Each month, more than 30,000 prices are collected from a predefined sample of outlets across nine geographical locations. CPI has been calculated and published in Croatia since 2004 (Matić, 2011).

Price indices have certain drawbacks, such as the selection of an appropriate base year and the failure to account for changes in product and service quality. The Harmonized Index of Consumer Prices (HICP) is calculated using a harmonized approach, enabling inflation comparisons across the euro area, European Union, European Economic Area, and EU candidate countries. Measuring inflation is a complex but crucial process for understanding economic trends and making informed decisions. Accurate and timely insights into inflation trends allow economic stakeholders to better prepare for future challenges and opportunities (Benić, 2016).

3. MECHANISMS OF THE IMPACT OF INFLATION ON BORROWING

Inflation has a profound impact on borrowing through several key mechanisms that shape economic conditions and the financial behavior of individuals and businesses. Rising inflation often leads to higher interest rates set by central banks to curb inflationary pressure. This makes borrowing more expensive for consumers and businesses as the cost of loans increases. Furthermore, inflation alters the real value of debt. As prices rise, money loses its purchasing power, meaning debtors can repay their loans with less valuable money than they initially borrowed. This dynamic can benefit debtors, while creditors, who receive repayment in devalued currency, may incur losses. High inflation often results in stricter lending conditions. Banks may raise credit approval requirements to reduce the risk of defaults in an environment of high prices for goods and services. Inflation can destabilize the economy, reducing investment and consumption, which influences borrowing decisions of individuals and businesses. Finally, the relationship between inflation and wage growth plays an important role. If wages do not rise in line with inflation, consumers may experience a decline in purchasing power, which could prompt them to borrow to maintain their standard of living.

3.1. Interest rates

Interest rates play a crucial role in the financial stability of economies and households as they determine the cost of borrowing and the income from savings. They influence the decisions of consumers, businesses, and governments regarding spending, investments, and debt management. Inflation, on the other hand, describes the rise in the general price level of goods and services. As inflation rises, the purchasing power of money decreases, which can significantly impact economic decisions. The interaction between inflation and interest rates is key to economic policies and financial planning (Sawyer, 2009).

When inflation rises, central banks typically raise interest rates to curb inflationary pressures. Higher interest rates make borrowing more expensive, encouraging savings as savers receive higher returns on their deposits. On the other hand, higher borrowing costs can discourage consumers and businesses from taking out new loans, which can slow economic growth. Citizens directly face the impact of inflation on their financial decisions. Rising prices reduce

the value of the money they borrow today, as it is repaid in the future with less purchasing power. If interest rates rise alongside inflation, this further increases the overall cost of borrowing (Sawyer, 2009).

Among the main reference interest rates used in the Euro market are EURIBOR_6M, NRS3_6MEUR, and TZMF_1_YEUR.

EURIBOR_6M (Euro Interbank Offered Rate) represents the average interest rate at which banks in the Eurozone lend funds to one another for a six-month period. This rate is an important indicator of liquidity and stability in the Euro market and is often used as a reference for setting interest rates on various financial products such as loans and mortgages (HNB, 2024).

NRS3_6MEUR refers to the national reference rate of the average cost of funding for the banking sector in euros over a six-month period. This rate is specific to each national bank and is used as an indicator of borrowing costs for all physical and legal persons within that jurisdiction (HNB, 2024).

TZMF_1_YEUR represents the interest rate on one-year treasury bills denominated in euros. This rate reflects the government's annual borrowing costs and is an important indicator in assessing the risk and yield of government securities (HNB, 2024).

Moreover, inflation and interest rates have a long-term impact on financial planning. While savers may benefit from higher interest rates due to increased returns on savings, borrowers face higher costs of debt repayment. Businesses also need to carefully balance between borrowing costs and investment decisions (HNB, 2024).

3.2. Real value of debt

The real value of debt represents the value of debt adjusted for inflation or changes in the purchasing power of money over time. When discussing debts, particularly those with fixed nominal amounts (not adjusted for inflation), the real value of debt can change due to inflation (Katnić, 2010). For example, if someone takes out a loan for a certain amount of money and inflation occurs during the repayment period, the money used to repay the debt in the future may have less purchasing power compared to when the loan was taken out. This means that the real value of the debt, in terms of the actual purchasing power it represents, will be lower if inflationary effects are not considered. Therefore, the real value of debt takes inflation into

account to understand how much value the debt truly represents in the context of the actual economic strength and purchasing power of money at a given time (Katnić, 2010).

High inflation is often seen as a double-edged sword in managing public debt. While some analysts advocate for higher inflation as a means to reduce the real value of debt, this strategy carries significant risks and side effects. In the short term, high inflation can offer a temporary solution for politicians facing fiscal challenges. Inflation can increase seigniorage—the revenue from printing money that can be used to repay debt. Additionally, anticipated inflation can reduce the real value of debts that are not indexed to inflation. However, high inflation has serious negative consequences for citizens and the economy. It causes distortions in resource allocation, increases economic instability, and encourages rent-seeking behavior, which can discourage long-term investments and slow economic growth. Such inflation often leads to increased poverty as it reduces citizens' purchasing power. Moreover, high inflation does not provide a lasting solution to long-term fiscal challenges. The perception of inflation can lead to higher interest rates, resulting in significantly higher costs of debt refinancing and long-term budgetary burdens (Katnić, 2010).

3.3. Changes in consumer behavior

When inflation rises faster than wages or income, it has a profound and widespread impact on the economy and the daily lives of consumers. As a phenomenon characterized by an increase in the general price level of goods and services over time, inflation directly affects the real purchasing power of consumers. This means that even if nominal incomes remain the same, consumers can buy fewer goods or services than before. Rising prices can outpace income growth, resulting in consumers needing to allocate a larger portion of their income to the same basic necessities. Besides reducing the ability of consumers to meet their basic needs, inflation can also exacerbate economic inequalities. People with fixed incomes or low earnings, such as retirees or minimum wage workers, are particularly affected. They often lack the ability to increase their income to keep up with rising living costs. As a result, these consumers frequently have to cut back on spending or seek alternative sources of financing to maintain their standard of living (Gafurdjan, 2024).

Increased inflation can also have far-reaching consequences for the overall economy. Consumers feeling the pinch of inflation may become less inclined to make long-term

investments or take on consumer debt, which can slow down consumption and investment growth. This can further slow economic growth and job creation, as businesses may be less willing to expand or hire in an uncertain inflationary environment (Gafurdjan, 2024).

Individuals with fixed incomes or low earnings are particularly vulnerable. They feel the strong pressure of inflation because any increase in the prices of basic necessities, such as food, housing, or transportation, directly reduces their ability to protect or increase their financial resources. This not only limits their ability to save but also restricts their access to other essential goods and services. In the long term, inflation can also pose challenges for consumers' financial decisions. People with fixed incomes, feeling uncertain about the future stability of their financial situation, may be more likely to avoid long-term financial commitments or investments. This can impact the broader economy by reducing consumption and investments, potentially slowing economic growth. To protect their purchasing power, consumers might respond by changing their spending habits or seeking more favorable financial products. This is important because inflation can prompt people to look for alternative strategies to ensure that their financial resources remain valuable in a context of rising prices (Gafurdjan, 2024).

4. INFLATION IN REPUBLIC OF CROATIA

The reasons behind hyperinflation in Croatia trace back to the time of the former Yugoslavia when Croatia was part of that older state. The consequences of inflation during the 1980s were experienced on a daily basis by the citizens of Yugoslavia. For instance, people faced challenges such as fuel coupons, the odd-even license plate system determining when they could drive, and long lines at stores for basic items like coffee, sugar, and oil (Buvač, 1990). Additionally, these were years when individuals made substantial money by exchanging foreign currencies, such as German marks, dollars, and Swiss francs, for Yugoslav dinars and vice versa (Buvač, 1990).

From 1952 to 1965, the economy of the Socialist Federal Republic of Yugoslavia grew on average by an impressive 9.5%, comparable to the growth seen in the Asian Tigers during the 1990s. The same author highlights that from 1974 to 1979, the Socialist Republic of Croatia (alongside Slovenia) had the highest share of GDP within Yugoslavia. It's true that the 1970s were years of significant borrowing, but it's also true that these were times when global interest

rates were low, and money was inexpensive. Yugoslavia ended up with an external debt of 22 billion dollars as a result (Buvač, 1990).

4.1. Living standard in Croatia

In the first half of 2022, a year-on-year increase in real GDP of 7.4% was recorded. Specifically, in the first quarter, a real year-on-year growth of 7.0% was achieved, followed by an acceleration to 7.7% in the second quarter of 2022. A stronger contribution to the movement of real GDP in the first half of 2022 came from domestic demand, although net foreign demand also made a slightly positive contribution. Examining individual components from the expenditure side, the largest contribution to the increase in real GDP in the first half of 2022 came from the growth of goods and services exports, which increased by 36.6%. A significant contribution to the growth of real GDP was also made by the year-on-year increase in household consumption of 7.0%, while a slight positive contribution to GDP growth came from the year-on-year increase in gross fixed capital formation of 6.4% and a growth in government consumption of 1.6%. A negative contribution to GDP movement in the first half of 2022 was recorded due to the growth in the import of goods and services by 26.9%, primarily as a result of a strong increase in the import of goods (HGK, 2022).

When viewed from the production side, a growth in gross value added of 7.6% was recorded in the first half of 2022. In this context, the most significant positive contribution to the increase in gross value added in the first half of 2022 came from the growth of gross value added in the trade, transport, and tourism sector, which amounted to 22.0%. A positive contribution was also made by the year-on-year growth in the manufacturing industry of 2.5% (HGK, 2022).

The labor market also showed positive trends, with lower unemployment and increased job demand. Specifically, in the first six months of this year, there was a further year-on-year increase in the seasonally adjusted number of policyholders of the Croatian Institute for Pension Insurance (CIPR), along with a simultaneous decrease in the seasonally adjusted number of unemployed persons registered with the Croatian Employment Service (CES). When viewed on a year-on-year basis, the average number of registered unemployed persons in the first half of 2022 was 120,300, representing a decrease of 19.5% compared to the same period in 2021, while the number of CIPR policyholders increased by 2.6% on a year-on-year basis. Furthermore, during the first half of 2022, demand for labor (measured by the OVI1 index) increased significantly and was at its highest levels since data became available (since

2005).However, inflation was high at 8.6%, driven by food, beverages, and energy price increases (HGK, 2022).

Looking at the main groups of the ECOICOP classification, on an annual basis, the highest increase in consumer prices on average was recorded in the following groups: Food and non-alcoholic beverages, at 19.7%; Restaurants and hotels, at 17.8%; Housing, water, electricity, gas, and other fuels, at 16.1%; Furniture, household equipment, and routine household maintenance, at 15.8%; Transportation, at 11.5%; Miscellaneous goods and services, at 10.7%; Recreation and culture, at 8.4%; Clothing and footwear, at 6.6%; Alcoholic beverages and tobacco, at 4.4%; Health, at 3.5%; and Education, at 2.3% (DZS, 2022).

4.2. Inflation in Croatia

Consumer price inflation increased significantly towards the end of 2021, especially noticeable to citizens in their fuel and food bills, drawing heightened attention from the media and the general public. Such high inflation hadn't been seen in Croatia for thirteen years, since 2008. The acceleration of domestic inflation in the second half of 2007 and throughout 2008, much like recent inflation trends, was largely influenced by import pressures due to a substantial rise in energy and raw material prices in the global market, occurring during a period of robust global economic growth (HNB, 2022).

Despite these similarities, there are notable differences between these two episodes of elevated inflation. The price surge in raw materials in 2007 and 2008 was also linked to economic developments in China, with a significant part attributed to increased demand driven by China's rapid industrialization and the mass migration of workers to urban areas. Among the domestic factors that contributed to heightened inflation in the mid-2007 and 2008 period were a considerable acceleration in domestic demand and unit labor costs (HNB, 2022)

On the other hand, the recent inflation increase is mainly a result of three factors: the rise in imported inflation, meaning higher prices for raw materials and industrial products on the global market, the recovery of domestic personal consumption, which encouraged producers and retailers to pass on cost increases to end consumers, and statistical factors, meaning that current prices are compared to those from a year ago, i.e., the end of 2020 when they were depressed due to market disruptions caused by the pandemic and economic shutdowns.

Taking a closer look at the Harmonised Index of Consumer Prices (HICP) for January and February 2023 in Croatia, it's evident that inflation continued to decrease in annual terms. In December 2022, it stood at 12.7%, but by January 2023, it had dropped to 12.5%, and further to 11.7% in February 2023. The month-on-month inflation for January 2023 was 0.3%, which was lower than in some other euro area countries (Eurostat, 2024).

Notably, prices for food and services increased, while energy and non-energy industrial goods saw price declines compared to December 2022. Some HICP components show strong seasonality, so we compared the month-on-month figures for January 2023 to those from the past ten years to detect any unusual deviations from historical patterns. We found that the month-on-month growth in service prices for January 2023 was unusually high, particularly in bars, restaurants, hairdressers, and medical and dental services (Eurostat, 2024).

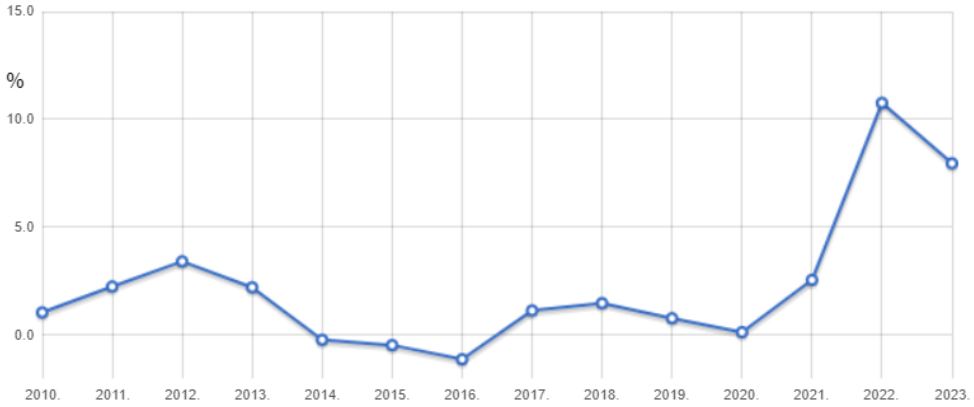
In 2023, inflation in Croatia has shown a significant decline according to Eurostat's initial estimates. The Harmonized Index of Consumer Prices (HICP) slowed down to 6.7% in October from 7.4% in September. This trend is a result of reduced inflation in food and energy prices. Food prices decreased to 8.5% in October from a peak of 16% at the end of last year, attributed to lower prices of energy, fertilizers, and food commodities globally. Normalization of global supply chains and government measures limiting prices of essential products also contributed to this decrease. Energy prices also dropped to -0.5% in October from 2.8% in September, reflecting lower prices compared to the same period last year. The average price of Brent crude oil was $91.4 per barrel, down 2.8% from September. Geopolitical risks continue to pose uncertainties for future oil price movements (Eurostat, 2024).

Core inflation, excluding energy and food, rose to 7.4% in October from 7.3% in September, indicating accelerated inflation in industrial goods. Service sector inflation remained high at 9.2%. Overall inflation measured by the national Consumer Price Index, according to the first estimate from the Croatian Bureau of Statistics, slowed to 5.8% in October from 6.7% in September. Eurostat also reported a decline in inflation across the euro area, reflecting similar trends in the broader economy (Eurostat, 2024).

In February 2023, the month-on-month HICP growth was 0.2%, one of the lowest increases among euro area countries. Additionally, all HICP components, including services, displayed month-on-month growth in line with past trends. When compared with the period from 2013 to 2022, the January 2023 HICP figures show strong inflation dynamics. To account for these differences in the inflation environment, we calculated the difference between the month-on-

month price changes in January of each year and the average changes observed over the previous six months (July to December) in the previous year. This analysis indicates that the growth in service prices in January 2023, while on the higher end, still falls within the historical range, suggesting that the unusual increases observed in January 2023 are partly due to existing underlying inflationary pressures (HNB; 2022).

Figure 2. Average annual inflation rates



Source: DZS, 2024. Available at: https://web.dzs.hr/calcinfl.htm

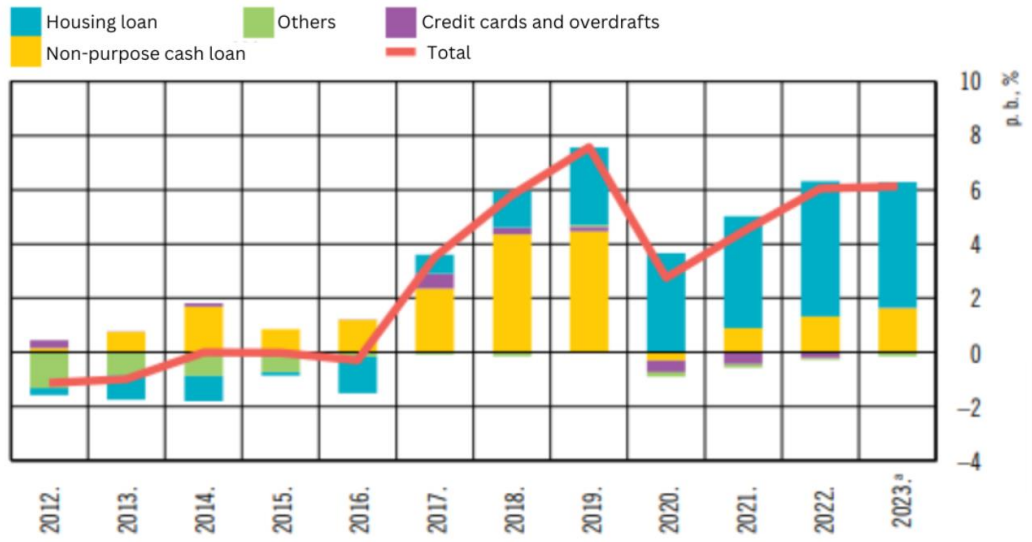
4.3. Indebtedness of citizens of the Republic of Croatia

Borrowing by citizens of the Republic of Croatia has undergone significant changes in recent years, influenced by various factors ranging from macroeconomic trends to specific government credit stimulus programs. With favorable financing conditions and a dynamic real estate market, Croatian citizens increasingly utilize various forms of credit to achieve their financial goals. In the past year, there has been a noticeable increase in approved housing loans due to the seventh wave of government subsidy programs. These programs subsidize interest rates on housing loans, resulting in a slight acceleration in approvals in the second quarter. The combination of low interest rates and stimulus measures has further stimulated demand for real estate, making housing loans more attractive options for families looking to purchase or renovate their homes. Conversely, personal unsecured loans have shown a more moderate growth during the same period, indicating caution among citizens when borrowing for unforeseen expenses or consumer needs. The terms for obtaining these loans often depend on personal financial stability as well as the overall economic environment (Croatian National Bank, 2024).

It is important to highlight the stability of the financial system in Croatia, which, despite increased borrowing activities by citizens, has maintained relative stability. Indicators of indebtedness such as Loan-to-Salary ratio (LSTI) and Debt-Service-to-Income ratio (DSTI) have remained under control, reflecting prudent risk management and bank responsibility in loan approvals. Challenges such as geopolitical tensions and inflation impact the economic climate and consumer confidence, influencing decisions on borrowing. Changes in the monetary policy of the European Central Bank could also lead to fluctuations in interest rates, affecting borrowing costs and consumer behavior (Croatian National Bank, 2024).

Due to high inflationary pressures, housing loans have become an appealing option for many citizens. The state program subsidizing interest rates on housing loans has further fueled this trend. This program, which subsidizes a portion of the interest rate, has led to an increase in approved housing loans, especially in the second quarter of last year. Low interest rates and stimulus measures have created favorable conditions for borrowing, further stimulating demand for real estate. The growth rate of these loans accelerated from 4.6% in 2021 to 6% in 2022, maintaining a similar pace in early 2023. However, personal unsecured loans have shown a more moderate growth compared to housing loans. This segment of lending indicates caution among citizens when borrowing for unforeseen expenses or consumerist needs. The criteria for obtaining these loans often depend on individual financial stability as well as the general economic environment (Croatian National Bank, 2024).

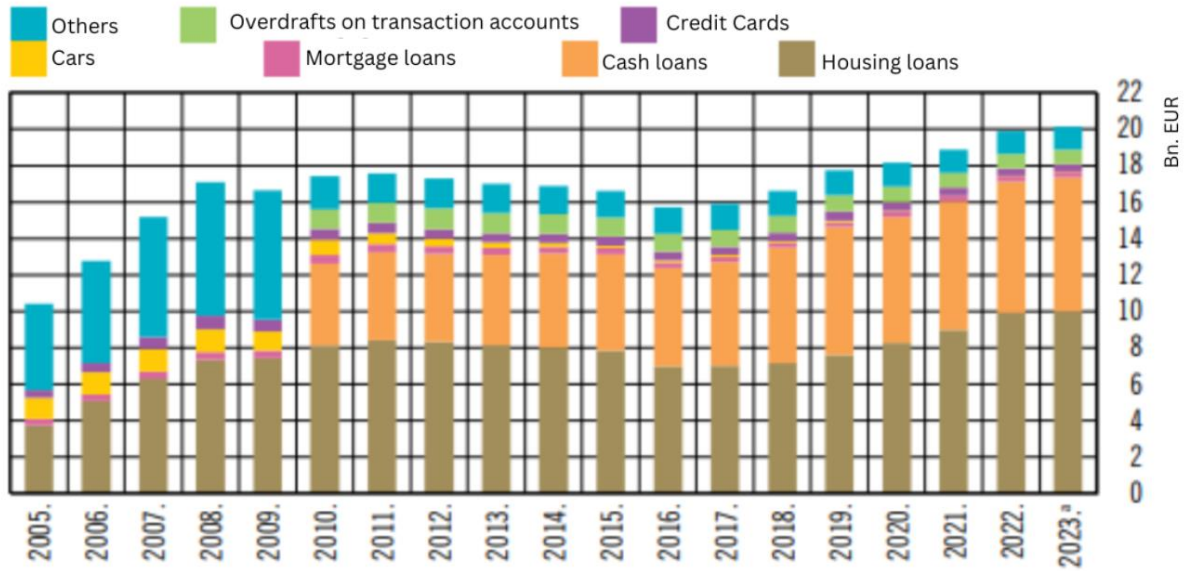
Figure 3. Household loans



Source: HNB, 2024. Financial stability. Available at: https://www.hnb.hr/documents/20182/4643477/h-fs-24.pdf/9bef2ca8-a966-4f5b-07f0-c2478fd4171d

Furthermore, the increase in housing loans (Figure 4) has been associated with continuous growth in mortgage lending in recent years, reaching an impressive annual rate of 10.5% by the end of 2022, although growth slightly slowed to around 9.7% by March 2023. On the other hand, consumer non-purpose loans show a gradual recovery, growing at a rate of 4.4% during the same period, but slower compared to previous years. It is important to note that the approval standards for housing loans remained stable throughout 2022. On average, new mortgage borrowers allocated about 31% of their income to loan repayments, while total debt repayments amounted to about 39% of income. Loans approved with a high debt-to-income ratio are considered riskier due to less flexibility in coping with economic shocks such as rising costs or interest rates. Current inflation plays a crucial role in the dynamics of household borrowing. High inflation leads to a decrease in the real value of fixed debts, easing debt repayment considering the growth in nominal GDP. Despite a nominal increase in household debt by about 5%, the debt-to-GDP ratio continues to decline, reaching about 34% of GDP by the end of 2022 (Croatian National Bank, 2024).

Figure 4. Share of loans



Source: HNB, 2024. Financial stability. Available at: https://www.hnb.hr/documents/20182/4643477/h-fs-24.pdf/9bef2ca8-a966-4f5b-07f0-c2478fd4171d

Furthermore, the reduction in interest rates and the extension of loan maturities have further eased the burden of debt repayment for citizens. However, rising living costs pose a challenge

to loan repayment capability, especially in the context of absorbing potential economic uncertainties (Croatian National Bank, 2024).

In Croatia, the increase in living expenses over the past year has significantly impacted the financial stability of households, particularly those with lower incomes and retired households. The inflationary shock has led to increased costs of food and utilities, resulting in a reduction in real disposable incomes. Analysis based on data from the Household Finance and Consumption Survey (HFCS) from 2020 shows that households in the lowest income quintile primarily allocated about 35% of their income to utilities and over 45% to food. This share has risen due to inflation, especially affecting households with retirees and those already in financially vulnerable situations.

The increase in food and energy costs has predominantly affected lower-income groups. For example, food and utility costs as a proportion of income have increased by about 8 percentage points for households in lower income brackets, while the increase for households with the highest incomes was around two percentage points. This situation has further burdened households with the lowest incomes, which are mostly severely constrained in their financial ability to take on debt. It is important to note that indebted households often face higher essential costs. For instance, households with the highest incomes spend about 25% of their annual disposable income on food, utilities, and debt repayment. In contrast, those without debt spend around 20% of their income on these expenses. Disparities in consumption are more pronounced among lower-income households, where non-indebted households sometimes spend up to 85% of their income on basic living expenses. Vulnerability analysis indicates that around 18% of indebted households in Croatia are identified as vulnerable, meaning they spend more than 70% of their disposable income on food, utilities, and debt repayment. Most of these vulnerable households are in lower-income groups, while a larger share of debt is concentrated in higher middle-income groups. This highlights that while lower-income households are often vulnerable, the total amount of debt in higher-income groups could pose a greater risk to financial stability due to larger loan amounts. Furthermore, considering potential economic shocks such as rising living costs, vulnerable households may be more exposed to financial difficulties. Their ability to repay debt could be further jeopardized in case of reduced disposable income or rising interest rates (Croatian National Bank, 2024).

5. CONCLUSION

In Croatia, inflation has significantly impacted citizens' indebtedness in recent years. High inflation, particularly evident in the rise of food, beverage, and energy prices, has created challenges for household financial stability, resulting in reduced real disposable incomes. Analysis shows that households in the lowest income quintile in 2020 primarily spent about 35% of their income on utilities and over 45% on food. This share increased due to inflation, especially affecting households with retirees and those already in financially vulnerable situations.

The increase in food and energy costs has most affected lower-income groups. For instance, the share of income spent on food and utilities increased by about 8 percentage points for households in lower income brackets, while the increase for households with the highest incomes was about two percentage points. This situation further burdened households with the lowest incomes, which are generally constrained in their financial capacity to take on debt. Vulnerability analysis indicates that around 18% of indebted households in Croatia are classified as vulnerable, spending more than 70% of their disposable income on food, utilities, and debt repayment. Most of these vulnerable households are in lower-income groups, while a larger share of debt is concentrated in higher middle-income groups. This highlights that while lower-income households are often vulnerable, the total amount of debt in higher-income groups could pose a greater risk to financial stability due to larger loan amounts.

High inflation also plays a crucial role in the dynamics of household borrowing. It leads to a decrease in the real value of fixed debts, easing debt repayment considering the growth in nominal GDP. Despite a nominal increase in household debt by about 5%, the debt-to-GDP ratio continues to decline, reaching about 34% of GDP by the end of 2022. Financial stability in Croatia remains relatively robust, despite increased borrowing activities by citizens. Indicators of indebtedness such as the Loan-to-Salary ratio (LSTI) and Debt-Service-to-Income ratio (DSTI) have remained under control, reflecting prudent risk management and responsible lending practices by banks. Challenges such as geopolitical tensions and inflation affect the economic climate and consumer confidence, influencing decisions on borrowing. Changes in the monetary policy of the European Central Bank could also lead to fluctuations in interest rates, affecting borrowing costs and consumer behavior. In conclusion, high inflation in Croatia has significantly impacted citizens' financial stability. The increase in food, beverage, and energy costs has particularly burdened households with lower incomes, reducing their real

disposable incomes. Nevertheless, financial system stability remains strong, with controlled indicators of indebtedness such as the Loan-to-Salary ratio and Debt-Service-to-Income ratio. Government programs subsidizing interest rates on housing loans have further fueled citizen borrowing, especially in the housing loan segment. Looking ahead, developments in inflation and interest rates will be crucial for shaping future borrowing patterns and financial stability for citizens in Croatia.

Contribution of the Paper

This paper makes a significant contribution to the academic and professional literature on the impact of inflation on consumer borrowing in the Republic of Croatia, providing a comprehensive insight into the complex relationships between inflationary trends and the financial stability of households. Using empirical data from various sources, the paper thoroughly analyzes how inflation, particularly the increase in prices of essential goods such as food, beverages, and energy, affects real incomes and household spending patterns. The paper identifies key mechanisms through which inflation increases the financial burden on the most vulnerable groups, such as retirees and low-income households, who are especially affected by rising costs of essential living expenses.

Additionally, the paper highlights how high inflation alters the dynamics of household borrowing by reducing the real value of existing debt and encouraging households to take on more debt due to the decrease in real interest rates. This research contributes to understanding the macroeconomic implications of inflation, particularly in the context of the country's financial stability, emphasizing the importance of understanding the distribution of debt and the potential risks associated with high levels of indebtedness within different income groups. The paper also contributes to policy discussions, proposing measures to mitigate the negative effects of inflation on household financial stability and encourages consideration of long-term strategies to preserve economic stability.

Limitations of the Paper

Despite the valuable insights this paper provides, several limitations should be noted. Firstly, the paper primarily relies on secondary data sources, including reports from the Croatian National Bank and the Croatian Bureau of Statistics, which may affect the timeliness and accuracy of the information analyzed. This approach may limit the ability to gain an in-depth understanding of the specific socio-economic conditions affecting individual households. Secondly, the research uses aggregated data that provide a general overview of the situation but

do not allow for insights into the heterogeneity of experiences among different households or the specific impacts of inflation on certain demographic and geographic groups.

Furthermore, the paper does not consider the dynamic effects of changes in economic policies or global economic conditions, which could significantly impact future inflation and borrowing patterns. This means that the results and conclusions of the paper may be limited by the time frame in which the data were collected and analyzed, and therefore may not fully reflect future economic trends and challenges. Finally, limitations also pertain to the lack of qualitative data that could provide additional perspectives on the motivations and perceptions of households regarding borrowing in the context of inflation.

Recommendations for Future Research

Recommendations for future research include several guidelines for deepening the understanding of the impact of inflation on consumer borrowing in Croatia. Firstly, future studies should focus on collecting and analyzing microeconomic data that would allow for a more detailed analysis of various social, economic, and demographic factors influencing household indebtedness. This could include research that examines the role of education, employment, asset ownership, and other factors in determining how different groups respond to inflationary pressures.

Secondly, it is recommended to apply longitudinal studies that track households over a more extended period to better understand the long-term effects of inflation on financial stability and borrowing. It would also be beneficial to investigate the impact of specific fiscal and monetary policies, including those implemented by the European Central Bank and the Government of the Republic of Croatia, on inflation and borrowing dynamics. This includes analyzing the effects of changes in interest rates, tax policies, and subsidy programs on consumer behavior and financial stability.

Thirdly, future research could include qualitative methods, such as interviews, focus groups, or case studies, to gain deeper insights into the subjective perceptions, expectations, and adjustment strategies of households in the context of inflation. This data could help understand why and how households make borrowing decisions and how they adapt to changes in the economic environment.

Finally, it is recommended to explore potential scenarios of global economic changes, including risks such as recessions, changes in international trade, and geopolitical tensions, and their impact on inflation and borrowing in Croatia. Such research could help shape policies that better respond to complex and evolving economic challenges in the future.

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