UNIVERSITY OF LJUBLJANA

SCHOOL OF ECONOMICS AND BUSINESS

MASTER'S THESIS

THE IMPACT OF INFLATION ON CONSUMER BEHAVIOR OF MILLENNIALS

Ljubljana, October 2022 ROK KRIŽAJ

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDICES

LIST OF ABBREVIATIONS

sl. – Slovene
BLS – (sl. Urad za statistiko dela); Bureau of Labor Statistics
ECB – **(**sl. Evropska centralna banka); European Central Bank
ELB – (sl. Efektivna spodnja meja); Effective lower bound
GDP – (sl. Bruto domači proizvod); Gross Domestic Product
HICP – (sl. Harmonizirani indeks cen življenjskih potrebščin); Harmonised Index of Consumer Prices
HICPX – (sl. Indeksu cen življenjskih potrebščin z izjemo energije in hrane); Inflation excluding energy and food
IMF – (sl. Mednarodni denarni sklad); International Monetary Fund
OECD – (sl. Organizacija za gospodarsko sodelovanje in razvoj); Organisation for Economic Co-operation and Development
PCCI – (sl. Vztrajna in skupna komponenta inflacije); Persistent and Common Component of Inflation
PP – (sl. Odstotne točke); Percentage points
SURS – (sl. Statistični urad Republike Slovenije); Statistical Office of the Republic of Slovenia
QE – (sl. kvantitativno lajšanje); Quantitative Easing
US – (sl. Združene države); United States
TLTROs – (sl. Ciljno usmerjene operacije dolgoročnega refinanciranja); Targeted longer-term refinancing operations

INTRODUCTION

While Millennials have lived through many economic misfortunes, from the dot-com bubble burst when they were children, the housing crash of 2008, and recently COVID-19 pandemic, most of them had never felt rapid inflation, at least as adults (Smialek, Chodosh & Casselman, 2021). Consequently, empirical evidence on the relationship between inflation and consumers economic decisions, particularly with regard to younger generations, is still scarce and existing studies have brought forward conflicting conclusions with respect to the nature and direction of the relationship (Duca, Kenny & Reuter, 2019).

Thus, the purpose of this master's thesis was to contribute to limited knowledge about the impact of inflation on consumer behavior of Millennials. To accomplish this purpose four main goals were set, specifically, to examine the role of inflation as one of the determinants of consumer behavior, observe the reported differences in inflation perceptions and expectations among Slovenian consumers, understand the heterogeneity in readiness to spend and purchasing habits among Slovenian consumers when faced with inflation, and to assess the impact of inflation on the broader economy due to changes in consumer behavior. Based on the established goals, five core research questions were designed:

- How concerned are Slovenians with inflation when making purchase decisions?
- What are the differences in inflation perceptions and expectations among age groups and within the millennial generation in Slovenia?
- How and to what extent does inflation affect consumer spending across age groups and within the millennial generation in Slovenia?
- How does inflation affect consumer's purchasing habits across age groups and within the millennial generation in Slovenia?
- What is the impact of inflation on broader economy due to changes in consumer behavior?

To answer research questions theoretical review and empirical research were performed. In the theoretical part, which covers the first five chapters, the master's thesis relied on secondary data obtained from academic articles, journals, and statistical databases. Specifically, over 70 sources were reviewed to gain an appropriate understanding of the topic to then design the empirical research effectively. In the first chapter, the characteristics of inflation in theory and practice are reviewed. Next, in the second chapter, the determinants of consumer behavior, specifically which are economic factors that influence consumer behavior are analyzed. In the third part, emphasis was put on the comprehensive review of the literature regarding reported differences in inflation perceptions and expectations based on distinctive consumer characteristics. Next, in the fourth and fifth chapters, empirical studies and theoretical views concerning differences in spending and purchasing habits across different consumer groups due to differences in their inflation experience are examined.

Following the theoretical review, in the sixth chapter, the design of empirical research for studying the impact of inflation on consumer behavior is presented. Specifically, the online questionnaire was designed so that respondents could complete it within a few minutes to ensure a high completion rate. Besides, to get honest feedback the questionnaire was designed so that the participants remained anonymous. Respondents were able to complete the questionnaire via the online platform 1KA over a computer, smartphone, or tablet. The only condition for participation in the survey was to be at least 18 years old. Individuals were invited to participate in the survey via multiple channels to ensure the sample reflected Slovenian population, they were also encouraged to share the questionnaire with their connections. The online questionnaire was active from 6th August 2022 to 14th September 2022. Responses were then exported from 1KA to IBM‘s statistical tool SPSS where appropriate statistical analyses were conducted.

Lastly, in the seventh chapter, research results from studying the impact of inflation on consumer behavior are given. Specifically, the description of the sample, analysis of the survey results, hypothesis testing findings, and discussion concerning each research question are presented. Overall, many conclusions from statistical analyses were not in line with the findings from the reviewed literature. Thus, the seventh chapter of this master’s thesis also debates contributions, limitations and opportunities for future research. Regarding contributions this thesis’ findings could provide valuable insight to many stakeholders. For example, the insights could guide policymakers to make more effective monetary or fiscal policy decisions, as well as guide managers to conduct appropriate pricing revisions across their portfolios. Besides, the findings could attract the studies and interest of more academicians. Nevertheless, limitations should be considered to improve further research. Specifically, larger sample would provide stronger and more reliable results because parametric tests could be used. Similarly, data collection over longer time period would provide more accurate results as it would deflect recency bias. Finally, additional primary data collection techniques, such as interviews, could be used to gain broader insight on specific questions.

1 CHARACTERISTICS OF INFLATION

Inflation may be one of the most familiar words in economics, but not many consumers truly understand what it means, what causes it, or how it affects the overall economy. ECB (2021a) defines inflation as the rate of increase in prices of goods and services, conversely, deflation represents a broad decrease in prices over a given period. In other words, inflation reduces the value of a currency over time, while deflation means that you can get more for one euro today than yesterday.

1.1 Causes of inflation

The main causes of inflation can be grouped into two categories, depending on whether the pressures are on the demand or supply side of the economy. Specifically, when demand from consumers is responsible for prices to increase we have demand – pull conditions. On the other hand, when supply constraints force prices higher we have cost – push conditions (Table 1).

Table 1: A summary of the causes of inflation

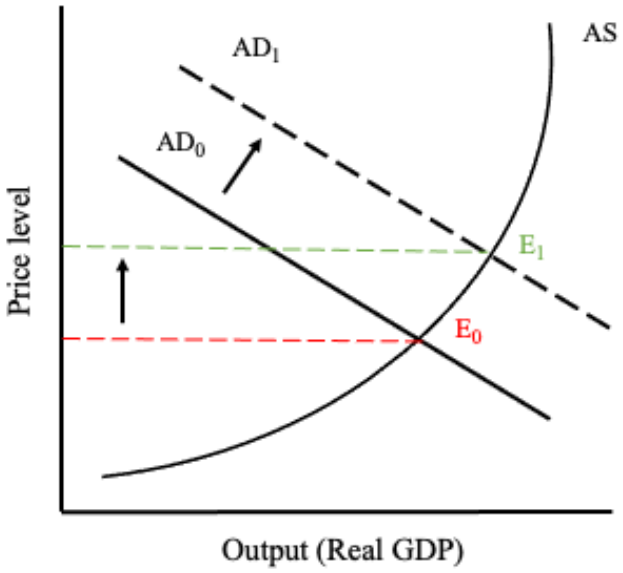
Inflation type	**Factor**	**Transmission mechanism**
Demand side	A growing economy	When demand rises faster than businesses can keep pace with the supply, then companies push prices higher.
	Increasing export demand	A sudden rise in exports causes prices of domestic products to rise.
	Government spending	When the government spends more (expansionary fiscal policy), prices go up.
	Inflation expectations	Companies may increase their prices in expectation of inflation in the near future.
	More money in the system	An expansion of the money supply (expansionary monetary policy) with too few goods to buy causes price increases.
Supply side	Rising wages	When workers have leverage to force wage increases, higher operating costs are often passed on to consumers.
	Increased costs of raw materials	If the cost of raw materials or inventory used in production increases, it often leads to higher end costs for consumers.
	Government regulation or taxation	Taxes or government regulation that reduces supply for a product with inelastic demand will create inflation.
	Devaluation or depreciation	A weaker domestic currency makes imports more expensive.
	Monopoly	Companies without competition can create cost-push inflation, as they can reduce supply to meet their profit goal.
	Natural disasters	Natural disasters cause inflation by disrupting supply.

Source: Chen (2021).

Demand-pull inflation transpires when aggregate demand for goods and services in an economy increases faster than an economy's productive capacity. As shown in Table 1,

demand side inflation can be caused by accelerating economic growth, increasing export demand, expansionary fiscal or monetary policy, and inflation expectations. First, when real GDP is rising consumers tend to feel more confident. Thus, they will more likely rely on leverage to fund their spending, which will further increase the demand and consequently general prices. Another driver of demand-pull inflation is a rise in exports, because when a country exports more there is a higher demand for its goods, and thus, for its currency. Next, potential shocks to aggregate demand can come from expansionary fiscal policy. When the government spends more freely (e.g., tax breaks for mortgage interest rates increased demand for housing), prices go up (Chen, 2021). For example, in most countries, people received some type of aid (e.g., stimulus checks) after the onset of COVID-19 pandemic, which many economists argued was the primary driver of inflation. Fourth, according to economists at IMF (2022) inflation expectations can determine the next period's inflation, because when firms or individuals anticipate higher prices, they build these expectations into contractual price adjustments and wage negotiations. So, essentially expectations become self-fulfilling (i.e., wage-price spiral). Lastly, but most significantly, a central bank can rapidly increase the supply of money (e.g., by reducing the interest rate, through quantitative easing, by reducing the reserve requirements, etc.). Sustained periods of high inflation are often due to policy mistakes caused by central bankers who misjudged the overall effect certain expansionary monetary policies will have on the economy. Figure 1 shows what tends to occur in the economy as a result of any of the mentioned shocks. So, if aggregate demand for goods and services increases (i.e., AD_0 to AD_1) and aggregate supply (AS) remains constant, prices rise (i.e., equilibrium moves from E_0 to E_1) (Frank, Bernanke, Antonovics & Heffetz, 2022).

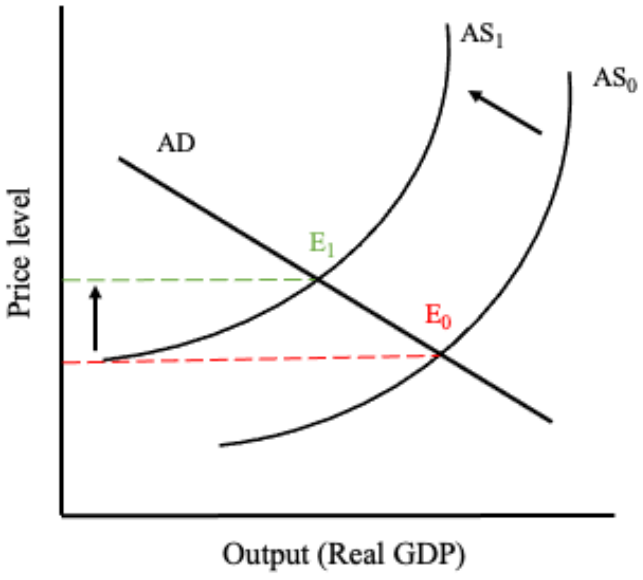
Figure 1: Demand-pull inflation



Adapted from Frank et al. (2022).

Cost-push inflation, conversely, occurs when the supply of goods or services decreases while demand stays the same. As shown in Table 1, six main factors that can instigate supply side inflation. First, higher input cost due to rising wages or increased cost of raw materials can cause prices to rise. Thomas (2021) explained regarding wage inflation that recently many restaurant chains have experienced it (e.g., Starbucks), as workers were able to unionize and negotiate higher wages and benefits. While concerning raw materials, natural or other disasters can limit supply and cause an increase in the price level. For example, an earthquake near Japan in 2011 disrupted the automotive supply chain causing prices of certain auto parts to soar, while recently Russia's ongoing blockade of wheat exports in the Black Sea ports of Ukraine is putting price pressure on the grain. Another driver of cost-push inflation is government regulation and taxation. For example, taxes on cigarettes and alcohol were meant to lower demand for these unhealthy products, but since the demand for these products is inelastic it created inflation. Next, companies that achieve a monopoly or establish a cartel within the industry can create cost-push inflation if they decide to reduce supply in order to meet their profit goal. For example, the Organization of Petroleum Exporting Countries (OPEC) has been able to control the price of oil (e.g., during the 1970s oil embargo) by coordinating supply cuts when the price was deemed too low (Amadeo, 2022). Lastly, the fall in the value of a currency in terms of its exchange rate versus other currencies (i.e., either because of devaluation or depreciation) tends to contribute to supply side inflationary pressures because of higher import prices and rising demand for exports. Figure 2 illustrates what tends to happen in the economy as a result of the mentioned factors. The prices increase (i.e., equilibrium point moves from E_0 to E_1) because the aggregate demand (AD) stayed the same while the overall supply decreased (i.e., AS_0 to AS_1) (Frank et al., 2022).

Figure 2: Cost-push Inflation



Adapted from Frank et al. (2022).

1.2 Measuring inflation

The causes of price level changes observed in the economy are often much more complex than the ones noted in the previous chapter. Therefore, statistical offices around the world are collecting data to monitor different price indexes which help economists to isolate specific causes of inflation. The most noteworthy price indexes are listed in Table 2.

Table 2: A summary of price indexes

Price index type	**Price index description**
Consumer price index (CPI)	Measures the average change in price of a weighted average market basket of consumer goods and services purchased by households.
Producer price index (PPI)	Measures the average change in prices received by domestic producers for their output.
Wholesale Price Index (WPI)	Measures the average change in price of a representative basket of wholesale goods.
Employment cost index (ECI)	Quarterly economic series that details the growth of total employee compensation.
Import and export price index	Measures the average change in prices of goods and services that are imported to or exported from the country.
GDP deflator	Measure of the level of prices of all new, domestically produced, final goods and services in an economy in a year.

Source: IMF (2022).

For the purposes of this thesis' goal, I focused solely on the consumer price index because it measures inflation as experienced by consumers. In the euro area, consumer price inflation is measured by the "Harmonised Index of Consumer Prices" (HICP). The HICP is compiled by Eurostat in accordance with harmonised statistical methods which ensure that country-level data they receive from each nation's statistical institute can be compared (ECB, 2021a). Prices are collected monthly in each country (i.e., from various outlets and different regions) for, on average, around 700 representative goods and services (e.g., gasoline, clothes, pedicure, etc.). Besides, product groups' weights are regularly updated according to their importance in the average household budget to reflect changes in the expenditure of all demographic groups and trends in spending patterns. Finally, to derive the overall euro area HICP (i.e., headline HICP) from each national HICP, countries are weighted according to their share of total euro area consumption expenditure (ECB, 2021a).

Besides the headline HICP, central banks monitor measures of underlying inflation to help distinguish signal from noise in the data. We can divide the measures of underlying inflation used at the ECB into three broad categories: permanent exclusion measures, temporary

exclusion measures, and frequency exclusion measures (ECB, 2022d). Ehrmann, Pfajfar, and Santoroc (2018) argue that measures of underlying inflation should be assessed together in order to best understand inflation developments, because the performance of the indicators varies over time, thus none of the measures within these categories of underlying inflation is superior in all situations.

Table 3: A summary of measures of underlying inflation for HICP

Categories of underlying inflation measures	**Measures of underlying inflation**
Permanent exclusion measures	HICP inflation excluding energy and food (HICPX)
	HICPX excluding travel-related items, clothing and footwear
Temporary exclusion measures	Trimmed means (e.g., 10%, 30%)
	Weighted median
Frequency exclusion measures	Supercore
	Persistent and Common Component of Inflation (PCCI)

Source: ECB (2022d).

First, permanent exclusion measures, such as HICP inflation excluding energy and food (HICPX), are used to measure underlying inflation because they remove volatile subcomponents. For example, energy prices can quickly change based on the decisions of OPEC, while unseasonal weather or black swan events (e.g., Hurricane Katrina) can cause strong volatility in food prices. Next, the second class of measures excludes items on a temporary basis to mitigate that the distribution of the headline HICP (i.e., weighted average of 93 subcomponent indices) is affected by strong outliers. Thus, trimmed means and weighted median are more precise estimators of inflation developments during such periods. Lastly, frequency exclusion approach helps filter out goods and services effected by transitory and persistent shocks by retaining the persistent component of all items. The most common frequency exclusion measures are "Supercore" and Persistent and Common Component of Inflation (PCCI) (ECB, 2022d).

1.3 The consequences of inflation on the economy and the importance of maintaining price stability

Inflation can be interpreted as positive or negative for the economy, but generally moderate inflation is desired, while high and rapidly rising inflation causes instability (Table 4).

Table 4: A summary of Pros and Cons of inflation

Pros	**Cons**
Moderate inflation enables economic growth	Creates uncertainty and lowers investment
Moderate inflation allows adjustment of wages	High inflation often leads to lower growth
Moderate inflation allows adjustment of prices	Reduces international competitiveness
Moderate inflation is better than deflation	Erodes purchasing power
Lowers debt service costs	Hurts the poor disproportionately
Boosts real estate, energy, value stocks	Hurts bonds, growth stocks, cash savings

Source: Pettinger et al. (2019).

To be more exact, some noteworthy pros of inflation are that when prices are moderately rising, consumers are encouraged to accelerate spending in the hope prices will be higher in the future which facilitates economic growth. Next, moderate rates of inflation allow prices of goods to attain their real price and relative wages to adjust. Specifically, Pettinger et al. (2019) argue that productive employees are able to negotiate a higher wage to adjust for inflation, while inefficient employees won't get the raise, which is essentially a real wage cut. Another advantage of moderate inflation rate is that it reduces the real value of debt because debtors can pay lenders back with money that is worth less than it was when they originally borrowed it. Lastly, individuals with assets that have historically delivered returns that outpace the rate of inflation (e.g., diversified index funds, gold, real estate, etc.) want to see some inflation as they will be able to sell their assets at higher price once the inflows to these asset classes increase (Floyd, 2022).

On the other hand, some of the most noteworthy cons of inflation are that it tends to worsen inequality because it reduces the real value of savings, which particularly affects old people who live on savings, as well as the poor because it hits income. Besides, inflation can have a negative impact on bonds, as well as growth stocks when it results in higher interest rates. Another disadvantage of inflation is that exports become less competitive which leads to a fall in exports and a deterioration in the country's current account. Pettinger et al. (2019) argue that one of the reasons Greece, Ireland and Spain experienced higher inflation during the financial crisis than countries in the northern eurozone, which led to significant account deficits, was because those countries had a fixed exchange rate. Lastly, higher levels of

inflation cause volatility and uncertainty that can lead to decrease in investments and lower economic growth. Moreover, at extreme levels, inflation can destabilize society and destroy confidence in the economic system. For example, if we look at history, hyperinflation can occur when we overprint money to finance lost war (e.g., Weimar Republic), print money due to over-indebtedness in foreign currency (e.g., Argentina), or print money due to major political changes that often coincide with state wars or more serious social unrest (e.g., Zimbabwe) (Gubo, 2022). The formerly mentioned Zimbabwe experienced one of the worst cases of hyperinflation on record, as overall prices rose for 500 billion percent in 2008. According to Oner (2017) to bring inflation back to reasonable levels, Zimbabwe had to change their currency. Similarly, deflation can be destructive for the economy, as people turn to saving. For example, if we look at history (e.g., "Japan's Lost Decade"), decline in prices can lead to lower production, reduced wages, decreased demand, and continued price declines (i.e., deflationary spiral) (Kagan, 2022).

All in all, depending on the underlying reasons and the rate of price changes both inflation and deflation can be negative for the economy. Besides, the balance between both economic conditions is delicate and an economy can quickly change from one condition to the other. For these reasons, many central bankers' primary policy objective is to maintain low and stable inflation (i.e., inflation targeting). They do that by constantly monitoring the levels of price changes and conduct monetary policy, such as setting key interest rates (Segal, 2022). Besides the set of policy rates, in recent years central banks have added new instruments to their toolbox in response to big changes in the economy that have made their task of maintaining price stability more challenging (Table 5) (ECB, 2021b).

Table 5: A summary of monetary policy instruments at ECB

Monetary policy decision	**Monetary policy instrument**
Key interest rates	The interest rate on the main refinancing operations (MRO), which provide the bulk of liquidity to the banking system.
	The rate on the deposit facility, which banks may use to make overnight deposits.
	The rate on the marginal lending facility, which offers overnight credit to banks.
Other monetary policy tools	Offering banks as many central bank loans as they need, against collateral, at a fixed interest rate.
	Setting negative interest rates, which encourage banks to lend at low rates so that people and businesses can borrow cheaply.
	Offering long-term loans to banks at very favorable rates, on the condition that banks lend this money on to people and businesses (TLTROs).

continues

Table 5: A summary of monetary policy instruments at ECB (cont.)

Monetary policy decision	Monetary policy instrument
Other monetary policy tools	Purchasing private and public financial assets.
	Providing "forward guidance" to make clear what are ECB intentions for future monetary policy.

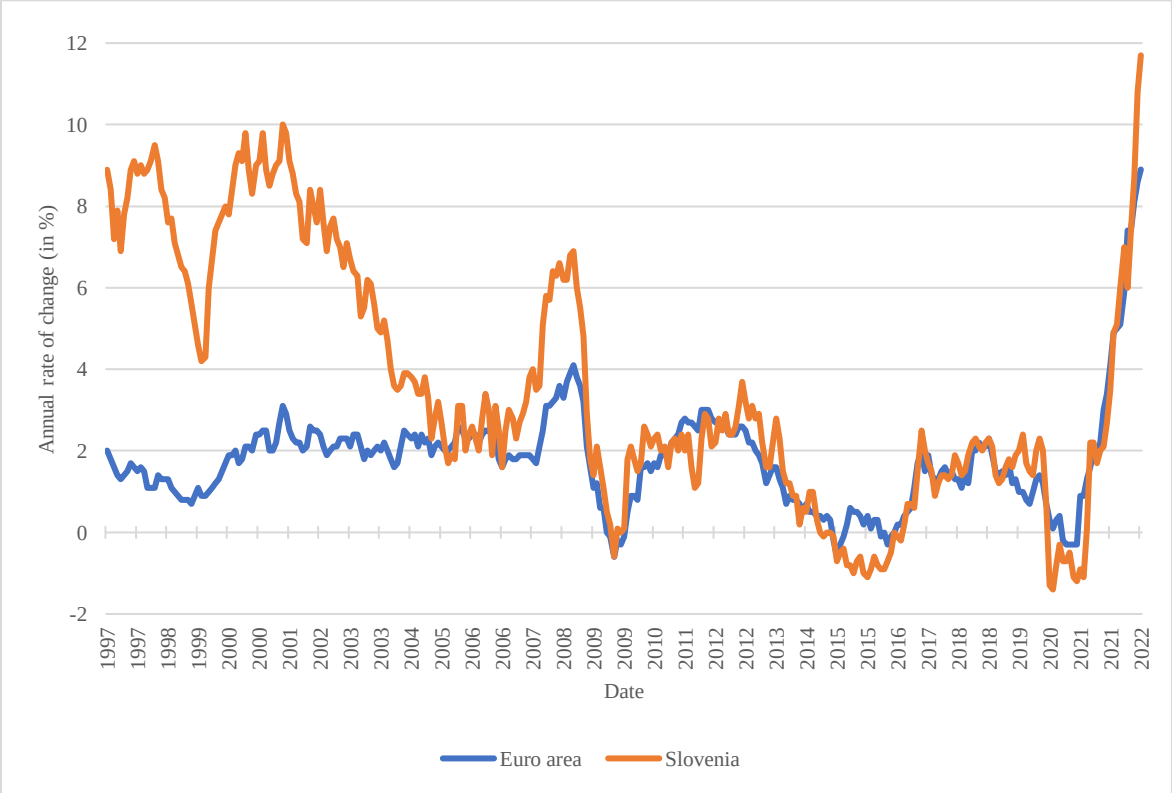
Source: ECB (2021b).

According to Segal (2022) most of the world's central banks target modest levels of inflation, at around 2-3% per year. In Europe, ECB is targeting an inflation rate of 2% over the medium term. Their commitment to this target is symmetric, which means they view inflation that is too low just as negatively as inflation that is too high (ECB, 2021c). For example, if the euro area economy has overheated, ECB can implement contractionary policies that rein in aggregate demand, usually by raising interest rates. On the other hand, to prevent periods of low or negative economic growth ECB can keep interest rates low for a prolonged period and undertake other more unconventional monetary policies to ensure financial systems have plenty of liquidity (e.g., buying long-term bonds with the aim of further lowering long term rates and loosening monetary conditions, short-term rates below zero, etc.) (IMF, 2022).

1.4 Inflation over time and current inflationary drivers

Historically, in the 1970s and 1980s inflation was high in many European countries. But since the mid 1990s, inflation rates have been significantly lower as many countries worked towards bringing inflation below the reference value to satisfy the convergence criteria needed to join the euro area, as well as due to the ECB's monetary policy (Figure 3) (ECB, 2021a). For instance, in Slovenia from February 1997 until the country introduced the euro on 1st January 2007 the average inflation rate was 6.2% while the euro area's inflation rate averaged 1.9% over the same period. Nevertheless, since adopting the euro, the inflation rate in Slovenia is more or less in line with euro area inflation rate. Specifically, from January 2007 until July 2022, the inflation rate in the euro area averaged 1.7%, while the inflation rate in Slovenia averaged 1.9% (Figure 3) (Eurostat, 2022a). Euro area's inflation reached an all-time high of 8.9% in July of 2022 and a record low of -0.6% in January of 2015, while Slovenia's inflation reached an all-time high of 11.7% in July of 2022 and a record low of -1.4% in May of 2020 (Figure 3).

Figure 3: HICP – Overall index (Feb 1997 – Jul 2022, Euro area[1] vs Slovenia)[2]

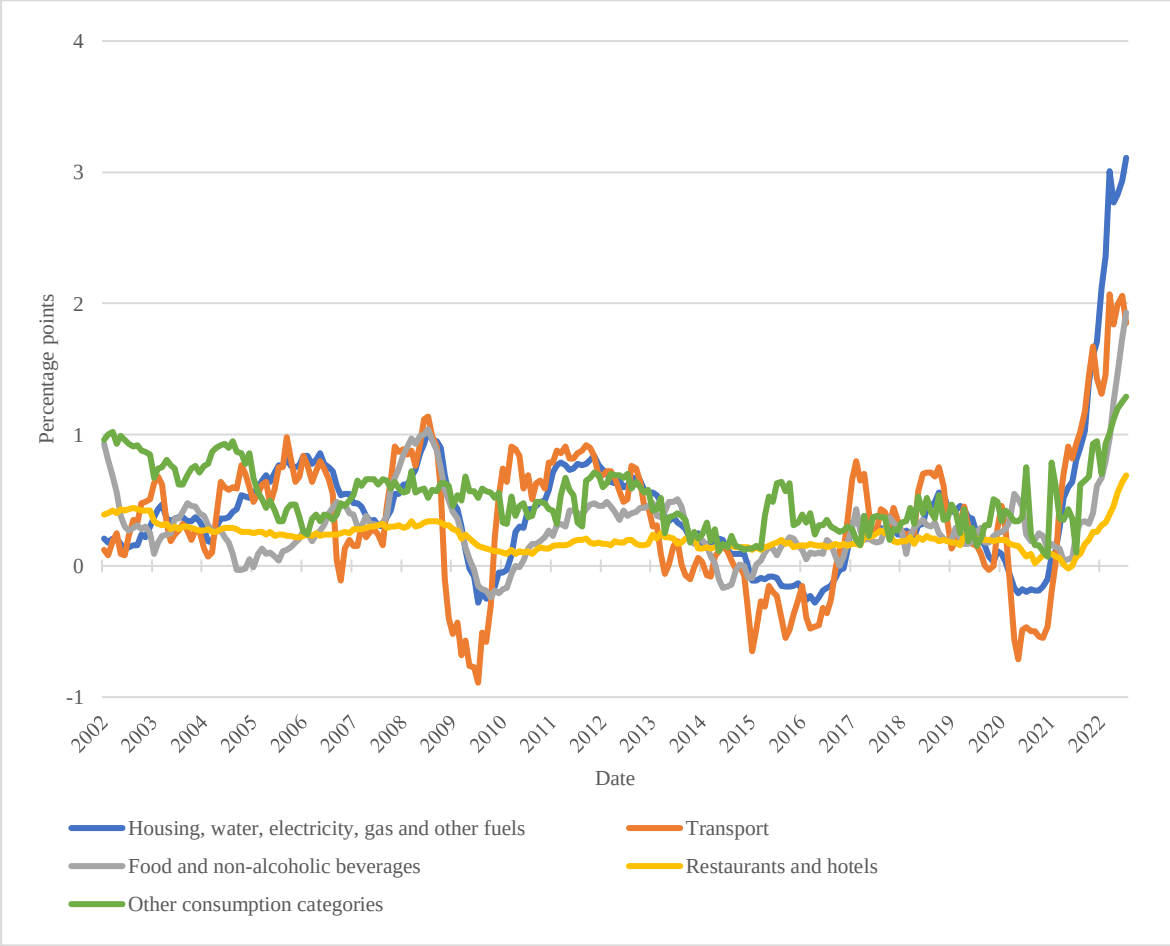


Adapted from Eurostat (2022a).

This increase in the overall index in recent months is primarily being driven by higher costs in consumption categories[3]: Housing, water, electricity, gas and other fuels; Transport; Food and non-alcoholic beverages; and Restaurants and hotels (Figure 4) (Eurostat, 2022b). These four categories are together responsible for 85.5% of all contributions to euro area annual inflation since the start of 2022 (Figure A.1). Other consumption categories including: Miscellaneous goods and services; Alcoholic beverages, tobacco and narcotics; Furnishings, household equipment and routine household maintenance; Health; Recreation and culture (Figure A.2); Clothing and footwear; Education; and Communications have not experienced significant increases in price level since the beginning of 2022 compared to each category's historical levels. Education and Communications have even experienced reduction in their price levels since the start of the year (Figure A.3)

[1] Euro area (EA11-1999, EA12-2001, EA13-2007, EA15-2008, EA16-2009, EA17-2011, EA18-2014, EA19-2015)
[2] The HICP is published since March 1997 and covers the time period from January 1996 onwards.
[3] As classified by Classification of Individual Consumption According to Purpose (COICOP), which is the international reference classification of household expenditure.

Figure 4: HICP - contributions to euro area annual inflation (Jan 2002 – Jul 2022)[4]



Adapted from Eurostat (2022b).

Specifically, since the beginning of the year category Housing, water, electricity, gas and other fuels has contributed 2.73 percentage points on average per month to euro area annual inflation, while the category contributed 0.42 percentage points on average per month to euro area annual inflation over the entire observed period (Figure 4). When it comes to housing, robust demand and more stagnant supply have both been part of the explanation for the rapid house price inflation. Next, regarding water, electricity, gas and other fuels, their prices were already rising after economies reopened from pandemic lockdowns as competition for supplies between regions intensified. Yet, then in 2022 impact has been exacerbated by Russia's invasion of Ukraine in February that led to sharp decrease in gas supplies to Europe, as well as unplanned outages that reduced French nuclear output and drought conditions that affected hydro power plants (Table 6) (ECB, 2022a). The second biggest driver of inflation since the start of the year has been category Transport, which contributed 1.80 percentage points on average per month to euro area annual inflation, while the category contributed 0.35 percentage points on average per month to euro area annual inflation over the entire observed period (Figure 4). They are two main reasons for the price

[4] Breakdown of Other consumption categories in Appendix 2.

increases in category Transport. First, when it comes to purchases of vehicles, shortage of semiconductors for vehicles since 2021 and persistent supply chain issues have severely curtailed the number of new cars available (i.e., even with expensive gas, demand for cars has been greater than the supply). Second, concerning transportation services a confluence of factors, with the most notable ones being soaring demand, a shortage of containers, saturated ports and too few ships, and workers (e.g., truck drivers, dock workers, etc.) have contributed to the surge in prices (Table 6). The third biggest driver of inflation since the start of the year has been category Food and non-alcoholic beverages, which contributed 1.26 percentage points on average per month to euro area annual inflation, while the category contributed 0.29 percentage points on average per month to euro area annual inflation over the entire observed period (Figure 4). Food and non-alcoholic beverages prices have been going up for many wide-ranging reasons, such as increasing labor, energy, and transportation costs. In addition, production difficulties caused by severe weather conditions (e.g., Brazil, China, etc.), along with Russia's invasion of Ukraine dramatically worsened the outlook for food prices (Table 6). Another category that helped drive inflation since the beginning of the year has been Restaurants and hotels, which contributed 0.48 percentage points on average per month to euro area annual inflation, while the category contributed 0.22 percentage points on average per month to EA annual inflation over the entire observed period (Figure 4). Hospitality managers have raised prices as the rising cost of energy, food and labor weighted on their businesses. Despite price increases, the hotel and restaurant industry has proved resilient due to pent up demand, delayed trips and increased consumer savings (Table 6). Lastly, 14.5% contribution to EA annual inflation since the beginning of 2022 from Other consumption categories is due to some degree and variation of the above mentioned inflationary drivers. For example, category Furnishings, household equipment and routine household maintenance has experienced robust demand and more stagnant supply due to tailwinds from "Do it yourself" (DIY) trend, while category Clothing and footwear has encountered pent-up demand due to delayed consumption and increased consumer savings, as well as increasing labor, energy, and transportation costs.

Table 6: A summary of current inflationary drivers by consumption category

Consumption category	**Current inflationary drivers**
Housing, water, electricity, gas and other fuels	– Robust housing demand and more stagnant housing supply – Extreme drought conditions – Russia’s invasion of Ukraine led to sharp cuts in gas supplies
Transport	– Shortage of semiconductors and persistent supply chain issues have curtailed the number of new cars available for purchase – Soaring demand, shortage of containers and ships, saturated ports, and lack of truck drivers increased cost of transportation services

continues

Table 6: A summary of current inflationary drivers by consumption category (cont.)

Consumption category	Current inflationary drivers
Food and non-alcoholic beverages	– Increasing labor, energy, and transportation costs – Production difficulties caused by severe weather conditions (e.g., Brazil, China, etc.) and Russia's invasion of Ukraine
Restaurants and hotels	– Pent-up demand due to delayed trips and increased consumer savings
Other consumption categories[5]	– Some degree and variation of the above mentioned inflationary drivers

Adapted from ECB (2022a).

Due to the mentioned inflationary drivers, at the September meeting, the members of the ECB Council resolutely increased all three key ECB interest rates, this time by as much as 75 basis points. Such a decisive increase was expected by many analysts, but it is still a record interest rate hike so far. At the same time, the ECB also announced they expect to raise interest rates further, because inflation remains far too high and is likely to stay above target for an extended period. Specifically, they now expect inflation to average 8.1% in 2022, 5.5% in 2023, and 2.3% in 2024 (Kenda, 2022).

2 DETERMINANTS OF CONSUMER BEHAVIOR

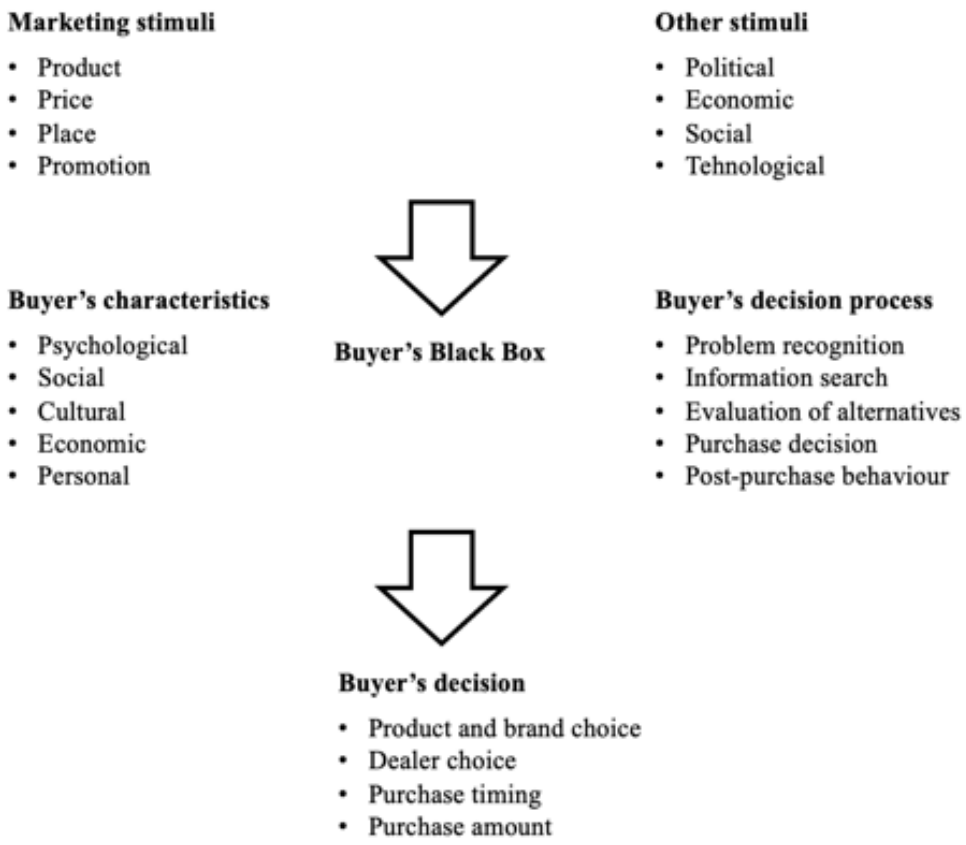
The goal of this chapter was to review which are the determinants of consumer spending behavior and understand how inflation is positioned within those factors.

2.1 Determinants of consumer behavior

Many factors influence the consumer in their decision-making process, shopping habits, and purchasing behavior (e.g., the brands they buy or the retailers they visit, etc.). According to the Model of Buyer Behavior (Figure 5), other stimuli (i.e., external environment) and marketing stimuli (i.e., 4Ps) enter the Buyer's Black Box and interact with the buyer's characteristics and decision processes which influence the buyer's purchase decisions (Hawkins, Mothersbaugh & Mothersbaugh, 2013).

[5] Miscellaneous goods and services; Alcoholic beverages, tobacco and narcotics; Furnishings, household equipment and routine household maintenance; Health; Recreation and culture; Clothing and footwear; Education; Communications.

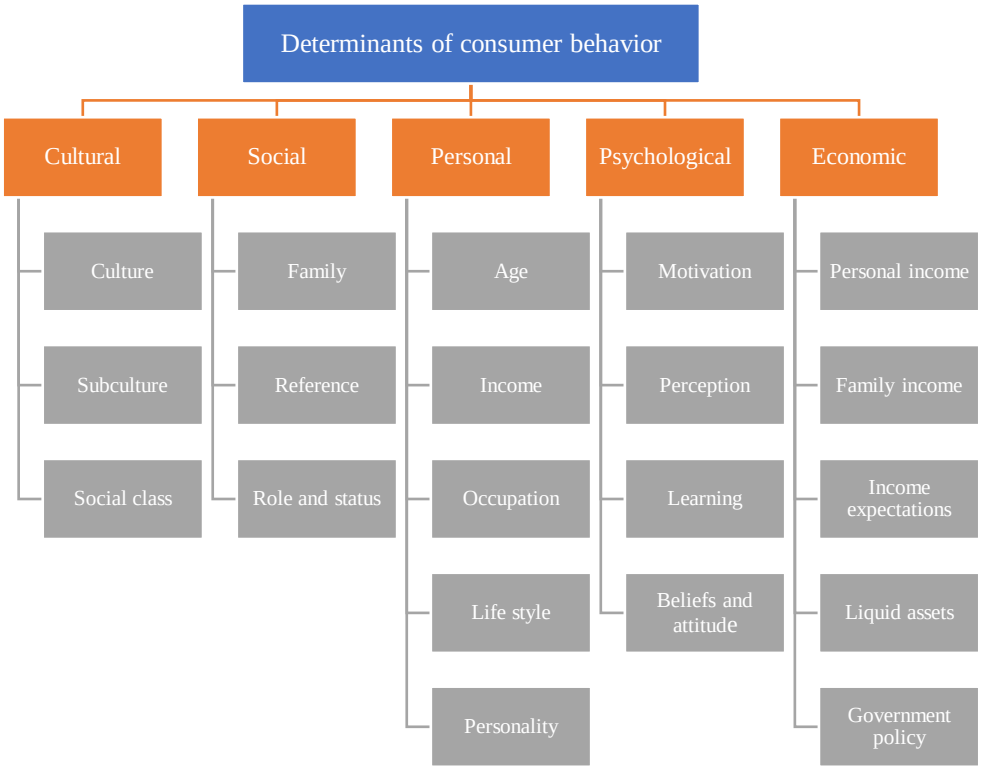
Figure 5: Model of Buying Behavior



Adapted from Hawkins et al. (2013).

While each of the elements within the Model of Buyer Behavior are important for understanding the ways in which buyers behave, I focused on the buyer's characteristics or determinants of consumer behavior. According to Schiffman and Wisenblit (2015), internal or psychological factors, social factors, cultural factors, economic factors, and personal factors determine consumer buying behavior (Figure 6). First, the buying behavior of consumers is influenced by a number of internal or psychological factors, with the most important ones being motivation, perception, learning, and beliefs and attitude. Second, behavior patterns are influenced by the people around us. Specifically, we seek confirmation from family, reference groups, and roles and status that our behavior is socially acceptable. Third, cultural factors consist of culture, subculture and social class. Researchers observed that human behavior is largely the result of a socialization both within the family and a series of other key institutions. Fourth, personal factors also influence buyer behavior. The important personal factors, which influence buyer's behavior are age, occupation, income, lifestyle, and personality. Lastly, consumer behavior is influenced to a great extent by economic factors (Schiffman & Wisenblit, 2015). I examined these in detail, for the purposes of this thesis' goal.

Figure 6: Determinants of consumer behavior



Adapted from Schiffman and Wisenblit (2015).

2.2 Economic factors that influence consumer behavior

Economic factors that influence consumer behavior are personal income, family income, income expectations, savings, liquid assets of the consumer, consumer credit, and other economic factors. Within the former factor (i.e., other economic factors) inflation is categorized as one of the influences on the consumer behavior. To better understand under what conditions will consumers accelerate spending, and under what conditions will they reduce their spending I examined each of the mentioned economic factors (Table 7).

Table 7: A summary of economic factors that influence consumer buying behavior

Economic factor	**Effect on consumer buying behavior**
Personal income	Personal income ↑ → Spending ↑
Family income	Family income ↑ → Spending ↑
Income expectations	Income expectations ↑ → Spending ↑
Savings	Savings ↑ → Spending ↓

continues

Table 7: A summary of economic factors that influence consumer buying behavior (cont.)

Economic factor	**Effect on consumer buying behavior**
Liquid assets	Liquid assets ↑ → Spending ↑
Consumer credit	Consumer credit ↑ → Spending ↑
Other economic factors (e.g., business cycle, inflation, etc.)	Inflation → Spending ↑ Stagflation → Spending ↓

Adapted from Nickolas (2022); Schiffman and Wisenblit (2015).

First, personal income consists of disposable income and discretionary income. Specifically, disposable income is the amount of money that an individual is left with after taxes, while the discretionary personal income refers to the balance remaining after basic expenses. According to Nickolas (2022) and increase in both leads to increased spending on comforts and luxuries. Next, family income refers to the aggregate income of all family members, same as before an increase leads to higher spending. Next, regarding income expectations, if an individual expects any increase in his income, he is tempted to spend more. On the other hand, if a person decides to save more out of his present income, he will spend less on comforts and luxuries. Moreover, if an individual has more liquid assets, they spend more on buying durables. Similar is the case with consumer credit, if more consumer credit is available on generous terms, expenditure increases. Lastly, other economic factors like business cycles, inflation, etc. also influence the consumer behavior (Schiffman & Wisenblit, 2015). Generally, when consumers expect higher inflation, they are induced to purchase goods that raise their living standard. On the other hand, expectations of persistent inflation, especially during a downturn (i.e., stagflation) weight negatively on consumer confidence which results in lower spending. Although, the explained inflation dynamic seems straightforward, in reality inflation psychology[6] is extremely complex and can contribute to challenging macroeconomic situation.

3 CONSUMER'S INFLATION PERCEPTIONS AND EXPECTATIONS

The goal of this chapter was to examine how consumers form their inflation perceptions and expectations to further improve the understanding of the relationship between inflation and consumption. In addition, I looked at data available from EU Consumer Surveys[7] to

[6] "Inflationary psychology refers to the role that investor, consumer, and other market participant psychology play in the process of inflation. Economists have described inflationary psychology in terms of rational expectations, irrational emotional factors, or distinct cognitive biases, with different conclusions for market implications and policy responses"(Rasure, 2022, p.1).

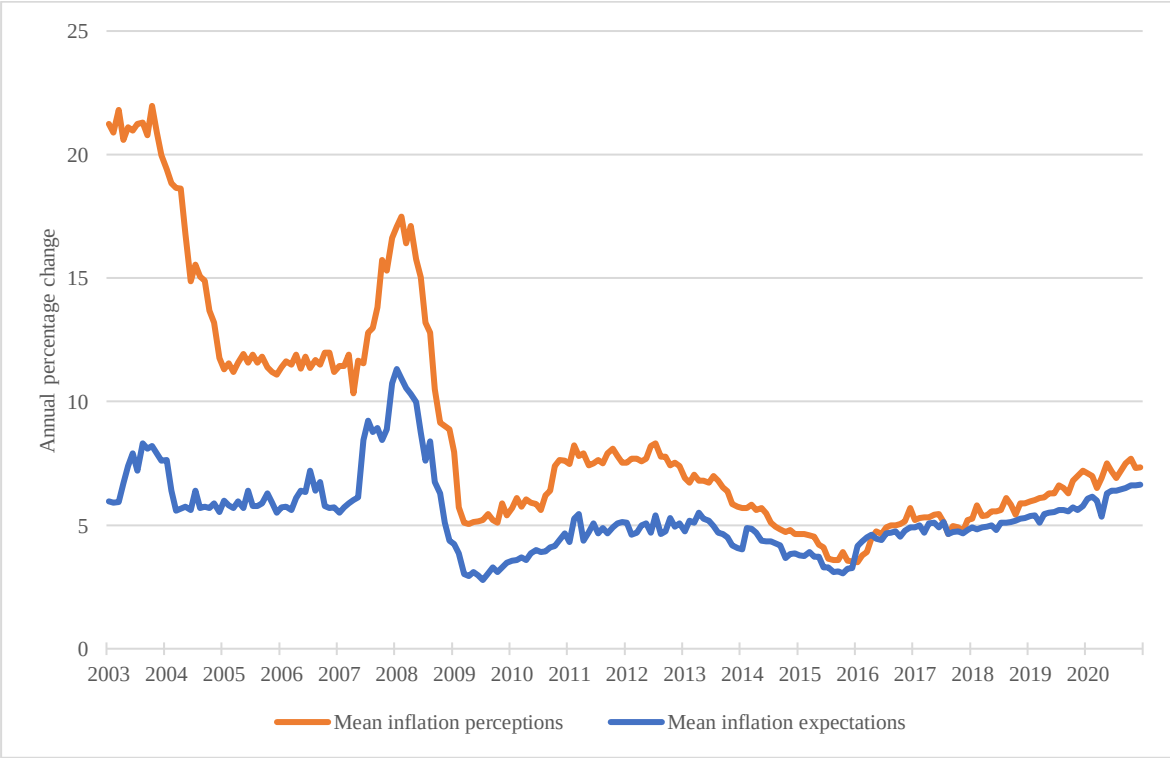
[7] Since May 2003, the European Commission has been collecting via its consumer opinion survey direct quantitative information on consumers' inflation perceptions and expectations in the euro area.

understand how inflation perceptions and expectations differ among consumers, as well as to examine the differences between perceived and expected inflation versus actual inflation.

3.1 Formation of consumer's inflation perceptions and expectations

As consumers buy goods and services and observe their prices, they get a sense of how fast and how much these prices change. Interestingly, while inflation perceptions follow the same pattern as inflation expectations, the first mentioned tend to be persistently higher, although the gap between the two has narrowed over time (Figure 7).

Figure 7: Mean inflation perceptions versus mean inflation expectations (Euro area, Jan 2003 – Dec 2020)



Adapted from Meyler and Reiche (2021).

According to Coibion and Gorodnichenko (2015), inflation perceptions and expectations are affected by frequently purchased items, as well as by media reporting (Carroll, 2003). For example, if prices at the pump increase individuals who drive a lot will probably feel inflation is higher than actual inflation. While everyone has distinct "personal" inflation rate[8], existing studies have found some commonalities regarding certain sociodemographic characteristics when it comes to differences between consumer's reported inflation perceptions and expectations.

[8] Personal inflation rate is based on individual's consumption habits, while HICP is based on a basket of goods and services that reflects the expenditure of all the people in the euro area.

3.2 Inflation perceptions and expectations by consumer characteristics

Researchers examining the EU Consumer Surveys' results found that euro area consumers hold very heterogeneous opinions about inflation expectations and perceptions depending on their gender, income, age, education, and employment status. Specifically, Duca, Kenny, and Reuter (2019) found inflation perceptions and expectations are higher for females (Figure 8), consumers from households with low income (Figure 9), buyers aged below 50 (Figure 10), individuals holding only primary or secondary education (Figure 11), and for the unemployed (Figure 12). Meyler and Reiche (2021) research confirmed and extended their findings, as they found that consumers who report being in a better financial situation or have positive expectations about the economy tend to have lower inflation perceptions.

Table 8: A summary of factors affecting consumer inflation perceptions and expectations

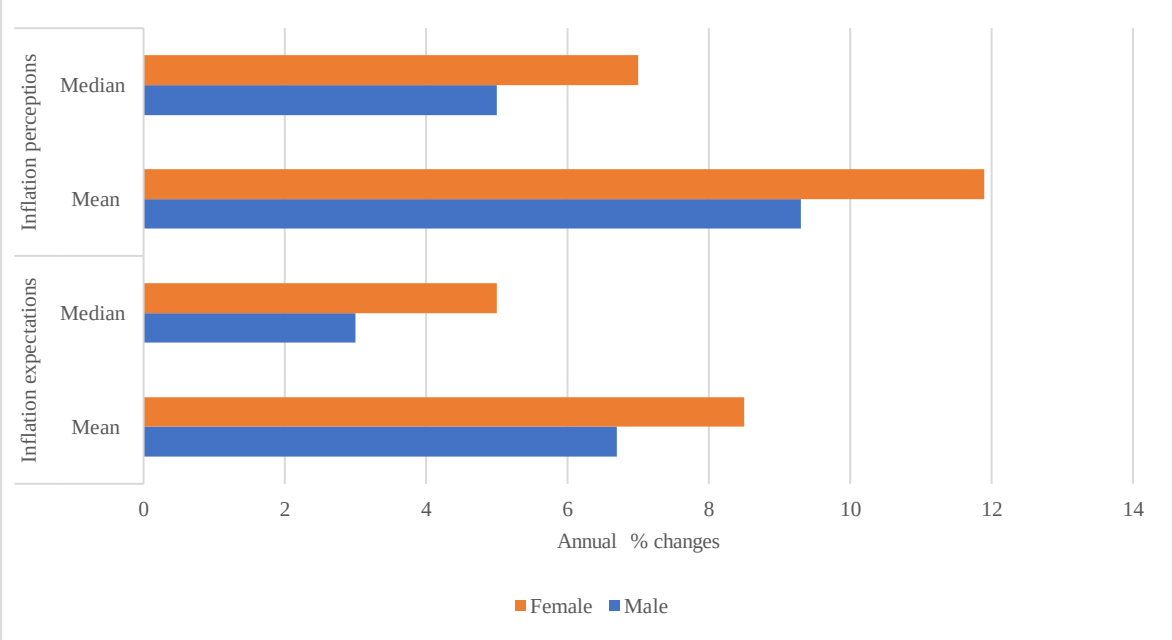
Consumer characteristic	**Impact on perceptions and expectations**
Gender	Male respondents tend to form lower inflation perceptions and expectations
Income	Individuals from higher income households tend to have lower inflation perceptions and expectations
Age	Older people tend to form lower inflation perceptions and expectations
Education	Individuals with higher levels of formal education tend to have lower inflation perceptions and expectations
Employment status	Individuals who are employed tend to have lower inflation perceptions and expectations

Adapted from Duca et al. (2019); Meyler and Reiche (2021).

First regarding gender, D'Acunto, Malmendier, and Weber (2020) argue that inflation perceptions vary significantly across genders, even within the same household. They argue men and women are exposed to different economic signals during the day due to their traditional gender roles. Specifically, D'Acunto et al. (2020) found that higher woman participation in grocery shopping is linked to their higher inflation perceptions. Nevertheless, Corduas (2022) using data from Italy (1994–2018) showed that while women are associated with higher inflation perceptions and expectations than men this systematic variation has decreased over the years. All in all, when it comes to gender, in agreement with the above mentioned, Takahashi & Tamanyu (2022) found that male respondents tend to form lower inflation perceptions and expectations, which is consistent with existing studies from Jonung (1981); Bryan and Venkatu (2001); Christensen, Els, and van Rooij (2006); and Del Giovane et al. (2009). Besides, the most recent results from the EU Consumer Survey (2022-01) on inflation perceptions by gender are also in line with findings.

Specifically, reported annual percentage change in perceived prices for females was 14.4%, while for males it was 12.3% (ECB, 2022c).

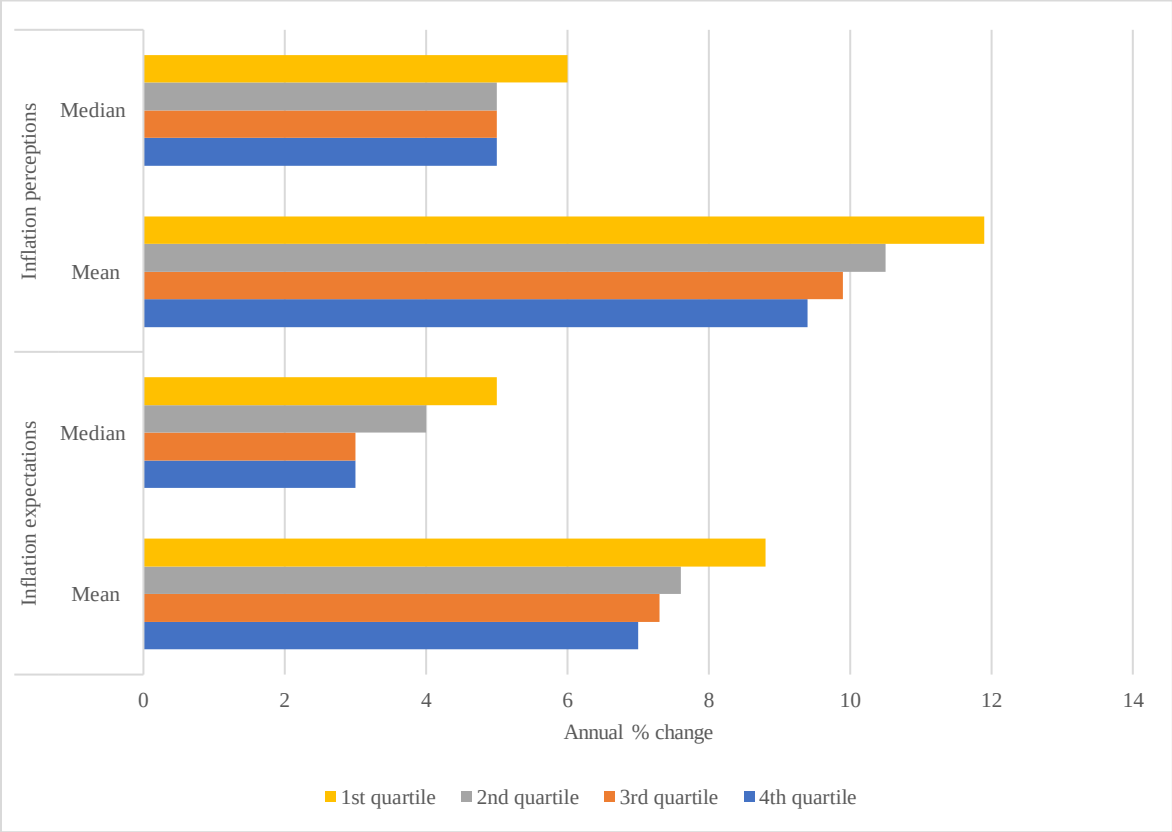
Figure 8: Inflation perceptions and expectations by gender (Euro area, May 2003 – December 2016)



Adapted from Duca et al. (2019).

Next, regarding income, empirical evidence suggests that lower income households perceive higher inflation, because they disproportionately feel the burden of high inflation. Brainard (2022) argues that households with lower income expend a greater share of their income on necessities (e.g., food, housing, gasoline). Specifically, research from the Bureau of Labor Statistics (hereinafter: BLS) found, that lower-income households spend more than double of their income (i.e., 77%) on these categories compared to higher-income households (31%). Naturally, then lower-income households perceive higher inflation because they have less savings and lower ability to switch to lower-priced alternatives when prices of necessities rise. In addition, Carroll (2001) argues that low-income households have a lower reading propensity, thus are less likely to update to the most recent unbiased forecast for the economy. The most recent results from the EU Consumer Survey (2022-01) on inflation perceptions by household income level are in line with the previously mentioned. Specifically, reported annual percentage change in perceived prices for low income households (i.e., lowest 25%) was 16.4%, lower middle income households (i.e., 25%-50%) was 13.9%, upper middle income households (i.e., 50%-75%) was 12.7%, while for high income households (i.e., highest 25%) was 11.3% (ECB, 2022c).

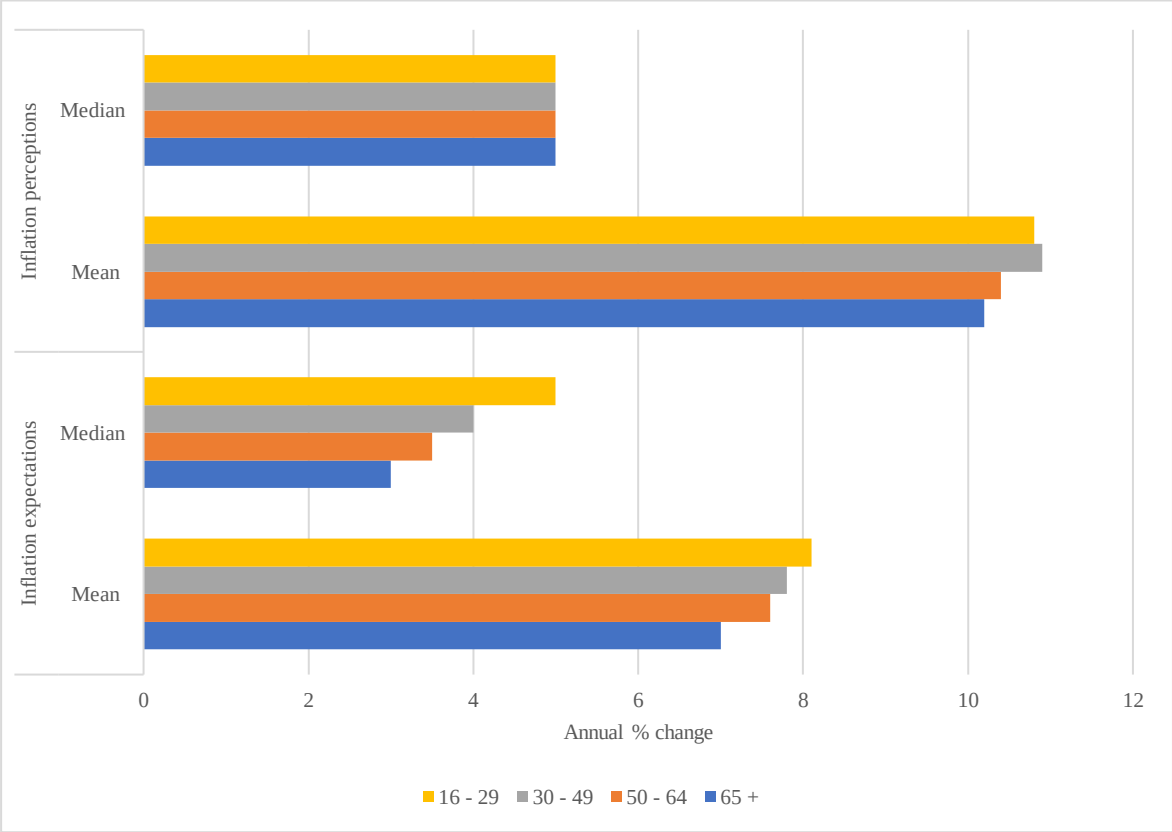
Figure 9: Inflation perceptions and expectations by household income level (Euro area, May 2003 – December 2016)



Adapted from Duca et al. (2019).

Next, concerning age, according to Bryan and Venkatu (2001), Menz and Poppitz (2013), and Meyler and Reiche (2021) younger respondents are associated with higher inflation perceptions and expectations compared with older respondents. Differences in perceptions arise from different consumption baskets, as well as from differences in financial literacy. For example, younger individuals with less personal experience tend to react more strongly to negative news reports about inflation compared to older people who lived through periods with elevated inflation. Therefore, the most recent results from the EU Consumer Survey (2022-01) on inflation perceptions by age group are not surprising. Specifically, reported annual percentage change in perceived prices for consumers aged between 16 and 29 was 14.5%, for the ones aged from 30 to 49 it was 13.8%, for individuals aged between 50 and 64 was 13.2%, and for the ones aged over 65 the reported annual percentage change in perceived prices was 11.4% (ECB, 2022c). Nevertheless, Takahashi and Tamanyu (2022) and Jonung (1981) found there is no clear relation between the age group of the respondent and their inflation perceptions, while Suehiro, Takeda, Kozu, and Takemura (2018), using data for Japan, found a U-shaped relation between age and inflation perceptions.

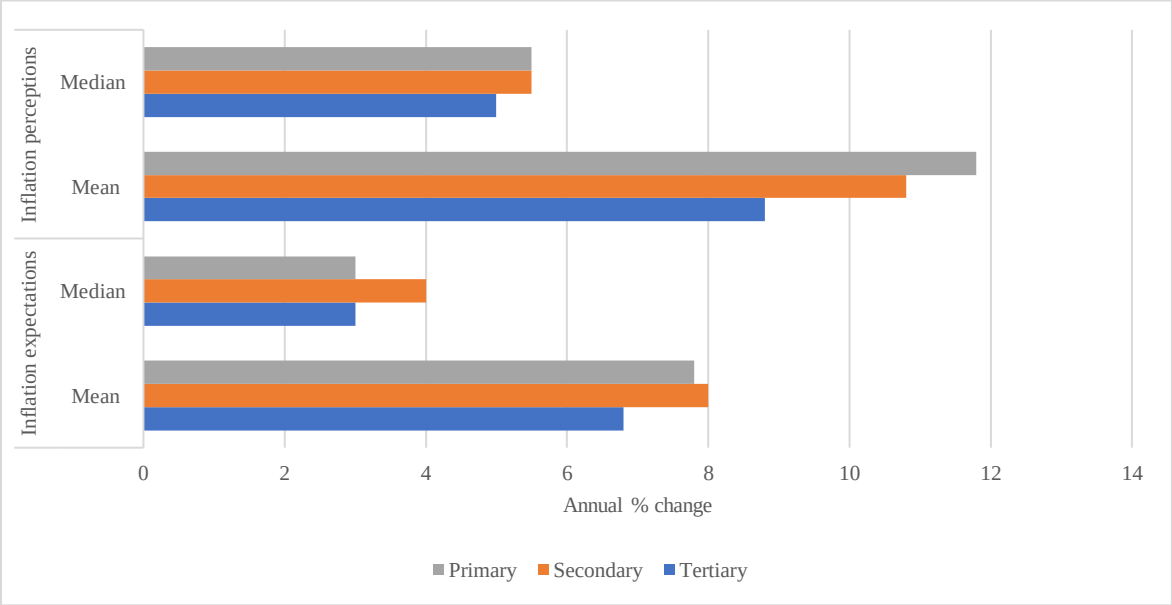
Figure 10: Inflation perceptions and expectations by age group (Euro area, May 2003 – December 2016)



Adapted from Duca et al. (2019).

Next, regarding education level Bryan and Venkatu (2001) and Bruine de Bruin et al. (2010) showed that people with lower education report higher inflation perceptions and expectations. Specifically, Bruine de Bruin et al. (2010) found that when it comes to education the level of financial literacy is associated with heterogeneity in inflation expectations, as their survey data indicates that, in forming inflation perceptions and expectations, individuals with lower education levels think more of their specific inflation rate (i.e., personal financial situation) instead of aggregate data on inflation (e.g., HICP), which accounts in positive errors. Similarly, Takahashi and Tamanyu (2022) showed that when it comes to financial literacy being familiar with the concept of "price stability target" respondents who "have read or heard of it, but don't know much about it" perceive inflation to be higher, and those who "have never heard of it" form even higher perceptions. The most recent results from the EU Consumer Survey (2022-01) on inflation perceptions by education level are in line with the previously mentioned. Specifically, reported annual percentage change in perceived prices for respondents who attained only primary education was 14.9%, secondary education was 14.2%, while for the ones that attained tertiary (i.e., post-secondary) education was 11.3% (ECB, 2022c).

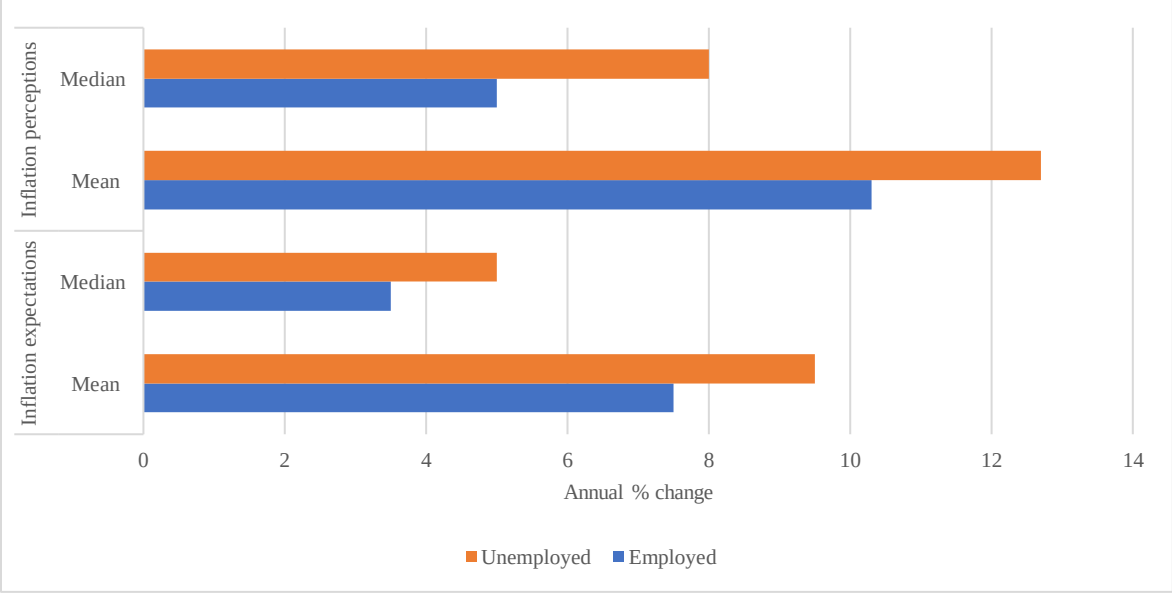
Figure 11: Inflation perceptions and expectations by education level (Euro area, May 2003 – December 2016)



Adapted from Duca et al. (2019).

Lastly in this chapter, regarding employment status. Inflation perceptions and expectations are higher for the unemployed because they are generally more pessimistic about the macroeconomy (Candia, Coibion & Gorodnichenko, 2020). Christelis, Geogarakos, and Jappelli (2020) argue that consumers who are struggling financially due to their current unemployment tend to have higher inflation expectations.

Figure 12: Inflation perceptions and expectations by employment status (Euro area, May 2003 –December 2016)

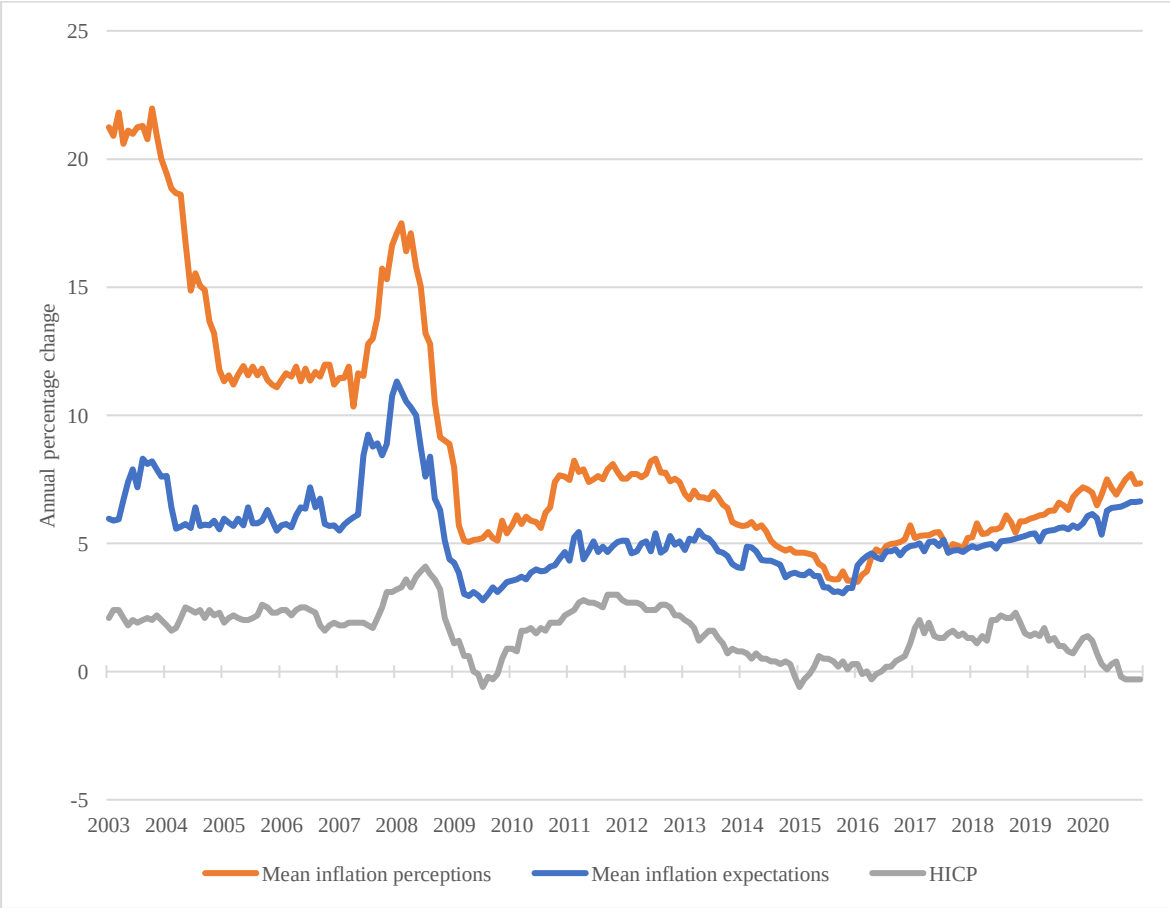


Adapted from Duca et al. (2019).

3.3 Differences between inflation perceptions and expectations versus actual inflation

Consumer perceptions used to be persistently higher than expectations. Moreover, while they all follow the same pattern, both consumers' expectations and perceptions of price changes are persistently higher than actual inflation development as measured by the HICP (Figure 13).

Figure 13: Mean inflation perceptions and expectations versus HICP (Euro area, Jan 2003 – Jan 2020)



Adapted from Meyler and Reiche (2021).

This divergence can be explained in several ways. According to ECB (2021a), price rises catch consumers' attention more than stable or declining prices, even if the two are simultaneous and of the same order of magnitude. Moreover, people tend to overestimate the actual rate of inflation when it comes to frequent out-of-pocket purchases (e.g., petrol, bread, bus tickets, etc.) more as with infrequent purchases and direct debits (e.g., cars, holidays, rented housing, telephone bills, etc.) (ECB, 2021a). According to Arioli et al. (2017), the positive difference in mean values is mainly because some consumers report extremely high inflation expectations and perceptions, but the median values, tend to be much lower. Lastly, especially in times of major changes we can notice some noteworthy

divergences between subjective inflation experience and measured inflation (Meyler & Reiche, 2021). For example, according to Jemec (2010) the changeover from the national currency to the euro was associated with extremely high perceived inflation compared with measured inflation. While more recently, when coronavirus pandemic lockdowns impacted economies, there was another notable divergence between consumers' inflation perceptions and actual numbers, with the former falling and the latter rising (Figure 13).

4 IMPACT OF INFLATION ON CONSUMER SPENDING

Many variables that are responsible for differences in reported inflation perceptions and expectations also influence consumer's readiness to spend. In this section, I looked at the strength of these relationships to learn how significant is inflation compared to other variables that determine consumer spending. Nevertheless, first I wanted to examine if the impact of inflation on spending is structural and not simply driven by the mentioned heterogeneity.

4.1 Impact of inflation on consumer spending in general

The evidence on whether or not consumers would increase consumption and reduce savings in response to higher inflation expectations brought conflicting conclusions. Research by Goldfayn-Frank and Wohlfart (2019), D'Acunto et al. (2018), and Dräger and Nghiem (2018) for Germany, Crump, Eusepi, Tambalotti, and Topa (2020) for the US, and Ichiue and Nishiguchi (2015) for Japan found an increase in spending in response to higher expected inflation. Similarity, Wiederholt and Vellekoop (2019) find that in the Netherlands, individuals with higher inflation expectations tend to save less and are more likely to acquire large items (e.g., cars), while Andrade, Gaballo, Mengus, and Mojon. (2019) using French data find that households expecting stable prices consume relatively less than the ones expecting positive inflation.

On the contrary, Bachmann, Berg, and Sims (2015) and Burke and Ozdagli (2013) found that there is no significant positive impact of inflation expectations on durable goods consumption for US consumers. Moreover, at the lower bound[9] (ELB), Bachmann et al. (2015) findings suggest that consumption in the current period may be negative when inflation expectations increase. Similarly, Coibion, Gorodnichenko, and Kamdar (2019) research found that Dutch households seem to become more pessimistic about total spending when they increase their inflation expectations. Finally, based on Italian households' data Rondinelli and Zizza (2020) argue that in a low-inflation environment (i.e., after the 2008 financial crisis) higher expected inflation lowered households' purchasing power and, thereby, spending (i.e., income effect). However, in a high-inflation regime (i.e., early

[9] Effective lower bound (ELB) refers to the point at which further cuts in the main monetary policy interest rate no longer provide stimulus to aggregate demand and GDP.

1990s) consumers with higher inflation expectations had higher current than future expenditure, suggesting that an intertemporal substitution mechanism was at work[10].

Fortunately, Duca et al. (2019) brought new insight concerning the link between consumer's readiness to spend and their inflation expectations. They used an innovative measure of the expected change in subjective inflation when studying EU Consumer Survey results to determine relationship between consumer's inflation expectations and consumer's readiness to spend. So basically, this measure was able to control for demographic characteristics, macro variables, respondent-specific variables, as well as time and country dummies, because it focused on the difference between an individual's expectations about future inflation relative to their currently perceived level of inflation as the key driving variable impacting on the consumer's readiness to spend, Duca et al. (2019). For example, when individual's perceptions and expectations are both influenced upwards due to negative news regarding the economy this novel measure accounts for that. All in all, according to Duca et al. (2019) findings, consumers in the euro area behave in line with economic theory and when they expect higher inflation, they increase their readiness to spend. Specifically, they found that for a 1 percentage point increase in expected change in inflation, the probability that a consumer will spend in the current period increases by 0.16 pp to 0.39 pp[11].

4.2 Impact of inflation on consumer spending in comparison with other determinants of spending behavior

Duca et al. (2019) results presented in the previous section, with the innovative measure (i.e., expected change in inflation), controlled for different sources of heterogeneity. Nevertheless, when analyzing the relationship between spending and inflation expectations directly, researchers mentioned above have found existence of substantial heterogeneity amongst consumers across some demographic, macro, and respondent-specific variables that influence consumer's spending.

Concerning demographic variables (Table 9), Duca et al. (2019) discovered that younger (16-29) respondents are more likely to increase their spending when inflation expectations rise compared to older respondents (30 – 49), while for the two older cohorts (50 – 64 , 65 +) they found no significant effect of age on readiness to spend. Besides, concerning age, Stöver (2012) found that the average propensity to consume is the lowest for middle aged people (35 to 65 years) and highest for very young and very old individuals. Next, regarding gender Duca et al. (2019) identified a gender-specific negative effect, with females on average being less ready to spend compared with their male counterparts when inflation expectations increase. Their findings are in line with Stotsky (2006) who found that women tend to show greater caution in their savings and investment behavior. However, when it comes to luxury brands or promotions Lindo (2020) established that women have a higher

[10] Willingness on the part of the consumer to substitute future consumption for present consumption.
[11] Depending on whether at (i.e., 0,16 pp) or outside (i.e., 0,39 pp) effective lower bound (ELB).

purchase intention than men. Further, Duca et al. (2019) showed that when inflation expectations increase having higher educational attainment or being in a higher income bracket compared to having lower education attainment and being in a lower income bracket is associated with a higher readiness to spend. With regard to education attainment, Bachmann et al. (2015) argue that more educated respondents are more likely to follow economic news and stay up to date with the recent macroeconomic developments, thus respond with more bullish buying attitudes to an increase in expected inflation. While with regard to income, as consumers' incomes rise, their consumption will exponentially increase, up to a point of satisfaction. Lastly, concerning demographic variables, employed respondents are more likely to spend then unemployed when inflation expectations increase, for the obvious reasons.

Table 9: Influence of demographic variables on consumers' spending when inflation expectations increase

Demographic determinants of spending behavior[12]	**Direction**	**Strength**
Age (30 - 49)	Spending ↓	Very weak
Age (50 - 64)	No significant effect	
Age (65+)	No significant effect	
Gender (Female)	Spending ↓	Very weak
Education (Secondary)	Spending ↑	Weak
Education (Tertiary)	Spending ↑	Moderate
Income (2nd quartile)	Spending ↑	Moderate
Income (3rd quartile)	Spending ↑	Moderate
Income (4th quartile)	Spending ↑	Strong
Employment status (Employed)	Spending ↑	Weak

Source: Own work.

Regarding common macro variables (Table 10) Duca et al. (2019) found that increase in expected change in inflation, leads to slightly higher spending in the current period. According to Springer (1977) the effect of an increase in expected inflation is an increase in current consumers expenditures at the expense of financial saving. Next, with regard to

[12] For the discrete demographic variables, direction and strength is based on the change from base alternative, e.g., Age (16-29) to another alternative, e.g., Age (30-49). Specifically, for variable Age, the base alternative is Age (16-29); for Gender the base alternative is Gender (Male); for Education, the base alternative is Education (Primary); for Income, the base alternative is Income (1st quartile); and for employment status, the base is Employment status (Unemployed).

increase in oil prices and lending rates Duca et al. (2019) discovered that both tend to reduce consumers' readiness to spend. Bokan, Dossche, and Luca (2018) argue that an increase in oil prices affects households' purchasing power directly through higher prices for oil-based energy products (e.g., petrol, heating oil), while higher interest rates lower consumption through the substitution effect, because current consumption becomes more expensive relative to saving.

Table 10: Influence of macro variables on consumers' spending when inflation expectations increase

Macro determinants of spending behavior[13]	**Direction**	**Strength**
Increase in expected change in inflation[14]	Spending ↑	Very weak
Increase in oil prices	Spending ↓	Very weak
Increase in lending rates	Spending ↓	Very weak

Source: Own work.

Lastly, regarding other respondent-specific variables (Table 11), Duca et al. (2019) found that readiness to spend declines as consumers take on debt. Their findings are in line with Dynan (2012) who found that leverage contributes to the weakness in consumption. Further, Duca et al. (2019) argue that spending in the current period increases with expectations of an improvement in the financial or general economic situation, while the opposite is the case when consumers expect a deterioration in labor market conditions. Similarly, Bachmann et al. (2015) research found that improvement in the expected financial situation of the household and the expected business conditions (i.e., idiosyncratic and aggregate) have significant positive effects on the reported spending readiness, while the opposite is the case for higher unemployment expectations.

Table 11: Influence of respondent-specific variables on consumers' spending when inflation expectations increase

Respondent-specific determinants of spending behavior[15]	**Direction**	**Strength**
Debt status (debtor)	Spending ↓	Moderate

continues

[13] Macro variables rates are continuous variables.
[14] Inflation expectations - Inflation perceptions = Expected change in inflation
[15] For the discrete respondent-specific variables, direction and strength is based on the change from base alternative. Specifically, for debt status, the base alternative is Debt status (not in debt); for expected financial situation the base alternative is Expected financial situation (a lot worse); for expected general economic situation the base alternative is Expected general economic situation (a lot worse); for expected general unemployment situation the base alternative is Expected general unemployment situation (fall sharply).

Table 11: Influence of respondent-specific variables on consumers' spending when inflation expectations increase (cont.)

Respondent-specific determinants of spending behavior	**Direction**	**Strength**
Expected financial situation (a little worse)	Spending ↑	Moderate
Expected financial situation (same)	Spending ↑	Strong
Expected financial situation (a little better)	Spending ↑	Strong
Expected financial situation (a lot better)	Spending ↑	Very strong
Expected general economic situation (a little worse)	Spending ↑	Moderate
Expected general economic situation (the same)	Spending ↑	Moderate
Expected general economic situation (a little better)	Spending ↑	Strong
Expected general economic situation (a lot better)	Spending ↑	Very strong
Expected general unemployment situation (fall slightly)	No significant effect	
Expected general unemployment situation (the same)	No significant effect	
Expected general unemployment situation (increase slightly)	Spending ↓	Moderate
Expected general unemployment situation (increase sharply)	Spending ↓	Strong

Source: Own work.

All in all, expected change in inflation has lower correlation with readiness to spend compared to most other observed variables that determine consumer spending behavior. Specifically, Dräger, Lamla, and Pfajfar (2020) demonstrated that the observed hidden heterogeneity, in particular, for consumers with very similar inflation expectations, is an important driver of diverging current and future planned spending and saving decisions. Nevertheless, it is important to point out that an impact of a change in categorical variable on spending cannot be compared directly in quantitative terms with an impact of a change in continuous variable on spending.

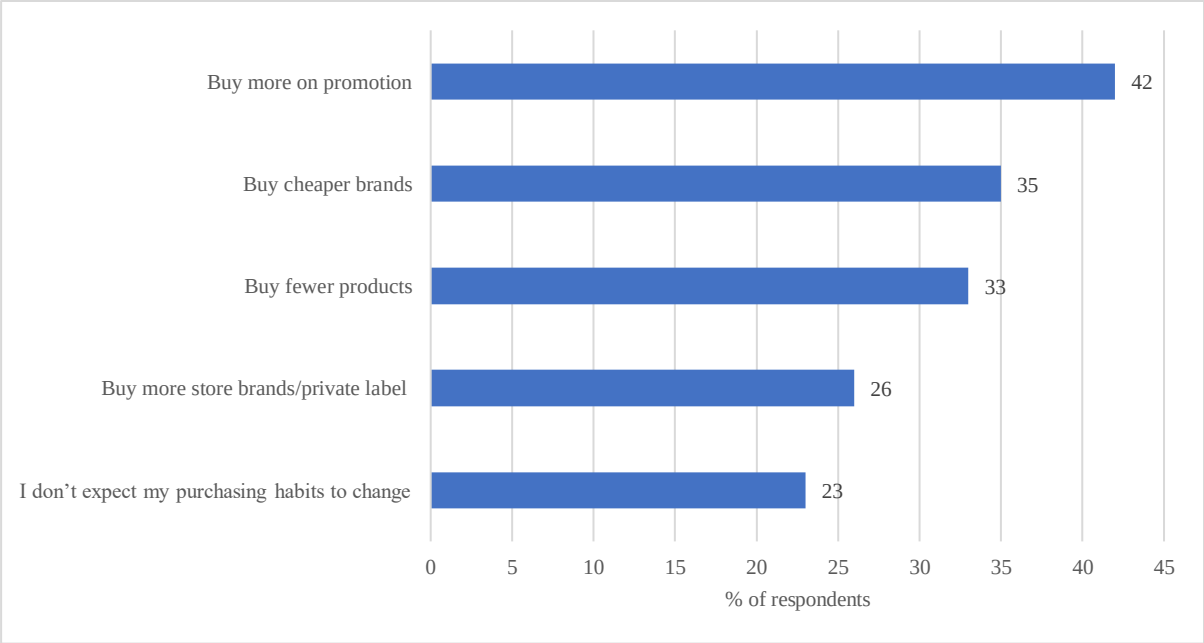
5 IMPACT OF INFLATION ON CONSUMER'S PURCHASING HABITS

In this section, we observed market reports that looked at how purchasing habits change when consumers are impacted by inflation. First, we examined what is the impact of inflation on consumer's purchasing habits in general, and then we analyzed differences across consumer characteristics.

5.1 Impact of inflation on consumer's purchasing habits in general

Ipsos (2022) survey showed that 77% of consumers expect to change their shopping habits if inflation persists. Specifically, as prices grow some consumers indicated they will buy fewer items, but most will look for products on promotion, trade down to cheaper options, like turn to private-label brands to save money, and shop at more affordable, low-cost retailers (Figure 14). Taylor and McRoskey (2022) found in a survey that categories where consumers plan to buy less are restaurants (50%), recreation and culture (44%), and clothing (38%). Categories where consumers plan to trade down are communications, food and beverages, and transport. Lastly, categories in which respondents don't plan to change their behavior are housing (42%), gas/fuel (41%), and health (40%).

Figure 14: Impact of inflation on consumer's purchasing habits[16]

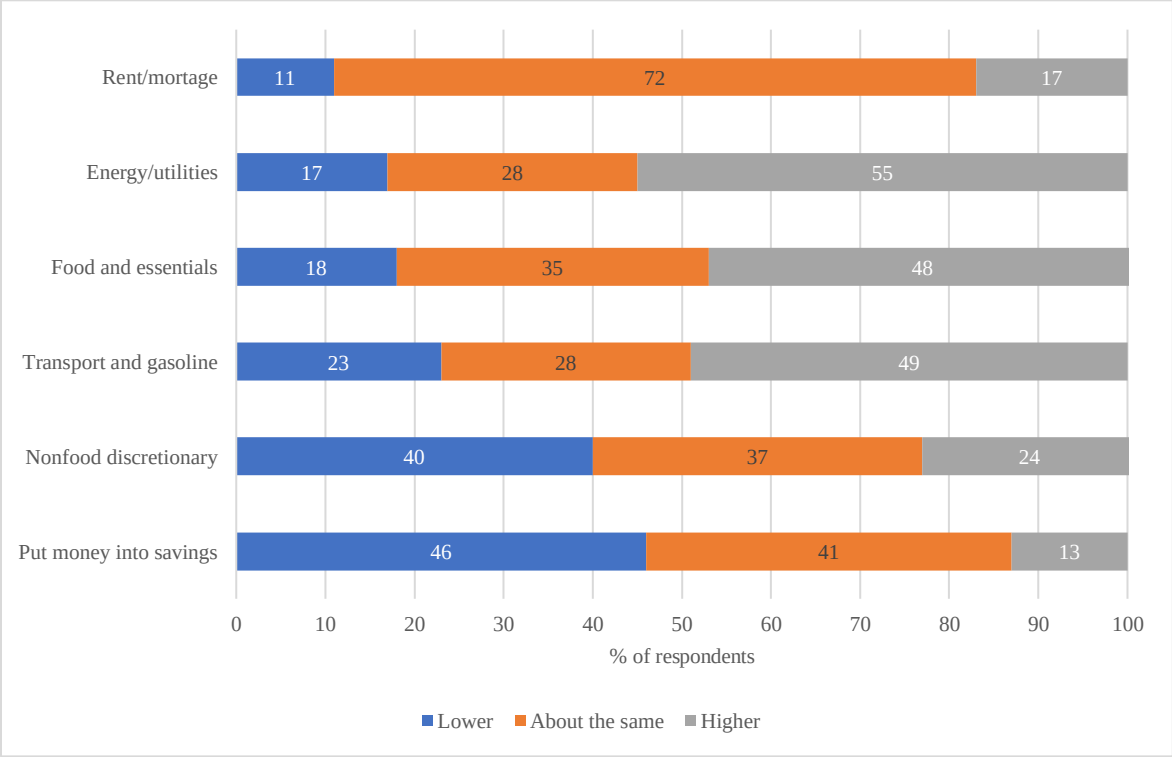


Adapted from Ipsos (2022).[17]

According to Bazzoni et al. (2022), most of these changes in purchasing habits are due to basic needs now occupying a higher share of the household budget. Specifically, around half of respondents reported greater spend on energy and utilities, transport and gasoline, and food and essentials. Correspondingly, spend on nonfood discretionary items has been cut, with more than a third of respondents reporting a decrease. Likewise, half have reduced the money they put into savings (Figure 15).

[16] Q: How, if at all, will inflation or current price increases impact your purchasing habits over the next few months?
[17] Ipsos Coronavirus Consumer Tracker, fielded March 15-16, 2022, among 1,154 U.S. adults.

Figure 15: Expected change of spend in general categories[18]



Adapted from Bazzoni et al. (2022)[19].

5.2 Impact of inflation on purchasing habits by consumer characteristics

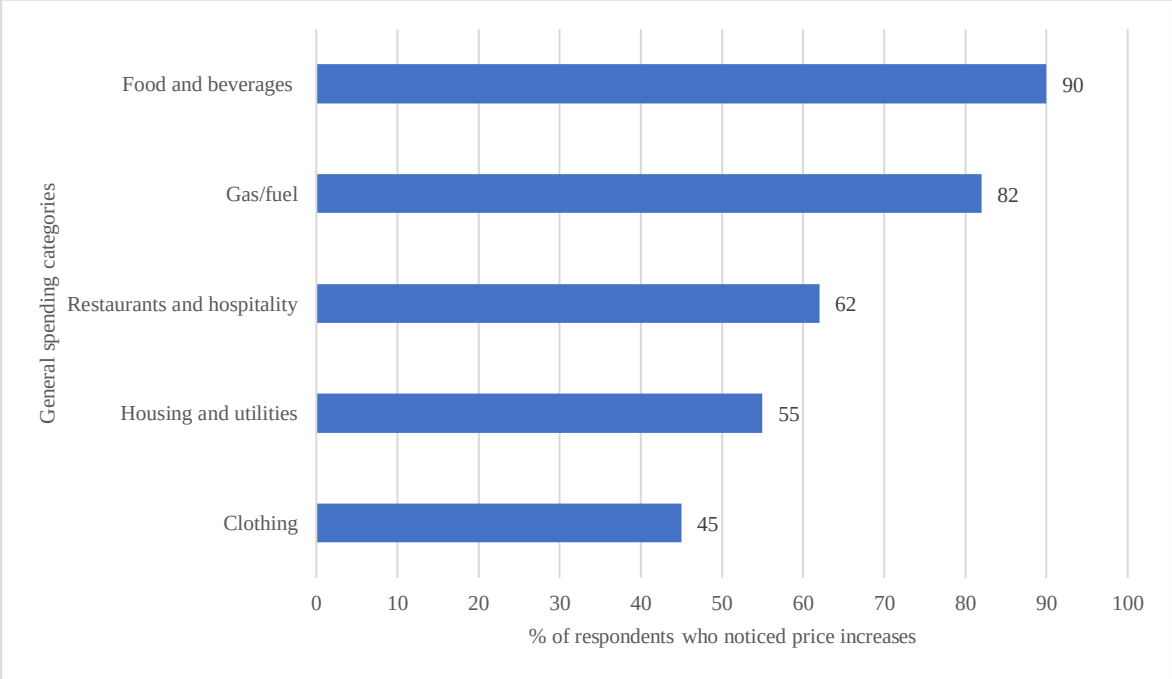
While most consumers plan to reduce their spending and trade down in discretionary categories due to the overall increase in inflation, changes in purchasing habits have varied across individuals with different characteristics as price increases have been felt unevenly among different consumer groups.

To be more exact among different age groups, as some of the most extreme gains have come in categories (Figure 16) where older generations are more likely to spend money than millennials and their younger counterparts. Specifically, the generation that has been the most negatively affected by inflation is the oldest age group (i.e., 60 years or over), because retirees are spending more than half of their money on two categories (i.e., Food and non-alcoholic beverages & Housing, water, electricity, gas and other fuels) (Figure 17) that experienced the highest price increases since the beginning of 2022 (Figure 4). Besides, retirees in general, can be less flexible than younger adults, which makes it more difficult for them to absorb the blows of economic hardship more effectively. For example, most people in their 20s can cut down on expenses, as it is easier for them to move to a cheaper

[18] Q: How do you expect your spend on the following categories to change in the next 4-6 weeks?
[19] McKinsey & Company Europe Consumer Pulse Survey, 04/12–04/18/2022, n = 5,075 (France, Germany, Italy, Spain, UK), sampled to match European general population 18+ years

flat or relocate somewhere else to find better-paying job, which is not something those with families or own homes can afford.

Figure 16: Main spending categories in which consumers noticed price increases[20]

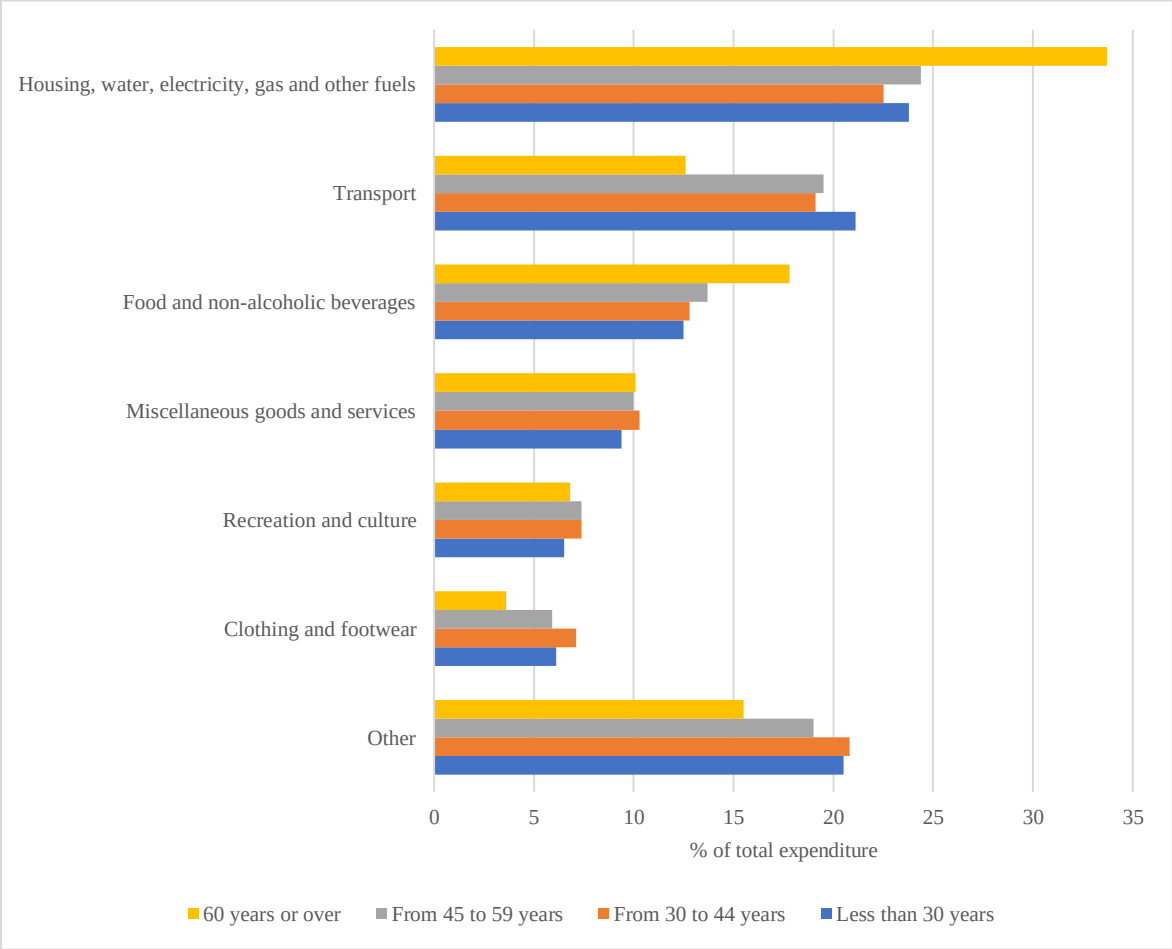


Adapted from Taylor and McRoskey (2022)[21].

Nevertheless, budgets from millennials and their younger counterparts have been gotten squeezed significantly by rising prices as well. Specifically, transportation costs, are up nearly 14% year over year, while consumers below the age of 30 spend more of their monthly budget on transport than other age groups (Figure 17). According to a survey conducted during the spring, almost every second Millennials struggles to fill up their vehicle (Tighe, 2022). Besides, most of the younger people can't yet afford to be homeowners like individuals from older generations, thus they are more exposed to rising rents. Similarly, younger people have disproportionately felt the burden of price increases for the used cars, since older people tend to buy new cars that haven't appreciated in price as much. And while all generations are being affected by higher prices in the grocery store, young adults tend to go more often to bars or restaurants that passed on many of their higher input cost to consumers. That being said, there are certain things (e.g., TV subscriptions and gym memberships) many younger consumers are not willing to let go, even at a time like this (Smialek et al., 2021).

[20] Q: In which categories have you noticed price increases?
[21] BCG COVID-19 Consumer Sentiment Survey, March 2020–March 2022 (n = 2720)

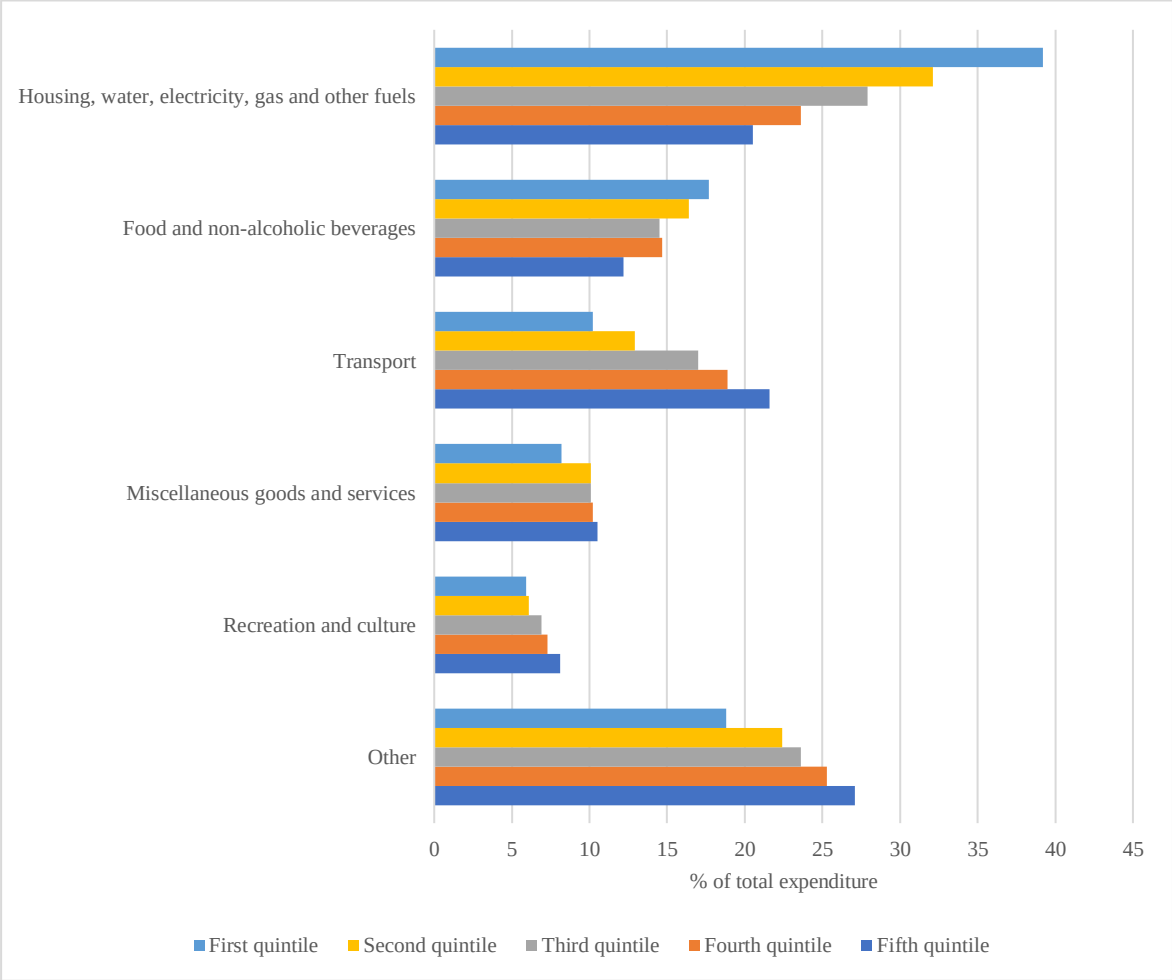
Figure 17: Structure of consumption expenditure by age and consumption purpose (Slovenia, 2015, % of total expenditure)



Adapted from Eurostat (2022c).

Even within generations, rising prices disproportionally affect consumers based on their characteristics. For example, individuals from low-income households spend lower proportion of their monthly budgets on durables and luxuries, as they have to allocate more of their funds towards covering necessities, such as food, housing, gas, and other essentials than wealthier families (Figure 18). Similarly, younger parents within the Millennial generation dedicate bigger percentage of their earnings towards buying groceries compared to older parents within the Millennial generation who tend to be more stable financially as they are further in their professional careers. Thus, higher inflation tends to affect more individuals from lower income brackets as they don't have many savings in their bank accounts to provide them a cushion to offset higher prices, even if temporary. In addition, more wealthy individuals often hold their resources in different asset classes (e.g., inflation-linked bonds), which can offer them better downside protection for inflation compared to poorer segments of the population whose savings are often held in cash or in very low interest rate bank accounts that are not shielded from inflation (Claeys & Guetta-Jeanrenaud, 2022).

Figure 18: Structure of consumption expenditure by income quintile and consumption purpose (Slovenia, 2015, % of total expenditure)



Adapted from Eurostat (2022d).

6 RESEARCH DESIGN FOR STUDYING THE IMPACT OF INFLATION ON CONSUMER BEHAVIOR

In this part of the master's thesis, I present in detail the research questions, hypotheses, and methodology.

6.1 Research questions

This master's thesis empirical research is focused on answering the following research questions:

RQ1: How concerned are Slovenians with inflation when making purchase decisions?

RQ2: What are the differences in inflation perceptions and expectations among age groups and within the millennial generation in Slovenia?

RQ3: How and to what extent does inflation affect consumer spending across age groups and within the millennial generation in Slovenia?

RQ4: How does inflation affect consumer's purchasing habits across age groups and within the millennial generation in Slovenia?

RQ5: What is the impact of inflation on broader economy due to changes in consumer behavior?

6.2 Research hypotheses

I wanted to answer the abovementioned questions by testing the following hypotheses that were formulated based on existing research:

First, according to findings from O'Brien (2022) and Malmendier and Nagel (2016) younger people are less concerned with inflation compared to older individuals, because they never experienced the crisis of rapid and persistent inflation as adults (Figure 3), as well as because budgets from younger people have been less squeezed by rising prices (Figure 4 & Figure 17). Thus, hypothesis H1 was developed.

H1: Millennials are less concerned with inflation when making purchase decisions compared to older age generations.

Second, according to Bryan and Venkatu (2001), Menz and Poppitz (2013), and Meyler & Reiche (2021) younger respondents tend to show higher inflation perceptions compared with older respondents (Figure 10). They argue that differences in perceptions arise from different consumption baskets, as well as from differences in financial literacy, thus I established hypothesis H2a.

H2a: Millennials form higher inflation perceptions compared to older age generations.

Third, according to D'Acunto et al. (2020), Corduas (2022), Takahashi & Tamanyu (2022), Jonung (1981), Bryan and Venkatu (2001), Christensen et al. (2006), and Del Giovane et al. (2009) women tend to perceive a higher level of inflation than men as they are more exposed to food inflation due to grocery shopping (Figure 8). Thus, hypothesis H2b was developed.

H2b: Millennials who are male report lower inflation perceptions compared to Millennials who are female.

Fourth, according to Bryan and Venkatu (2001) and Bruine de Bruin et al. (2010) individuals with lower education report higher inflation perceptions, because they tend to be less financially literate (Figure 11). Thus, I established hypothesis H2c.

H2c: Millennials who report higher education attainment report lower inflation perceptions compared to Millennials who report lower education attainment.

Fifth, according to Brainard (2022) and Carroll (2001) lower income households perceive higher inflation, because they have smaller financial cushions and tend to have lower ability to switch to lower-priced alternatives (Figure 9). Thus, hypothesis H2d was developed.

H2d: Millennials who are from higher income household report lower inflation perceptions compared to Millennials who are from lower income household.

Sixth, according to from Duca et al. (2019) younger respondents tend to show higher inflation expectations compared with older respondents (Figure 10). Thus, hypothesis H3a was developed.

H3a: Millennials form higher inflation expectations compared to older age generations.

Seventh, according to Candia et al. (2020), Christelis et al. (2020), and Ehrmann et al. (2017) individuals who are pessimistic about their economic or financial situation, or about the macroeconomy more generally, are likely to have higher inflation expectations. Thus, hypotheses H3b and H3c were developed.

H3b: Millennials who expect that financial position of their household will get better report lower inflation expectations compared to Millennials who expect that financial position of their household will stay the same or get worse.

H3c: Millennials who expect that general economic situation will get better report lower inflation expectations compared to Millennials who expect that general economic situation will stay the same or get worse.

Eight, according to Duca et al. (2019) when consumers expect higher inflation relative to their currently perceived level of inflation, they adjust positively their intention to spend at the current moment. Thus, I established hypothesis H4.

H4: Millennials who report higher expected change in inflation are more likely to have higher spending expectations compared to Millennials who report lower expected change in inflation.

Ninth, according to Ipsos (2022) consumers who have noticed the highest price increases were the most likely to adjust their shopping habits. Thus, hypothesis H5a was developed.

H5a: Millennials who report higher inflation perceptions more likely changed their shopping behavior compared to Millennials who report lower inflation perceptions.

Lastly, according to Wiederholt and Vellekoop (2019) and Rondinelli and Zizza (2020) increase in inflation expectation in relation to inflation perceptions leads to increase in spending on durables. Thus, hypothesis H5b was developed.

H5b: Millennials who report higher expected change in inflation less likely postponed major purchases compared to Millennials who report lower expected change in inflation

6.3 Research methodology

In order to answer the research questions and hypotheses, a quantitative study via an online survey was performed. Online survey is one of the most common methods of direct data collection in the social sciences. I decided to conduct an online survey because it has many advantages (e.g., low cost, time savings, geographical indefiniteness, the possibility of using visual and sound effects, anonymity, confidentiality, etc.) that allow to check the attitudes, beliefs, and information of respondents in an objective way. Nevertheless, there are some disadvantages with this method of surveying, namely the sampling issues, lack of responsiveness (i.e., large number of unanswered questions), and difficulty to interpret the sentiments behind the answers (Goodwin, 2020).

For the online survey, I used the 1KA online survey tool, as the tool is simple to use both for the survey maker and for the respondents. Respondents were able to complete the survey via computer, smartphone, or tablet. The only condition for participation in the survey was the age limit (i.e., 18+). Individuals were invited to participate in the survey via multiple channels. Specifically, over the social networks (e.g., Facebook, Instagram, etc.), e-mail, and via text message (i.e., SMS). Moreover, sampling was based on the snowball principle, which means that the respondents were encouraged to share the questionnaire with their connections to yield a larger number of completed questionnaires.

The online questionnaire was active from 6th August 2022 to 14th September 2022. The questions in the questionnaire were based on the previous research of existing literature and were designed to answer research questions and test hypotheses. Questionnaire consisted of 17 questions that were divided in terms of content into 5 sections. Most questions were close ended, however, 3 questions also required open ended responses. Majority of close ended questions were based on a 5 point Likert scale, which is a type of psychometric response scale in which responders specify their level of agreement to a statement typically in five points, while a few close ended questions allowed multiple choices. The questionnaire in the original Slovene version is in Appendix 3, and in English version is in Appendix 4.

The first section consisted of Q1 that inquired about how concerned are Slovenians with inflation and price increases when they make most of their purchase decisions. Next, the second section consisted of Q2 – Q4, that inquired about consumer's inflation perceptions and expectations. Specifically, we investigated about inflation perceptions (i.e., backward – looking) and expectations (i.e., forward – looking) across major consumption categories, as

well as inquired about quantitative opinions regarding inflation perceptions and expectations. In the open-ended (quantitative) questions respondents were asked to estimate by how many percent do they think consumer prices have gone up/down over the past year and how much higher/lower do they think prices in general will be a year from now in Slovenia. The third section in the empirical analysis, consisted of Q5 – Q7, that examined about how and to what extent inflation affected consumer's readiness to spend. Specifically, with qualitative questions Q5 and Q6 we investigated how respondents changed their spending in total and across major categories over the last year due to inflation, while with Q7 we inquired about how consumers expect their spending on goods and services to compare with their spending in the past 12 months. The fourth section consisted of Q8 and Q9, that investigated about how inflation has affected consumer's purchasing habits. Specifically, with Q8 we asked respondents whether they have changed their purchasing habits over the past year due to inflation, while with multiple choice Q9 we examined how they have changed their purchasing habits. Finally, the fifth section consisted of Q10 – Q17, that were intended to get insight into a number of socioeconomic and demographic characteristics of respondents. Specifically, Q10 asked about the respondent's gender, Q11 about age, Q12 about attained education, Q13 about the number of members in household, Q14 about monthly household net income level, Q15 about expected household financial position, Q16 about employment status, and Q17 about respondent's expectations about the general economic situation in Slovenia. Responses were then exported from the 1KA into SPSS, a statistical software suite developed by IBM, which was used to perform the necessary statistical analysis. Specifically, during the analysis, several statistical techniques were used, which ranged from simple descriptive statistics to more advanced inferential statistics.

7 RESEARCH RESULTS FROM STUDYING THE IMPACT OF INFLATION ON CONSUMER BEHAVIOR

In this chapter, the analysis of the collected answers from the survey is presented. First the sample is described, followed by a question-by-question analysis, and finally tests of research hypotheses are presented.

7.1 Description of the sample

The final sample consisted of 352 valid responses. The total number of respondends surveyed was 576, but 224 respondents did not complete the entire survey or completed only the first page. Nevertheless, the completion rate was relatively high, as 61% of the respondents answered all questions, while surveys with 15 questions and more usually have a completion rate around 42% (Perzynska, 2022).

All in all, from respondents with valid responses, 49.7% were male and 50.3% were female. Non of the respondents chose the third option "Other" for gender. Next, Table 12 shows that

18.8% of the respondents are between 18 and 25 years old, which places them in Gen Z age generation. Most respondents, specifically 35.2%, fall in the age range between 26 and 41. This is not surprising, because when collecting primary data we deliberately targeted more respondents from this demographic group, as Millennials are the primary focus of this thesis. Further, 22.4% of the respondents are between 42 and 57 years old, which places them in Gen X demographic group, while 14.8% of the respondents are known as Baby boomers, which means they are between 58 and 76 years old. Lastly, the remaining 11% of the respondents, referred to as Silent generation, are older than 77.

Table 12: Frequency table for age generations

	N	%
Gen Z (18 – 25)	66	18.8%
Millennials (26 – 41)	124	35.2%
Gen X (42 – 57)	79	22.4%
Baby boomers (58 – 76)	52	14.8%
Silent generation (77 +)	31	8.8%

Source: Own work.

Table 13 shows that the majority of respondents surveyed have completed vocational school, specifically 27.8%, followed by 25.3% of respondents whose highest obtained level of education obtained is a bachelor's degree. 19.3% respondents surveyed obtained master's degree or higher, while 17.0% completed high school degree. Lastly, some of the remaining 10.5% of respondents finished elementary school.

Table 13: Frequency table for education level[22]

	N	%
Elementary school or less	37	10.5%
Vocational school	98	27.8%
High school	60	17.0%
Bachelor's degree	89	25.3%
Master's degree or Ph.D.	68	19.3%

Source: Own work.

Next, Table 14 shows that the majority of respondents surveyed are from households with 2 members, followed by 3 member, then 4 member, and 1 member households. Lastly, 8.5%

[22] Q: What is the highest degree or level of education you have completed?

of respondents are from 5 member households, while less then 2% of respondents surveyed are from households with more than 5 members.

Table 14: Frequency table for number of household members[23]

	N	%
1 member	65	18.5%
2 members	97	27.6%
3 members	79	22.4%
4 members	76	21.6%
5 members	30	8.5%
6 members	4	1.1%
7 members	1	0.3%

Source: Own work.

Table 15 shows that a third of respondents surveyed come from households with combined net income in the range between 2101 – 4200 EUR, followed by 28.4% of households with combined net income in the range between 4201 – 6000 EUR, and then by 23.3% of households with combined net income in the range between 700 – 2.100 EUR. The remaining 9.1% and 6.3% of respondents fall in the more than 6000 EUR and in the less than 700 EUR household net income levels, respectively.

Table 15: Frequency table for household net income level[24]

	N	%
less than 700 EUR	22	6.3%
700 – 2100 EUR	82	23.3%
2101 – 4200 EUR	116	33.0%
4201 – 6000 EUR	100	28.4%
more than 6000 EUR	32	9.1%

Source: Own work.

[23] Q: How many members does your household have?
[24] Q: What is your monthly household net income?

Table 16 shows that more than a half of respondents surveyed are employed, followed by 16.8% of respondents who are retired, 13.4% of respondents are students, 11.6% of respondents are self-employed, and finally 2.6% of respondents are unemployed.

Table 16: Frequency level for employment status[25]

	N	%
Employed	196	55.7%
Self-employed	41	11.6%
Unemployed	9	2.6%
Retired	59	16.8%
Student	47	13.4%

Source: Own work.

Next, Table 17 shows that more than a third of respondents surveyed, specifically 36.9%, think their household's financial position will stay the same, while 27% expect their household's financial position will get a little worse. Moreover, 4.8% of respondents surveyed believe their household's financial position will get a lot worse. On the other hand, 24.7% of respondents surveyed expect their household's financial position will get a little better, with additional 6.5% of respondents thinking it will get a lot better.

Table 17: Frequency table for expected financial position of household [26]

	N	%
It will get a lot worse	17	4.8%
It will get a little worse	95	27.0%
It will stay the same	130	36.9%
It will get a little better	87	24.7%
It will get a lot better	23	6.5%

Source: Own work.

Lastly, with regard to sample description, Table 18 shows that more than a third of respondents surveyed, specifically 34.9%, think that general economic situation in Slovenia will stay the same over the next year. 29.5% expect general economic situation in Slovenia will get a little worse, while 4.5% think it will get a lot worse. On the other hand, 27% of

[25] Q: What is your current employment status?
[26] Q: Over the next year, how do you expect the financial position of your household to change?

respondents surveyed expect general economic situation in Slovenia will get a little better, with additional 4% of respondents thinking general economic situation in Slovenia will get a lot better over the next year.

Table 18: Frequency table for expected general economic situation in Slovenia[27]

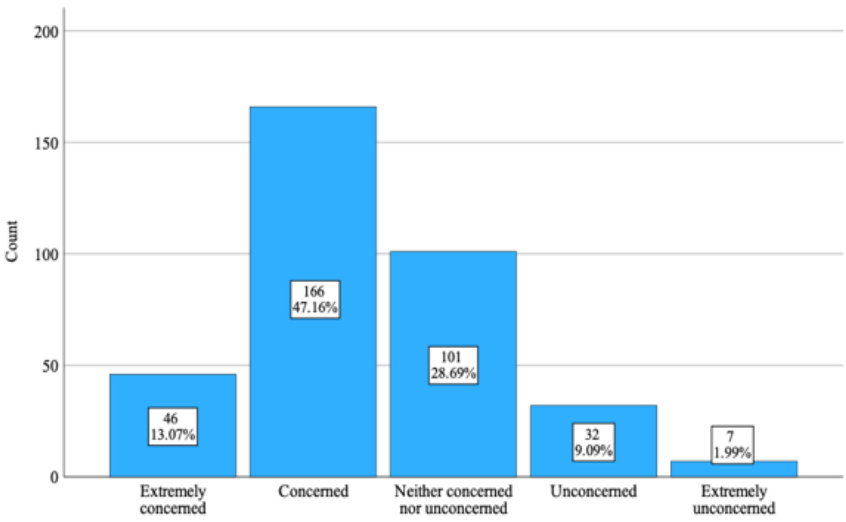
	N	%
It will get a lot worse	16	4.5%
It will get a little worse	104	29.5%
It will stay the same	123	34.9%
It will get a little better	95	27.0%
It will get a lot better	14	4.0%

Source: Own work.

7.2 Analysis of the survey results

At the beginning of the survey, respondents were asked about their level of concern with regard to inflation when they make most of their purchase decisions. As shown in Figure 19, most respondents are concerned with inflation when making most of their purchase decisions, while only a few respondents are extremely unconcerned.

Figure 19:Level of concern with inflation when making purchase decisions[28]



Source: Own work.

[27] Q: Over the next year, how do you expect the general economic situation in Slovenia to develop?
[28] Q: How concerned are you about inflation and price increases when you make most of your purchase decisions?

Next section inquired about consumer's inflation perceptions and expectations. Specifically, with the second question, respondents were asked to choose what has happened to prices across major consumption categories over the past year. To summarize, respondents perceived prices increases in all major consumption categories over the past year (Table 19). The most significant price increases were perceived in the category Transport and Gasoline (Figure A.4), followed by categories Housing and utilities (Figure A.7), Groceries and other essentials (Figure A.6), Restaurants and hospitality (Figure A.5), and Nonfood discretionary (Figure A.8). In addition, when it comes to category Nonfood discretionary most respondents (i.e., 37 or 10.5%) selected "Don't know", as well as respondents perceived price changes deviated the most from the mean as indicated by the highest standard deviation (i.e., 0.99).

Table 19: Summary of perceived price changes across major consumption categories over the past year

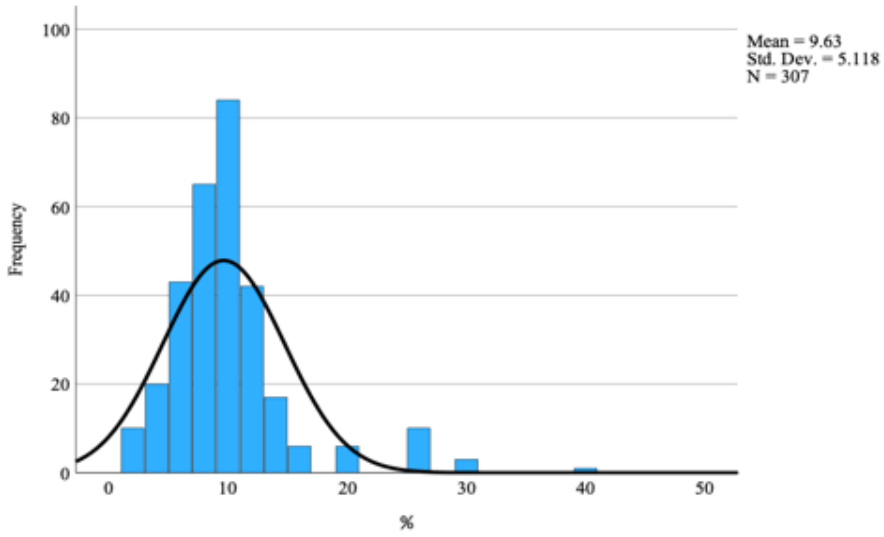
		Transport and gasoline	Restaurants and hospitality	Groceries and other essentials	Housing and utilities	Nonfood discretionary
N	Valid	328	322	329	322	315
	Missing[29]	24	30	23	30	**37**
Mean[30]		**4.16**	3.74	3.99	3.98	3.70
Std. Deviation		0.81	0.94	0.88	0.90	**0.99**

Source: Own work.

Third question asked respondents to determine whether the general prices of goods and services in Slovenia went down or up over the past year. I found that large majority of respondents (i.e., 93%) perceived that prices in general went up over the past year. Next, open-ended quantitative question asked the respondents to estimate by how many percent they think prices in general have gone up or down (i.e., depending on how they responded to the previous question) over the past year. Among the 327 respondents that perceived prices in general increased over the past year, 20 respondents couldn't (i.e., didn't know) estimate the increase quantitatively. Nevertheless, the mean estimation from those who responded was 9.6%, while standard deviation was 5.1 (Figure 20). On the contrary, from 25 respondents that perceived prices in general decreased over the past year, 11 respondents couldn't (i.e., didn't know) estimate the decrease quantitatively. Nevertheless, the mean estimation from those who responded was 4.57%, while standard deviation was 1.99.

[29] If respondents selected Don't know, the variable was coded as Missing (-99).
[30] Respondents specified their perceived level of price changes in five points: (1) Decreased significantly; (2) Decreased; (3) Neither decreased nor increased; (4) Increased; (5) Increased significantly; (-99) Don't know.

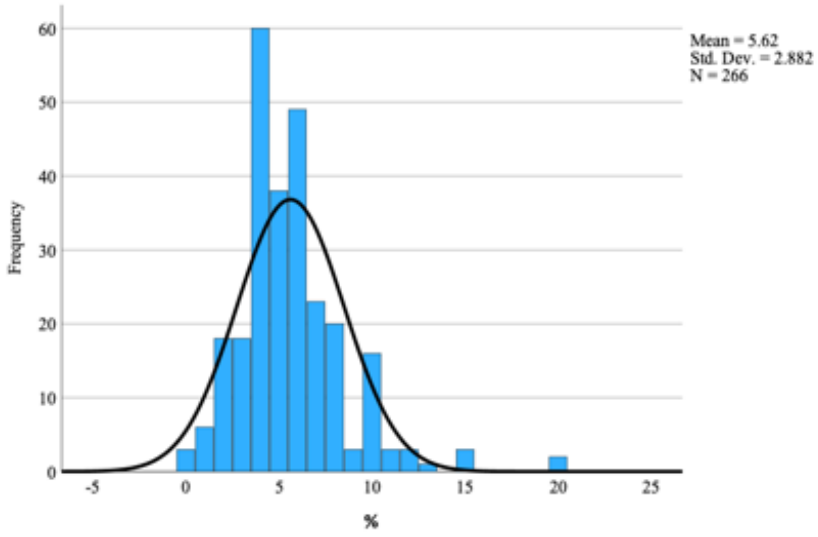
Figure 20: Perceived general price increases over the past year[31]



Source: Own work.

Fourth question asked respondents to determine whether the general prices of goods and services in Slovenia will go down or up over the next year. We found that large majority of respondents (i.e., 288 or 81.8%) perceive that prices in general will also go up over the next year. In the follow-up question the mean quantitative estimation from those who responded that prices will go up over the next year was 5.62%, while standard deviation was 2.88 (Figure 21). Among the 288 respondents that expects prices in general will increased over the next year, 22 respondents couldn't (i.e., didn't know) estimate the increase quantitatively.

Figure 21: Perceived general price increase over the next year[32]

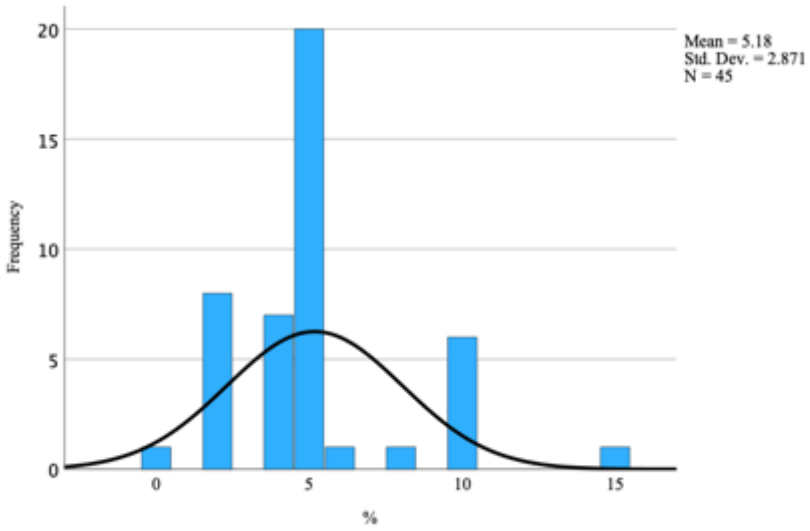


Source: Own work.

[31] Q: By how many percent do you think that prices in general have gone up over the past year?
[32] By how many percent do you think that prices in general will go up over the next year?

On the contrary, from 64 respondents that perceived prices in general will decrease over the next year, 19 respondents couldn't (i.e., didn't know) estimate the decrease quantitatively. The mean estimation from those who responded was 5.18%, while standard deviation was 2.87 (Figure 22).

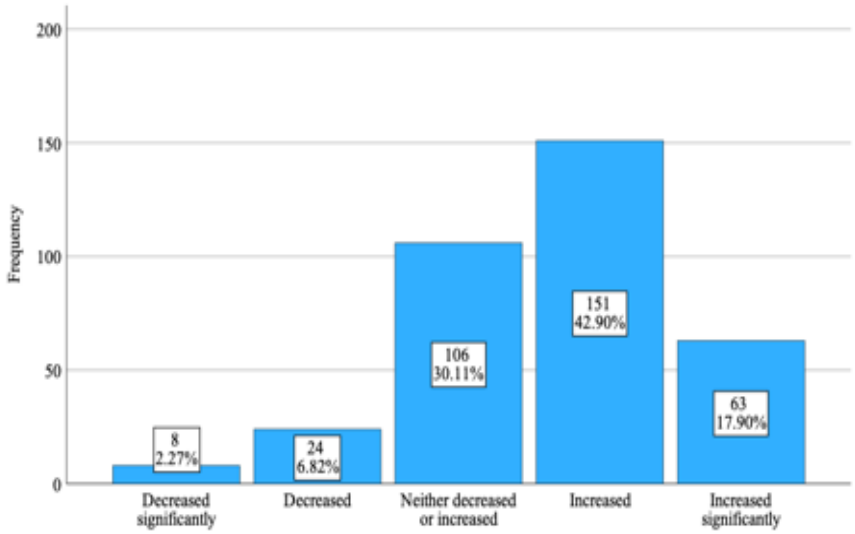
Figure 22: Perceived general price decrease over the next year[33]



Source: Own work.

Next section of questions dealt with spending. The results of the fifth question show that most respondents believe their total spending increased over the past year, while only a few respondents think that their spending decreased, particularly significantly (Figure 23).

Figure 23: Perceived change in total spending over the past year[34]



Source: Own work.

[33] By how many percent do you think that prices in general will go up over the next year?
[34] Q: Over the past year, what do you think has happened to your spending in general?

Next, respondents were asked to indicate what has happened to their spending across major consumption categories over the past year, as well as what happened to their savings. To summarize, respondents think their spending has increased in all major consumption categories over the past year (Table 20). The most significant increases in spending were indicated in the category Transport and Gasoline (Figure A.9), followed by categories Groceries and other essentials (Figure A.11), Housing and utilities (Figure A.12), Restaurants and hospitality (Figure A.10), Nonfood discretionary (Figure A.13), and Savings (Figure A.14). In addition, when it comes to spending in the category Housing and utilities most respondents (i.e., 32 or 9.1%) selected "Don't know", as well as had the most dispersed answers around the mean as indicated by the highest standard deviation measure (i.e., 1.03).

Table 20: Summary of perceived change in spending across major consumption categories over the past year

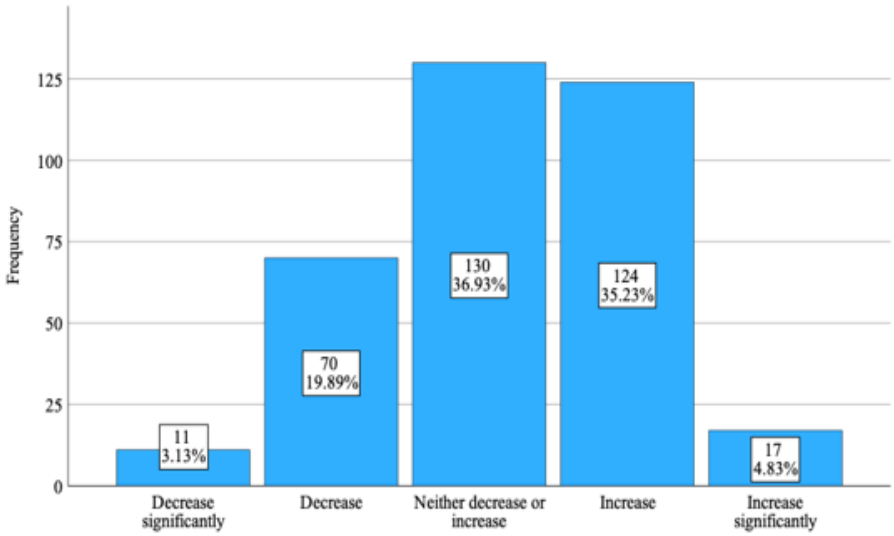
		Transport and gasoline	Restaurants and hospitality	Groceries and other essentials	Housing and utilities	Nonfood discretionary	Savings[35]
N	Valid	335	325	328	320	323	324
	Missing[36]	17	27	27	**32**	29	28
Mean[37]		**3.75**	3.57	3.70	3.64	3.53	2.72
Std. Deviation		0.98	0.93	0.95	**1.03**	0.96	0.98

Source: Own work.

Last question in this section asked respondents to indicate what will happened to their spending over the next year. The results show that most respondents believe their total spending will neither decrease nor increase over the next year (Figure 24).

[35] Net inflows to the savings account
[36] If respondents selected Don't know, the variable was coded as Missing (-99).
[37] Respondents specified their perceived level of spending changes in five points: (1) Decreased significantly; (2) Decreased; (3) Neither decreased nor increased; (4) Increased; (5) Increased significantly; (-99) Don't know.

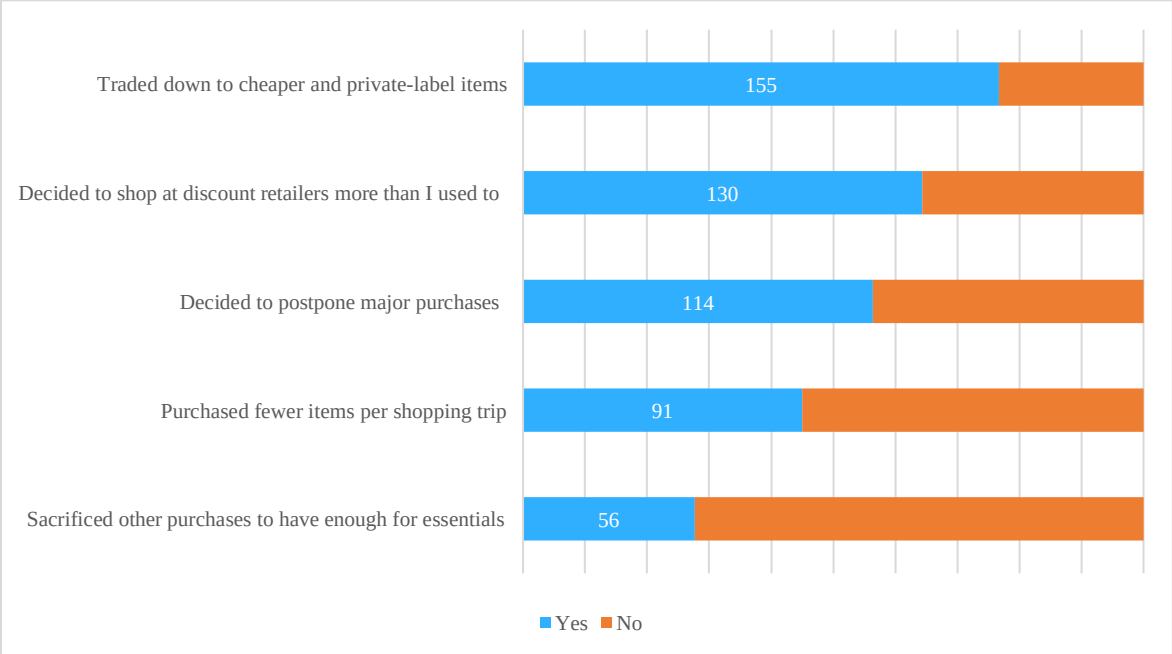
Figure 24: Expected change in total spending over the next year[38]



Source: Own work.

Fourth section of the survey dealt with shopping habits. The results of the ninth question showed that majority of respondents (i.e., 202 or 57.4%) perceive their shopping habits have changed over the past year (Figure 25).

Figure 25: Frequency of different shopping habit changes[39]



Source: Own work.

[38] Over the next year, what do you think will happen to your spending in general?
[39] Over the past year, as a result of inflation or price increases, have you done any of the following when purchasing a product?

Specifically, from 202 respondents who said their shopping habits have changed, most have started to trade down to cheaper and private-label items (76.7%), followed by the ones who decided to shop at discount retailers more than they used to (64.4%), the ones who decided to postpone major purchases (56.4%), the ones who purchased fewer items per shopping trip (45%), and lastly the ones who sacrificed other purchases to have enough for essentials (27.7%) (Figure 25).

7.3 Hypotheses testing

In this master's thesis, 11 hypotheses were developed based on the previously presented literature review. The detailed procedure for each hypothesis can be found in Appendix 7.

H1: Millennials are less concerned with inflation when making purchase decisions compared to older age generations.

Spearman's rank-ordered correlation was computed to examine the relationship between the two variables. Spearman's correlation is a nonparametric measure that can be used to measure the strength and direction of association that exists between two variables measured on an ordinal scale. There was a negative and significant correlation between the two variables, $r_s = -0.18$, $n = 352$, $p < 0.001$ (Figure A.19). Thus, the results of Spearman's rank-ordered correlation test supported hypothesis H1.

H2a: Millennials form higher inflation perceptions compared to older age generations.

Next, I performed Kruskal-Wallis H test, which is the non-parametric equivalent of an ANOVA, because the assumption of normality of data[40] was violated (Figure A.15). Kruskal-Wallis H test revealed a statistically significant difference in quantitative inflation perceptions across the five age generations, X^2 (4, N= 324) = 12.140, p = 0.016. Inflation perceptions were the lowest for Millennials (Mdn = 8) and Gen Zs (Mdn = 8) in comparison to the Gen Xs (Mdn = 9), Baby boomers (Mdn = 9), and Silent generation (Mdn = 10), respectively (Figure A.20). Thus, based on the results of Kruskal-Wallis H test, hypothesis H2a was not supported[41][42].

[40] To determine if data is normally distributed I looked at Shapiro Wilk and KS test. Besides, I also assessed skewness, kurtosis, histograms, and QQ plots. Although I could remove "true outliers" from data to achieve normal distribution I decided not to, because those outliers represent natural variations in the population.

[41] In addition, Spearman's rho correlation coefficient was used to assess the relationship between continuous variables inflation perceptions and age. Positive and significant correlation was found between the two variables, $r_s = 0.162$, $n = 324$, $p = 0.003$.

[42] When a hypothesis is not supported it means that there is no evidence supporting the hypothesis (i.e., it remains unproven, hypothetical, a qualified guess) it does not mean that the hypothesis is disproved or rejected.

H2b: Millennials who are male report lower inflation perceptions compared to Millennials who are female.

Because the inflation perceptions continuous data for millennial generation is not normally distributed (Figure A.17), we used Mann-Whitney U test, which is the non-parametric alternative test to the independent sample t-test. A Mann-Whitney U test revealed that males report higher inflation perceptions (Mdn = 9, N = 57) compared to females (Mdn = 7, N = 57). The test was statistically significant, U = 1235.0, z = -2.220, p = 0.026 (Figure A.21). Thus, based on the results of Mann-Whitney U test, hypothesis H2b is not supported.

H2c: Millennials who report higher education attainment report lower inflation perceptions compared to Millennials who report lower education attainment.

Kruskal-Wallis H test was used since the statistical assumption of normality of data was violated (Figure A.17). The test revealed no statistically significant differences in quantitative inflation perceptions across the five levels of educational attainment, X^2 (4, N = 114) = 8.038, p = 0.090 (Figure A.22). Thus, based on the results of the mentioned non-parametric test, hypothesis H2c was not supported.

H2d: Millennials who are from higher income household report lower inflation perceptions compared to Millennials who are from lower income household.

Again, Kruskal-Wallis H test was performed. The test revealed statistically significant difference in quantitative inflation perceptions across the five levels of monthly household net income, X^2 (4, N = 114) = 14.592, p = 0.006 (Figure A.23). Inflation perceptions were the lowest for Millennials who come from households that earn on a monthly basis more than 6,000 EUR (Mdn = 5) in comparison to those who come from households that earn on a monthly basis between 4201 – 6000 EUR (Mdn = 6), between 2101 – 4200 EUR (Mdn = 8), 700 – 2100 EUR (Mdn = 9), and lastly in comparison to those who come from households that earn on a monthly basis less than 700 EUR (Mdn = 14). Thus, the results of Kruskal-Wallis H test supported hypothesis H2d[43,44].

H3a: Millennials form higher inflation expectations compared to older age generations.

Kruskal-Wallis H test was used to compare five independent groups on a continuous outcome, because the assumption of normality of data was violated (Figure A.16). The test revealed no statistically significant difference in quantitative inflation expectations across

[43] In addition, Spearman's rho correlation coefficient was used to assess the relationship between quantitative variables "Inflation perceptions" and "Monthly net income per household member". Negative and significant correlation was found between the two variables, r_s =-0.343, n = 114, p < 0.001

[44] Ideally for KW H test each group should have a sample size of 5 or more, so the chi-square distribution well-approximates the H statistic. Thus, I also performed the test by joining group "less than 700 EUR" (N=3) with group "between 700 – 2100 EUR". The test was also significant X2 (3, N = 111) = 12.261, p = 0.014

the five age generations, X^2 (4, N = 315) = 5.779, p = 0.216 (Figure A.24). Thus, hypothesis H3a was not supported[45].

H3b: Millennials who expect that financial position of their household will get better report lower inflation expectations compared to Millennials who expect that financial position of their household will stay the same or get worse.

Kruskal-Wallis test was used because the assumptions of normality of data was violated (Figure A.18). Kruskal-Wallis test revealed a statistically significant difference in quantitative inflation expectations across five levels of next year's expected household financial position, X^2 (4, N = 111) = 13.871, p =0.008. Quantitative inflation expectations were the lowest for Millennials who expect their next year's expected household financial position will get a little better (Mdn = 4) in comparison to those who expect their next year's expected household financial position will stay the same (Mdn = 5), will get a little worse (Mdn = 5), will get a lot better (Mdn = 6), or will get a lot worse (Mdn = 9), respectively (Figure A.25). Thus, based on the results of the non-parametric test, hypothesis H3b was not supported.

H3c: Millennials who expect that general economic situation will get better report lower inflation expectations compared to Millennials who expect that general economic situation will stay the same or get worse.

Same as above, Kruskal-Wallis H test was used to compare five independent groups on a continuous outcome. The test revealed no statistically significant difference in quantitative inflation expectations across five levels of next year's expected general economic situation, X^2 (4, N = 111) = 5.738, p = 0.220 (Figure A.26). Thus, based on the results of the non-parametric test, hypothesis H3c was not supported [46].

H4: Millennials who report higher expected change in inflation are more likely to have higher spending expectations compared to Millennials who report lower expected change in inflation.

Ordinal regression was run to predict an ordinal level dependent variable "Spending expectations" with an independent variable "Expected change in inflation". The test showed a significant improvement in fit of the final model over the null model, X^2 (1) = 7.051, p = 0.008 Parameter estimates table shows that "Expected change in inflation" variable was a significant predictor in the model, p = 0.006. The coefficient indicates that for every percentage point increase in expected change in inflation, there is a predicted increase of

[45] In addition, Spearman's rho correlation coefficient was used to assess the relationship between inflation expectations and age. No statistically significant correlation was found between the two variables, r_s = 0.023, n = 315, p = 0.683

[46] Even when comparing across three levels of next year's expected general economic situation Kruskal -Wallis test revealed no statistically significant differences in quantitative inflation expectations, X2 (2, N = 111) = 4.732, p = 0.094

0.110 in the log odds of being in a higher level of the dependent variable "Spending expectations" (Figure A.27). Moreover, generalized linear model was performed to show odds ratios. Also, the mentioned test is more powerful, because the results are based on the use of Likelihood ratio chi-square test instead on the Wald test. Again, variable "Expected change in inflation" was a significant predictor in the model, $p = 0.009$. The odds ratio indicated that the odds of being in a higher level of dependent variable "Spending expectations" increases by a factor of 1.177 for every percentage point increase in expected change in inflation (Figure A.27). Thus, based on the results of both tests, hypothesis H4 was supported.

H5a: Millennials who report higher inflation perceptions more likely changed their shopping behavior compared to Millennials who report lower inflation perceptions.

Binary logistics regression was used to examine whether inflation perceptions were associated with the likelihood of a change in shopping behavior. The model was statistically significant, X^2 (1, N = 114) = 4.568, $p = 0.033$, suggesting that it could distinguish between those who changed and haven't changed their shopping behavior. The model explained between 3.9% (Cox & Snell R Square) and 5.3% (Nagelkerke R Square) of variance in the dependent variable and correctly classified 61.4% of cases. The inflation perceptions odds ratio of 1.096 suggests that for every percentage point increase in inflation perceptions consumers are 1.096 times more likely to change their shopping behavior (Figure A.28). Thus, based on the results of binary logistics regression, hypothesis H5a was supported.

H5b: Millennials who report higher expected change in inflation less likely postponed major purchases compared to Millennials who report lower expected change in inflation.

Binary logistics regression was used to examine whether expected change in inflation is associated with the likelihood of postponing major purchases. The model's result was not statistically significant, X^2 (1, N = 72) = 1.013, $p = 0.327$, suggesting that it couldn't distinguish between those who decided to postpone and who didn't decide to postpone major purchases based on independent variable (Figure A.29). Thus, based on the results of binary logistics regression, hypothesis H5b was not supported.

Table 21: Summary of hypothesis testing findings

Nr.	Hypothesis	Findings
H1	Millennials are less concerned with inflation when making purchase decisions compared to older age generations.	Supported
H2a	Millennials form higher inflation perceptions compared to older age generations.	Not supported
H2b	Millennials who are male report lower inflation perceptions compared to Millennials who are female.	Not supported

continues

Table 21: Summary of hypothesis testing findings (cont.)

Nr.	Hypothesis	Findings
H2c	Millennials who report higher education attainment report lower inflation perceptions compared to Millennials who report lower education attainment.	Not supported
H2d	Millennials who are from higher income household report lower inflation perceptions compared to Millennials who are from lower income household.	Supported
H3a	Millennials form higher inflation expectations compared to older age generations.	Not supported
H3b	Millennials who expect that financial position of their household will get better report lower inflation expectations compared to Millennials who expect that financial position of their household will stay the same or get worse.	Not supported
H3c	Millennials who expect that general economic situation will get better report lower inflation expectations compared to Millennials who expect that general economic situation will stay the same or get worse.	Not supported
H4	Millennials who report higher expected change in inflation are more likely to have higher spending expectations compared to Millennials who report lower expected change in inflation.	Supported
H5a	Millennials who report higher inflation perceptions more likely changed their shopping behavior compared to Millennials who report lower inflation perceptions.	Supported
H5b	Millennials who report higher expected change in inflation less likely postponed major purchases compared to Millennials who report lower expected change in inflation.	Not supported

Source: Own work.

7.4 Discussion

This chapter discusses the empirical results and compares them with the findings from the literature for each research questions posed in this master's thesis.

RQ1. How concerned are Slovenians with inflation when making purchase decisions?

The results of the survey showed that majority of respondents are concerned with inflation when making most of their purchase decisions (Figure 19). Additionally, the hypothesis testing revealed younger respondents are less concerned with inflation when making purchase decisions compared to older respondents (Figure A.19). The findings were in line with the discoveries from the literature which argued younger people are less concerned with inflation, because they never experienced the crisis of rapid and persistent inflation (Figure

31.4), as well as because budgets from younger people have been less squeezed by rising prices (Figure 4 & Figure 17).

RQ2. What are the differences in inflation perceptions and expectations among age groups and within the millennial generation in Slovenia?

First, the analysis of the survey data showed that older respondents report higher inflation perceptions (Figure A.20), while no significant correlation between age and inflation expectations was found (Figure A.24). My findings were not in line with the presented literature review which argued that older people tend to form lower inflation perceptions and expectations (Figure 10). Thus, I went to check whether recent results diverged from long-time average due to the distinctiveness of today's macro situation. This turned out to be true, as the latest Consumer Expectations Survey (CES) report which contains the overview of recent inflation perceptions and expectations was in line with my data (ECB, 2022c). O'Brien (2022) argues this is because inflation is the most prominent in categories (Figure 4) where older adults spend the most (Figure 17). Besides, my findings are consistent with the inflation learning model of Malmendier and Nagel (2016) who argue that past personal experiences with high inflation are the reason why older people tend to have persistently higher inflation expectations.

Second, the analysis of survey data revealed there are statistically significant differences in quantitative inflation perceptions across the five levels of monthly household net income within the millennial sample. Specifically, my findings confirmed the presented literature review which argued that Millennials who are from higher income household report lower inflation perceptions compared to Millennials who are from lower income household (Figure A.23). No statistically significant differences in quantitative inflation perceptions across genders (Figure A.21) or levels of educational attainment (Figure A.22) were found within the millennial generation. Thus, not supporting and extending the presented findings from the literature (Figure 8 & Figure 11). Further, when it comes to differences in inflation expectations within the millennial generation, my empirical research didn't confirm the findings from the literature that inflation expectations are higher for the individuals who are more pessimistic about their of own financial situation or macroeconomy in general. Surprisingly, the statistical analysis showed that Millennials who expected the financial position of their household will get a lot better have higher inflation expectations than those who expected the financial position of their household will stay the same or get a little worse (Figure A.25). No significant difference in inflation expectations between Millennials who have different expectation regarding general economic situation was found (Figure A.26).

RQ3. How and to what extent does inflation affect consumer spending across age groups and within the millennial generation in Slovenia?

The results of the survey showed that majority of respondents perceive their total spending has increased over the past year due to inflation (Figure 23), as well as expect that their total

spending will stay at same higher level or even increase over the next year due to inflation (Figure 24). First, the analysis of the survey data showed that Baby boomers are significantly less likely to neither decrease nor increase their spending perceptions compared to younger age generations, while Gen Zs are significantly less likely to increase their spending perceptions compared to older age generations. Further, Millennials are significantly less likely to significantly increase their spending perceptions due to inflation compared to Gen Zs and Baby Boomers (Figure A.30). Next, the analysis showed that Gen Zs are more likely to significantly decrease their spending expectations compared to Millennials due to inflation, Baby boomers are more likely to neither decrease nor increase their spending expectations compared to younger generations, while Gen Xs are significantly more likely to increase their spending expectations compared to Gen Zs due to inflation (Figure A.31). The empirical results are in line with the presented literature which argues that younger respondents are more likely to decrease their spending due to inflation because they can be more flexible with their finances (Smialek et al, 2022).

Second, with regard to differences within millenial generation analysis of the survey data showed that males are more likely to neither decrease nor increase their spending perceptions due to inflation compared to females, while Millennials from households that earn more than 6000 EUR are more likely to significantly increase their spending perceptions due to inflation compared to those who are from households that earn between 700 – 2100 EUR a month (Figure A.32). No significant differences due to inflation were found within the millenial generation regarding spending expectations (Figure A.33). The empirical results were in line with the presented findings from literature which argue that individuals in a higher income level are less likely to decrease their spending due to inflation (Table 9: Influence of demographic variables on consumers' spending when inflation expectations increaseTable 9).

Lastly, statistical analysis revealed that Millennials who report higher expected change in inflation are more likely to have higher spending expectations compared to Millennials who report lower expected change in inflation (Figure A.27). The empirical result was in line with Duca et al. (2019) research in which they argue that an increase in expected change in inflation will increase the probability that a consumer will spend in the current period.

RQ4. How does inflation affect consumer’s purchasing habits across age generations and within the millennial generation in Slovenia?

The results of the survey showed that majority of respondents perceive their shopping habits have changed over the past year due to inflation (Figure 25). Specifically, across age generations, the analysis of the survey data showed that the highest percentage of respondents from group Baby Boomers changed their shopping behavior, while respondents from Gen Z changed their shopping habits the least. However, none of the comparisons of column proportions was statistically significant (Figure A.34). Further, within the millennial generation, the results showed no significant differences across column proportions between

two genders, between five levels of educational attainment, between five levels of monthly household net income, between five levels of expected household financial position, and between five levels of expected general economic situation (Figure A.35). Nevertheless, when I ran the data on larger sample including all age generations I found significant differences across column proportions (Figure A.36). Specifically, respondents from households that earn between 4201 - 6000 EUR are significantly less likely to change their shopping behavior compared to respondents from households that earn less. Next, respondents who expect financial position of their household will get a lot better are significantly less likely to change their shopping behavior compared to those who think it will stay the same or get worse. Besides, respondents who think general economic situation will get a little better are significantly less likely to change their shopping behavior than those who think it will get a little worse. The mentioned findings complement and extend presented conclusions Claeys and Guetta-Jeanrenaud (2022) who find that wealthier households have better ability to smooth their consumption over time.

Lastly, the hypothesis testing revealed Millennials with higher inflation perceptions more likely changed their purchasing habits (Figure A.28), which is in line with the Ipsos (2022) study which found that consumers who have noticed the highest price increases were the most likely to adjust their shopping habits. On the other hand, the hypothesis testing couldn't distinguish between Millennials who decided to postpone and those who didn't decide to postpone major purchases based on expected change in inflation. This was surprising, as Wiederholt and Vellekoop (2019) and Rondinelli and Zizza (2020) found than an increase in inflation expectation in relation to inflation perceptions leads to increase in spending on durables in the current period.

RQ5. What is the impact of inflation on broader economy due to changes in consumer behavior?

I learned that generally, when consumers expect higher inflation, they adjust positively their intention to spend at the current moment. However, expectations of persistently higher inflation, especially during a downturn weight negatively on consumer confidence which results in lower spending. Although, the explained inflation dynamic seems straightforward, in reality inflation psychology is extremely complex because each individual's characteristics indicate their inflation perceptions and expectations which then influence their spending behavior in countless different ways, consequently affecting the aggregate output. For example, when thinking about future inflation, men seem to be more influenced by perceptions of transport, clothing and housing inflation developments, while food prices have much bigger effect on inflation expectations for women (Di Nino et al., 2022). Consequently, men and women will adjust their spending behavior accordingly, which will have diverse implications for respective sectors, as well as for the aggregate output.

Therefore, it is important for many stakeholders to understand how inflation impacts consumers behavior. For example, managers could conduct appropriate pricing revisions

across their portfolios to preserve margins when being pressured by higher input costs, while consumers could turn to private label brands that offer comparable quality at a lower price to be more economical with their budgets. Besides, policymakers, most importantly, central bankers need to understand how consumers form and update their inflation perceptions and expectations, as it helps them to identify what type of inflation matters to diverse consumer segments and gives them additional insights relevant to the effectiveness of the transmission channel of monetary policy. According to Dräger et al. (2020), being able to unravel attitudes linked to specific expectations will allow central banks to address consumer concerns more specifically and more directly in their communication and consequently improve monetary policy efficacy. For example, by undertaking initiatives aimed at promoting financial literacy consumers could make better-informed evaluations of inflation and respond more effectively when economic circumstances or financing conditions change.

7.5 Limitations and opportunities for future research

Lastly, in this master's thesis, theoretical and practical implications of the findings, as well as limitations and opportunities for future research are debated. My findings could be used as by policy makers, as well as by business leaders that seek to better understand the relationship between inflation and consumers economic decisions, particularly with regard to younger generations. Concerning policy makers, the insights could guide them to make more effective monetary or fiscal policy decisions. For example, my findings show that mean quantitative inflation expectations are way above ECB's target, meaning the central bankers should move more aggressively with interest rate hikes if they don't want those expectations to become a self-fulfilling prophecy. While for business side, the results show that managers can feel more confident to raise prices without worrying that the decision will meaningfully impact demand since consumer's expectations of persistently higher inflation are entrenched. Finally, the study could also be used in various economic courses. In the best case the study would be picked up by other researchers that would advance the findings. In that case, I would advise them to use a larger sample of respondents, as well as to collect data over longer time period to deflect recency bias. With a larger sample they could provide stronger and more reliable results because they could use parametric tests, which have more statistical power than the non-parametric tests I used. I did consider using a parametric tests even with nonnormal data when group sample sizes were larger (i.e., N>30), however in most of the cases assessing the median rather than the mean was more meaningful for my study. I tried to avoid the drawbacks of not having enough respondents in some categories (e.g., respondents from households whose monthly net income is "less than 700 EUR", respondents who are "unemployed", etc.) by altering 5-point scale into 3-point scale (e.g., joining categories "will get a lot worse" and "will get a little worse" into "will get worse"). This adjustment allowed me to comply with the expected count requirement for Chi-square results to be valid. Next, concerning outliers I decided to keep them because they represented natural variations in the population, but still, I advise them to check whether the results of the findings are different when mean values are winsorised at the 2^{nd} and 98^{th} percentiles.

Besides, since my research was focused on the millennial generation I put continuous data "age" in brackets. However, I advise researchers to also check correlations with such data on continuous basis, rather than ordinal. This way the statistical analysis won't show significant differences between, for example, someone who earns 699 EUR (i.e., 1st income bracket) and respondent who earns 700 EUR (i.e., 2nd income bracket). Finally, additional primary data collection techniques, such as interviews, could be used to gain broader insight on specific questions. All in all, I am looking forward that further research will provide additional insights into the relationship between inflation and consumers economic decisions, particularly with regard to younger generations. Besides, I hope further investigations will bring forward less conflicting conclusions with respect to the nature and direction of the relationship, as did the innovative Duca et al. (2019) working paper series. This way central banks will be able to influence household inflation expectations either through their policy decisions or through related policy communication more effectively.

CONCLUSION

In this master's thesis I examine the impact of inflation on consumer behavior. Although this relationship is analyzed in many macroeconomic models, there are very few papers that have provided robust empirical evidence on its nature and magnitude with regard to millennial generation. My empirical findings are based on almost 600 observations, which were carefully collected to reflect Slovenian population over almost two month period, from 6th August 2022 to 14th September 2022.

The first group of main findings suggest that majority of Slovenians are concerned with inflation when making most of their purchase decisions. Moreover, I found that the level of concern with inflation rises as individual's age increases. This result complements and extends the existing findings from O'Brien (2022) and Malmendier and Nagel (2016) and helps explain another main finding that respondents from the oldest generation report the highest inflation perceptions and expectations. The second group of main findings further reveals that Millennials who are from higher income households report lower inflation perceptions compared to Millennials who are from lower income households, which complements and extends the existing empirical literature on consumer behaviour using survey data from Duca et al. (2019), Bryan and Venkatu (2001), Bruine de Bruin et al. (2010), and Takahashi and Tamanyu (2022). The third group of main findings suggests, first, that higher expected change in inflation is associated with higher spending expectations, which complements and extends Duca et al. (2019) resarch using the innovative measure of the expected change in subjective inflation. And, second, that younger respondents are more likely to decrease their spending due to inflation, while respondents from households in higher monthly income levels are less likely to decrease their spending due to inflation, which complements and extend findings from Smialek et al. (2022) and Claeys and Guetta-Jeanrenaud (2022). The last group of main findings suggests there are no significant differences across age generations and within the millennial generation when it comes to

change in shopping habits due to inflation. Nevertheless, I found that Millennials with higher inflation perceptions were more likely to change their purchasing habits which complements Ipsos (2022) findings.

All in all, the nature of the relationship between inflation and consumer's economic decisions is complex since each individual's characteristics indicate their inflation perceptions and expectations, which then influence their spending behavior in countless different ways. Therefore, this thesis findings could provide valuable insight to many stakeholders. For example, the insights could guide policymakers to make more effective monetary or fiscal policy decisions, as well as guide managers to conduct appropriate pricing revisions across their portfolios. Besides, the findings could attract the studies and interest of more academicians. In that case, limitations should be considered to improve further research. Specifically, for further research I would advise them to use a larger data sample which is collected over longer time period to provide stronger and more reliable results. Besides, they could use additional primary data collection techniques, such as interviews, to gain broader insight to specific questions. I am confident this area, particulary due to the current macroeconomic situation, will attract the studies and interest of more researchers, as well as central bankers as they seek to understand how consumers form and update their inflation perceptions and expectations to manage them more effectively and consequently improve monetary policy efficacy.

REFERENCE LIST

1. Amadeo, K. (2022). *The five causes of cost-push inflation*. The Balance. Retrieved 21 June, 2022, from https://www.thebalance.com/what-is-cost-push-inflation-3306096
2. Andrade, P., Gaballo G., Mengus E. & B. Mojon (2019): "Forward Guidance and Heterogeneous Beliefs," *American Economic Journal: Macroeconomics*, 11, 1–29.
3. Arioli, R., Bates, C., Dieden, H., Duca, I., Friz, R., Gayer, C., Kenny, G., Meyler, A. & Pavlova, I. (2017). EU consumers quantitative inflation perceptions and expectations: An evaluation, ECB Occasional Paper No. 186.
4. Bachmann, R., Berg, T. O. & Sims, E. R. (2015). Inflation expectations and readiness to spend: Cross-sectional evidence, *American Economic Journal: Economic Policy* 7(1): 1–35.
5. Bazzoni, E., Jacob , M., Welchering, S., Land, S., Minhas, R. & Staack, Y. (2022). *European consumers increasingly react to the stress of rising prices*. McKinsey & Company. Retrieved August 3, 2022, from https://www.mckinsey.com/capabilities/growth-marketing-and-sales/our-insights/survey-european-consumer-sentiment-during-the-coronavirus-crisis
6. Bokan, N., Dossche, M. & Luca, R. (2018). *Oil prices, the terms of trade and private consumption*. European Central Bank. Retrieved July 22, 2022, from https://www.ecb.europa.eu/pub/economic-bulletin/focus/2018/html/ecb.ebbox201806_03.en.html

7. Brainard, L. (2022). *Variation in the Inflation Experiences of Households*. Board of Governors of the Federal Reserve System. Retrieved June 28, 2022, from https://www.federalreserve.gov/newsevents/speech/brainard20220405a.htm
8. Bruine de Bruin, W., Vanderklaauw, W., Downs, J.S., Fischhoff, B., Topa, G. & Armantier, O. (2010) *Expectations of inflation: The role of demographic variables, expectation formation, and financial literacy.* Journal of Consumer Affairs, 44 (2). 381 - 402 . ISSN 0022-0078
9. Bryan, M. F. & Venkatu, G. (2001). The demographics of inflation opinion surveys, *Federal Reserve Bank of Cleveland, Economic Commentary*, *10.15.2001*.
10. Burke, M. A. & Ozdagli, A. (2013). Household inflation expectations and consumer spending: Evidence from panel data, *Federal Reserve Bank of Boston Working Paper Series No 13-25, December*.
11. Candia, B., Coibion, O. & Gorodnichenko, Y. (2020). Communication and the beliefs of economic agents. In *Conference draft for Kansas City Federal Reserve's Jackson Hole Symposium*. 2020.
12. Carroll, C. D. (2003). Macroeconomic expectations of households and professional forecasters, *The Quarterly Journal of Economics* 118(1): 269–298.
13. Chen, J. (2021). *Demand-pull inflation definition*. Investopedia. Retrieved July 13, 2022, from https://www.investopedia.com/terms/d/demandpullinflation.asp
14. Christelis, D., Geogarakos, D. & Jappelli, T. v. (2020). Trust in the Central Bank and Inflation Expectations. *International Journal of Central Banking*, 65, 1-37.
15. Christensen, C., van Els, P. & van Rooij, M. (2006). Dutch households' perceptions of economic growth and inflation, *De Economist* 154(2): 277–294.
16. Claeys, G. & Guetta-Jeanrenaud, L. (2022). *Who is suffering most from rising inflation?* Bruegel. Retrieved July 13, 2022, from https://www.bruegel.org/2022/02/who-is-suffering-most-from-rising-inflation/
17. Coibion, O. & Gorodnichenko, Y. (2015). Is the Phillips curve alive and well after all? Inflation expectations and the missing disinflation, *American Economic Journal: Macroeconomics* 7(1): 197–232.
18. Coibion, O., Gorodnichenko, Y. & Kamdar, R. (2018). The formation of expectations, inflation and the Phillips curve, *Journal of Economic Literature* Forthcoming.
19. Corduas, M. (2022). *Gender differences in the perception of inflation*. Journal of Economic Psychology. Retrieved July 17, 2022, from https://www.sciencedirect.com/science/article/pii/S0167487022000368
20. Crump, R. K., Eusepi, S., Tambalotti, A. & Topa, G. (2015). Subjective intertemporal substitution, *Federal Reserve Bank Of New York Staff Reports No 734, July*.
21. D'Acunto, F., Hoang, D., & Weber, M. (2018). Unconventional fiscal policy, *AEA Papers and Proceedings* 108: 519–23.
22. D'Acunto, F., Malmendier, U. & Weber, M. (2020). *Gender roles and the gender expectations gap*. NBER. Retrieved July 16, 2022, from https://www.nber.org/papers/w26837

23. Del Giovane, P., Fabiani, S. & Sabbatini, R. (2009). What's behind "inflation perceptions" A survey-based analysis of Italian consumers. *Giornale Degli Economisti e Annali Di Economia, 68 (Anno 122)*(1), 25–52.
24. Di Nino, V., Kolndrekaj, A. & Meyler, A. (2022). *What drives inflation expectations of women and men?* European Central Bank. Retrieved July 14, 2022, from https://www.ecb.europa.eu/press/blog/date/2022/html/ecb.blog220914~3b10d6ddb8.en.html
25. Dräger, L. & Nghiem, G. (2018). Are consumers' spending decisions in line with an Euler equation?. Discussion Paper No 1802, Gutenberg School of Management and Economics, January.
26. Dräger, L., Lamla, M. J. & Pfajfar, D. (2020). The hidden heterogeneity of inflation expectations and its implications. *Finance and Economics Discussion Series*, *2020*(054). https://doi.org/10.17016/feds.2020.054
27. Duca, I. A., Kenny, G. & Reuter, A. (2019). *Inflation Expectations, Consumption & the Lower Bound: Micro Evidence from a Large Euro Area Survey*. Retrieved July 11, 2022, from https://ec.europa.eu/info/sites/default/files/economy-finance/dp092_en.pdf
28. Dynan, K. (2012). *Is a household debt overhang holding back consumption?* . Brookings Papers on Economic Activity, Spring 2012. Retrieved July 8, 2022, from https://www.brookings.edu/wp-content/uploads/2016/06/2012a_Dynan.pdf
29. ECB. (2021a). *What is inflation?* European Central Bank. Retrieved July 3, 2022, from https://www.ecb.europa.eu/ecb/educational/hicp/html/index.en.html
30. ECB. (2021b). *Monetary policy instruments and the Strategy Review*. European Central Bank. Retrieved June 18, 2022, from https://www.ecb.europa.eu/home/search/review/html/monetary-policy-instruments.en.html
31. ECB. (2022a). *Economic bulletin - Issue 1 / 2022*. European Central Bank. Retrieved June 18, 2022, from https://www.ecb.europa.eu/pub/pdf/ecbu/eb202104.en.pdf
32. ECB. (2022b). *Measuring inflation - HICP*. European Central Bank. Retrieved June 16, 2022, from https://www.ecb.europa.eu/stats/macroeconomic_and_sectoral/hicp/html/index.en.html
33. ECB. (2022c). *Inflation perceptions and expectations*. European Central Bank. Retrieved from https://www.ecb.europa.eu/stats/ecb_surveys/consumer_exp_survey/results/html/ecb.ces_results_september_2022_inflation.en.html
34. ECB. (2022d). *Measures of underlying inflation for the Euro Area*. European Central Bank. Retrieved October 22, 2022, from https://www.ecb.europa.eu/pub/economic-bulletin/articles/2018/html/ecb.ebart201804_03.en.html
35. Ehrmann, M., Pfajfar, D. & Santoroc, E. (2017). *Consumers' attitudes and their inflation expectations - IJCB*. Retrieved July 6, 2022, from https://www.ijcb.org/journal/ijcb17q0a6.pdf

36. Eurostat. (2022a*). HICP - monthly data (annual rate of change).* Retrieved June 20, 2022, from https://ec.europa.eu/eurostat/databrowser/view/prc_hicp_midx/default/table?lang=en
37. Eurostat. (2022b*). HICP - contributions to EA annual inflation (in percentage points).* Retrieved June 20, 2022, from https://ec.europa.eu/eurostat/databrowser/view/prc_hicp_ctrb/default/table?lang=en
38. Eurostat. (2022c*). Structure of consumption expenditure by age of the reference person and COICOP consumption purpose.* Retrieved June 28, 2022, from https://ec.europa.eu/eurostat/databrowser/view/hbs_str_t225/default/table?lang=en
39. Eurostat. (2022d*). Structure of consumption expenditure by income quintile and COICOP consumption purpose*. Retrieved June 28, 2022, from https://ec.europa.eu/eurostat/databrowser/view/hbs_str_t223/default/table?lang=en
40. Floyd, D. (2022). *9 common effects of inflation*. Investopedia. Retrieved June 18, 2022, from https://www.investopedia.com/articles/insights/122016/9-common-effects-inflation.asp
41. Frank, R. H., Bernanke, B., Antonovics, K. L. & Heffetz, O. (2022). *Principles of Macroeconomics*. McGraw-Hill Education.
42. Goldfayn-Frank, O. & Wohlfart, J. (2019). Expectation formation in a new environment: Evidence from the German reunification, forthcoming, *Journal of Monetary Economics*, https://doi.org/10.1016/j.jmoneco.2019.08.001
43. Goodwin, C. (2020). *What are the pros and cons of online survey research?* Meeting Street Research, LLC. Retrieved July 28, 2022, from https://meetingst.com/what-are-the-pros-and-cons-of-online-survey-research/
44. Gubo, L. (2021). *Zakaj Se Vse Draži? to so vzroki in Posledice inflacije*. FinancePRO. Retrieved June 18, 2022, from https://pro.finance.si/PRIMORCI/8982205/Zakaj-se-vse-drazi-To-so-vzroki-in-posledice-inflacije
45. Hawkins, D. I., Mothersbaugh, D. L. & Mothersbaugh, L. L. (2013). *Consumer behavior: Building marketing strategy.* McGraw-Hill Irwin.
46. Ichiue, H. & Nishiguchi, S. (2015). Inflation expectations and consumer spending at the zero bound: Micro evidence, *Economic Inquiry* 53(2): 1086–1107.
47. IMF. (2022). *Monetary policy and central banking*. Retrieved June 16, 2022, from https://www.imf.org/en/About/Factsheets/Sheets/2016/08/01/16/20/Monetary-Policy-and-Central-Banking
48. Ipsos. (2022). *How inflation is changing consumer behavior.* Retrieved June 28, 2022, from https://www.ipsos.com/en-us/knowledge/consumer-shopper/How-Inflation-is-Changing-Consumer-Behavior
49. Jemec, N. (2010). *Inflation perceptions and expectations around euro changeover*. Retrieved June 22, 2022, from https://bankaslovenije.blob.core.windows.net/publication-files/summary-of-macroeconomic-developments-may-2020.pdf
50. Jonung, L. (1981). Perceived and expected rates of inflation in Sweden, *The American Economic Review* 71(5): 961–968.

51. Kagan, J. (2022). *Deflationary spiral*. Investopedia. Retrieved June 18, 2022, from https://www.investopedia.com/terms/d/deflationary-spiral.asp
52. Kenda, A. (2022) *Z Rekordnim Obrestnim Dvigom nad Rekordno inflacijo – ECB je obrestne mere zvišala za 0,75 odstotne točke*. Finance.si. Retrieved September 9, 2022, from https://www.finance.si/9003737/Z-rekordnim-obrestnim-dvigom-nad-rekordno-inflacijo-ECB-je-obrestne-mere-zvisala-za-075-odstotne-tocke
53. Kirchler, E., & Hoelzl, E. (2011). Economic and psychological determinants of consumer behavior. *Zeitschrift Für Psychologie*, *219*(4), 195–197. https://doi.org/10.1027/2151-2604/a000072
54. Lindo, M. (2020). *How gender affects the buying-decision process among consumers of luxury goods*. Retrieved June 28, 2022, from https://repositorio.iscte-iul.pt/bitstream/10071/8881/5/BPO_FINAL_libre.pdf
55. Malmendier, U. & Nagel, S. (2015). Learning from inflation experiences *. *The Quarterly Journal of Economics*, *131*(1), 53–87. https://doi.org/10.1093/qje/qjv037
56. Menz, J.-O. & Poppitz, P. P. (2013). *Households' disagreement on inflation expectations and socioeconomic media exposure in Germany*. Discussion Paper Deutsche Bundesbank No 27/2013. Retrieved June 11, 2022, from https://www.bundesbank.de/de/
57. Meyler, A. & Reiche, L. (2021). *Making sense of consumers' inflation perceptions and expectations – the role of (un)certainty*. European Central Bank. Retrieved June 28, 2022, from https://www.ecb.europa.eu/pub/economic-bulletin/articles/2021/html/ecb.ebart202102_02~32e2ff1af1.en.html
58. Nickolas, S. (2022). *Disposable income vs. discretionary income: What's the difference?* Investopedia. Retrieved June 17, 2022, from https://www.investopedia.com/ask/answers/033015/what-difference-between-disposable-income-and-discretionary-income.asp
59. O'Brien, E. (2022). *Older adults on fixed incomes are getting squeezed as inflation nears a 40-year high*. Montana Public Radio. Retrieved from August 31, 2022, https://www.mtpr.org/montana-news/2022-08-18/older-adults-on-fixed-incomes-are-getting-squeezed-as-inflation-nears-a-40-year-high
60. Oner, C. (2017). *Inflation: Prices on the Rise*. Retrieved July 2, 2022, from https://www.imf.org/external/pubs/ft/fandd/basics/30-inflation.htm
61. Perzynska, K. (2022). *How to Get Survey Completion Rate of Over 80%.* Retrieved July 28, 2022, from https://survicate.com/surveys/survey-completion-rate/
62. Pettinger, T., Skinner, E., Wiltshire, B., Yourself, E., Ksenia, & Matt. (2020). *Pros and cons of inflation*. Economics Help. Retrieved July 2, 2022, from https://www.economicshelp.org/blog/673/inflation/pros-and-cons-of-inflation
63. Rasure, E. (2022). *What is inflationary psychology?* Investopedia. Retrieved August 2, 2022, from https://www.investopedia.com/terms/i/inflationarypsychology.asp
64. Rondinelli, C. & Zizza, R. (2020), Spend Today or Spend Tomorrow? The Role of Inflation Expectations in Consumer Behavior. *Bank of Italy Temi di Discussione*

(Working Paper) No. 1276, Retrieved July 26, 2022, from https://ssrn.com/abstract=3612973 or http://dx.doi.org/10.2139/ssrn.3612973
65. Schiffman, L. G. & Wisenblit, J. (2015). *Consumer behavior*. Pearson.
66. Segal, T. (2022). *Inflation vs. deflation: What's the difference?* Investopedia. Retrieved July 2, 2022, from https://www.investopedia.com/ask/answers/111414/what-difference-between-inflation-and-deflation.asp
67. Smialek, J., Chodosh, S. & Casselman, B. (2021). *Millennials confront high inflation for the first time*. The New York Times. Retrieved July 12, 2022, from https://www.nytimes.com/interactive/2021/11/28/business/economy/high-inflation-millennials.html
68. Springer, W. L. (1977). Consumer Spending and the Rate of Inflation. The Review of Economics and Statistics, 59(3), 299–306. https://doi.org/10.2307/1925048
69. Stotsky, J. G. (2006). G*ender and its relevance to macroeconomic policy: A survey*. Gender and Its Relevance to Macroeconomic Policy: A Survey. Retrieved July 23, 2022, from https://www.imf.org/External/pubs/ft/wp/2006/wp06233.pdf
70. Stöver, B. (2012). *The influence of age on consumption*. EcoMod2012 3808, EcoMod. Retrieved July 24, 2022, from http://ecomod.net/system/files/ Discussion%20Paper_Britta%20Stoever.pdf
71. Suehiro, T., Takeda, K., Kozu, T. & Takemura, T. (2018) "An Empirical Analysis on Individual Investors' Inflation Perceptions and Expectations Using Structural Equa- tion Modeling: Heterogeneity Biases in Inflation Expectations," *Kodo Keiryogaku (The Japanese Journal of Behaviormetrics)*, 45(1), 49–58 (in Japanese).
72. Takahashi, Y. & Tamanyu, Y. (2022). *Households' perceived inflation and CPI inflation: The case of japan*. Retrieved August 22, 2022, from https://www.boj.or.jp/en/research/wps_rev/wps_2022/data/wp22e01.pdf
73. Taylor , L. & McRoskey, G. (2022). *The consumer sentiment series*. BCG Global. Retrieved July 12, 2022, from https://www.bcg.com/publications/collections/consumer-sentiment-series
74. Thomas, I. (2021). *Raising wages isn't enough to attract and keep workers, experts say*. CNBC. Retrieved July 22, 2022, from https://www.cnbc.com/2021/09/01/raising-wages-isnt-enough-to-attract-and-keep-workers-experts-say-.html
75. Tighe, D. (2022) *Topic: Impact of inflation on consumer behavior*. Statista. Retrieved July 29, 2022, from https://www.statista.com/topics/9729/impact-of-inflation-on-consumer-behavior/#topicHeader__wrapper
76. Wiederholt, M. & Vellekoop, N. (2019). Inflation expectations and choices of households, SAFE Working Paper N. 250.

APPENDICES

Appendix 1: Summary in Slovene

Milenijci so preživeli številne gospodarske krize, od poka "dot-com" balona v svojem otroštvu, nepremičninskega zloma v letu 2008, ter pandemije COVID-19, ki je leta 2020 prizadela svetovno gospodarstvo. Kljub temu, pa večina milenijcev nikoli ni občutila hitro rastoče in dolgotrajno visoke inflacije (Smialek idr., 2021). Prav zato je empiričnih raziskav o razmerju med inflacijo in ekonomskimi odločitvami porabnikov, zlasti v povezavi z mlajšimi generacijami, še vedno malo, pa še te so postregle z različnimi, celo nasprotujočimi si zaključki (Duca idr., 2019).

Namen tega magistrskega dela je bil zato nadgraditi pomankljivo znanje o vplivu inflacije na vedenje porabnikov, še posebej milenijcev. Za uresničitev tega namena so bili zastavljeni štirje glavni cilji, in sicer preučiti vlogo inflacije kot ene od determinant vedenja porabnikov, izpostaviti razlike med slovenskimi porabniki pri dojemanju in pričakovanjih inflacije, razumeti razlike v pripravljenosti na nakupovanje in nakupovalnih navadah med slovenskimi porabniki ob soočenju z inflacijo ter ocena vpliva inflacije na širše slovenskih gospodarstvo zaradi sprememb vedenja porabnikov. Na podlagi postavljenih ciljev je bilo oblikovanih pet temeljnih raziskovalnih vprašanj:

- Kako zaskrbljeni so Slovenci glede inflacije pri nakupnih odločitvah?
- Kako se dojemanja in pričakovanja glede inflacije razlikujejo med starostnimi skupinami in znotraj generacije milenijcev v Sloveniji?
- Kako in v kolikšni meri inflacija vpliva na porabo po starostnih skupinah in znotraj generacije milenijcev v Sloveniji?
- Kako inflacija vpliva na nakupovalne navade porabnikov po starostnih skupinah in znotraj generacije milenijcev v Sloveniji?
- Kakšen je vpliv inflacije na širše gospodarstvo zaradi sprememb v vedenju porabnikov?

Z namenom pridobitve odgovorov na raziskovalna vprašanja sem izvedel najprej teoretični pregled, ki mu je sledila empirična raziskava. Metodološko gledano se magistrsko delo v teoretičnem delu opira na sekundarne podatke, pridobljene iz znanstvenih člankov, revij in baz podatkov, kot je Eurostat. V empiričnem delu naloge sem potrebne podatke pridobili s spletno anketo preko portala 1KA. Da bi dobil iskrene povratne informacije, je bil vprašalnik zasnovan tako, da so udeleženci ostali anonimni. Ko sem zbral dovolj veliko število anket, sem podatke uvozil v IBM-ov statistični program SPSS in izvedel ustrezne statistične analize. Z rezultati statističnih analiz, ki sem jih podkrepil s teorijo, sem oblikoval odgovore na zastavljena raziskovalna vprašanja. Ugotovitve bi bile vsekakor še bolj relevantne, če bi izhajale iz še večjega eksperimentalnega vzorca, ki bi bil zbran čez daljše časovno obdobje.

V magistrskem delu, v sedmih poglavjih raziskujem vpliv inflacije na vedenje porabnikov. Prvih pet poglavij predstavlja teoretična izhodišča magistrske naloge, kjer podrobno predstavljam tematiko, potrebno za uspešno zasnovo raziskovalnega dela naloge. V prvem poglavju razložim značilnosti inflacije. Konkretno navedem glavna vzroka inflacije, znana

kot povpraševalni ("demand-pull") in stroškovni ("cost-push") vzrok inflacije. Nato predstavim različne cenovne indekse, kot so indeks cen življenjskih potrebščin (CPI), indeks cen proizvajalcev (PPI), deflator BDP in drugi, ki jih statistični uradi po vsem svetu uporabljajo za spremljanje inflacije. Razpravljam tudi o tem, zakaj so meritve osnovne inflacije pomembne pri razumevanju razvoja inflacije. Prav tako navedem prednosti in slabosti inflacije ter opišem instrumente, ki jih ECB uporablja za ohranjanje stabilnosti cen. Na koncu prvega poglavja predstavim še razvoj inflacije skozi čas ter trenutne inflacijske dejavnike, kot je ruska invazija na Ukrajino, ki je povzročila dvig cen energentov in hrane.

V drugem poglavju predstavim dejavnike vedenja porabnikov znotraj modela vedenja kupca ("model of buyer behavior"). Med dejavniki, ki vplivajo na vedenje porabnikov sem se osredotočil na ekonomske dejavnike, saj je inflacija med njimi. Da bi bolje razumel, pod kakšnimi pogoji porabniki povečajo svojo porabo in pod katerimi jo zmanjšajo, sem preučil vsak ekonomski dejavnik. Kar zadeva inflacijo, porabniki v splošnem povečajo svojo porabo, ko pričakujejo porast le-te. So pa raziskave prinesle dokaj nasprotujoče si zaključke, kar kaže na to, da je psihologija porabnika ob pojavu inflacije izjemno kompleksna.

V tretjem poglavju sem zato preučil, kako porabniki opazujejo cene, s katerimi se srečujejo v svojem vsakodnevnem življenju ter jih nato ekstrapolirajo na širše dojemanje in pričakovanja glede inflacije. Ugotovil sem, da dojemajo porabniki v evro območju inflacijo zelo različno, tako glede na spol, starost, izobrazbo, dohodek ali status svoje zaposlitve. Na koncu poglavja sem še pojasnil, zakaj je dojemanje inflacije s strani porabnikov redno višje od dejanske stopnje inflacije.

V četrtem poglavju sem preučil, kako razlike v poročanih dojemanjih in pričakovanjih inflacije vplivajo na porabo. Čeprav so obstoječi dokazi o tej temi dokaj nasprotujoči, so Duca idr. (2019) zaslužni za nov vpogled v povezavo med porabnikovo pripravljenostjo na porabo in njihovimi inflacijskimi pričakovanji, saj so pri raziskavi uporabili inovativno spremenljivko "expected change in inflation", ki jim je omogočila, da nadzorujejo različne vire heterogenosti in preprečijo pristranskost. Ugotovili so, da porabniki v evroobmočju povečajo svoj namen za porabo, ko pričakujejo višjo inflacijo glede na trenutno stopnjo dojemanja inflacije. Kljub temu je heterogenost, zlasti pri porabnikih z zelo podobnimi inflacijskimi pričakovanji, pomembno gonilo različnih odločitev glede porabe in varčevanja. Ugotovili so, da bodo bolj izobraženi porabniki, tisti zaposleni z višjimi dohodki, ali tisti, ki pričakujejo izboljšanje svojega osebnega finančnega ali splošnega ekonomskega položaja, bolj verjetno povečali svojo porabo, ko se bodo njihova inflacijska pričakovanja zvišala.

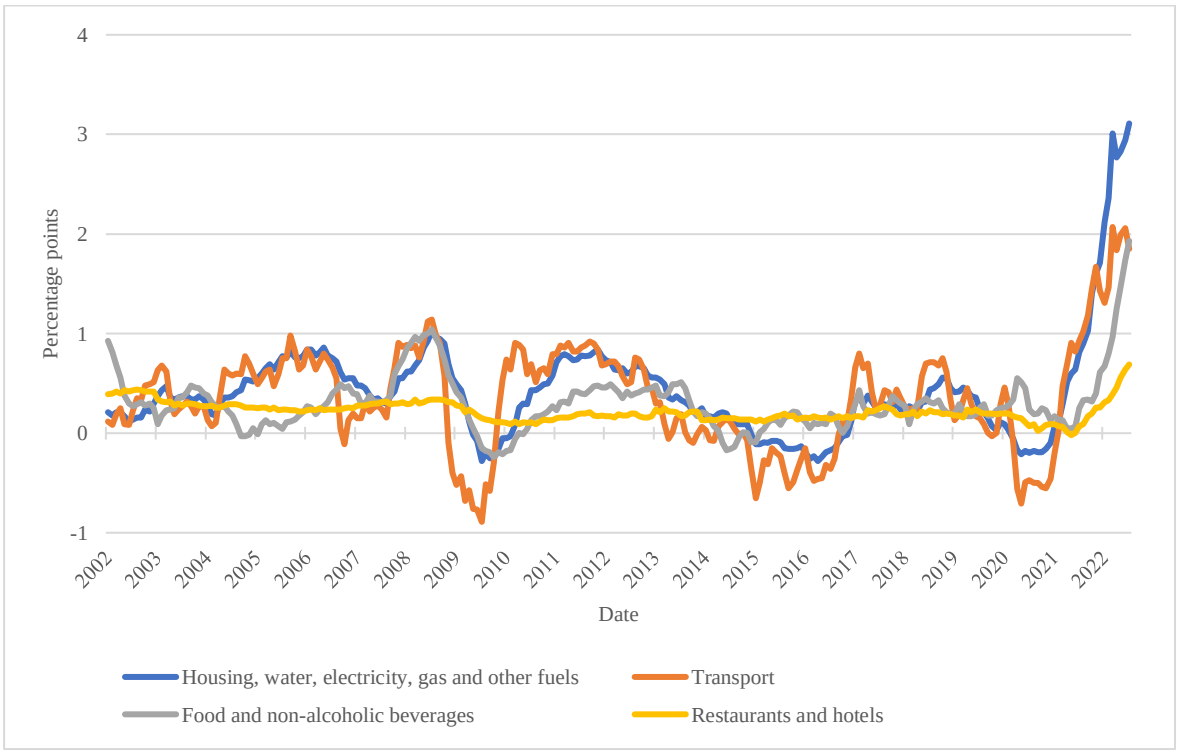
V petem poglavju sem preučil najnovejša spoznanja o tem, kako inflacija oblikuje nakupovalne navade porabnikov. Ugotovil sem, da večina porabnikov poskuša zmanjšati svojo porabo saj začne kupovati v diskontih ob splošnem zvišanju cen. Značilno je, da različne skupine porabnikov različno občutijo splošen porast cen. Inflacija tako najbolj prizadene upokojence, ki večino svojega denarja namenijo za porabniške kategorije z največjim dvigom cen.

Šesto in sedmo poglavje moje magistrske naloge predstavljata empirični del. Njun namen je bil poiskati odgovore na raziskovalna vprašanja, formirana na osnovi teoretičnih izhodišč podanih v prvih petih poglavjih. Prva skupina ugotovitev kaže, da večino Slovencev pri večini nakupnih odločitev inflacija skrbi. Poleg tega sem ugotovil tudi, da stopnja zaskrbljenosti zaradi inflacije narašča s starostjo porabnika. Ta rezultat je v skladu z ugotovitvami O'Briena (2022) ter Malmendierja in Nagla (2016) in pomaga razložiti še eno ugotovitev, da poročajo anketiranci najstarejše generacije najvišje dojemanja in pričakovanja glede inflacije. Druga skupina ugotovitev razkriva, da milenijci iz gospodinjstev z višjimi dohodki poročajo o nižji inflaciji v primerjavi z milenijci iz gospodinjstev z nižjimi dohodki, kar v skladu z ugotovitvami Duca idr. (2019), Bryana in Venkatuja (2001), Bruine de Bruina idr. (2010) ter Takahashija in Tamanyuja (2022). Tretja skupina ugotovitev kaže, prvič, da je višja pričakovana sprememba inflacije povezana z višjimi pričakovanji glede porabe, kar je v skladu z raziskavo Duca idr. (2019), in, drugič, da je večja verjetnost, da bodo mlajši anketiranci zmanjšali svojo porabo zaradi inflacije, medtem ko je manj verjetno, da bodo anketiranci iz gospodinjstev z višjimi mesečnimi dohodki zmanjšali svojo porabo zaradi inflacije, kar dopolnjuje in razširja ugotovitve Smialeka idr. (2022) ter Claeysa in Guetta-Jeanrenauda (2022). Zadnja skupina ugotovitev kaže, da ni bistvenih razlik med starostnimi skupinami in znotraj milenijske generacije, ko gre za spremembo nakupovalnih navad zaradi inflacije. Kljub temu raziskava nakazuje, da je večja verjetnost, da bodo milenijci z višjo zaznavo inflacije spremenili svoje nakupovalne navade, kar je v skladu z ugotovitvami Ipsosa (2022).

Če povzamem, narava razmerja med inflacijo in ekonomskimi odločitvami porabnikov je dokaj kompleksna, saj značilnosti vsakega posameznika vplivajo na njegovo dojemanje in pričakovanja glede inflacije, kar potem na različne načine vpliva na njihovo porabniško vedenje. Prav zato lahko ugotovitve te naloge zagotovijo dragocen vpogled številnim zainteresiranim stranem. Na primer, izsledki lahko usmerjajo oblikovalce politik k sprejemanju učinkovitejših odločitev o monetarni ali fiskalni politiki, prav tako pa vodijo menedžerje k izvajanju ustreznih revizij cen v svojih portfeljih. Poleg tega bi lahko moje ugotovitve pritegnile študije in zanimanje večjega števila akademikov. V tem primeru bi jim svetoval, naj vsekakor povečajo anketni vzorec z zbiranjem podatkov v daljšem časovnem obdobju, da bi zagotovili zanesljivejše rezultate. Poleg tega bi lahko uporabili dodatne tehnike zbiranja primarnih podatkov, kot so intervjuji, da bi pridobili širši vpogled v specifična vprašanja. Prepričan sem, da bo to področje, zlasti zaradi trenutnih makroekonomskih razmer, pritegnilo zanimanje še večjega števila raziskovalcev, pa tudi centralnih bankirjev, saj je razumevanje tega, kako porabniki oblikujejo svoje dojemanje inflacije in pričakovanja glede le-te, ključno za optimalno upravljanje in posledično izboljšanje učinkovitosti delovanja ekonomije.

Appendix 2: Breakdown of HICP by consumption categories

Figure A.1: HICP - contributions to EA annual inflation (Jan 2002 – Jul 2022), 1/3

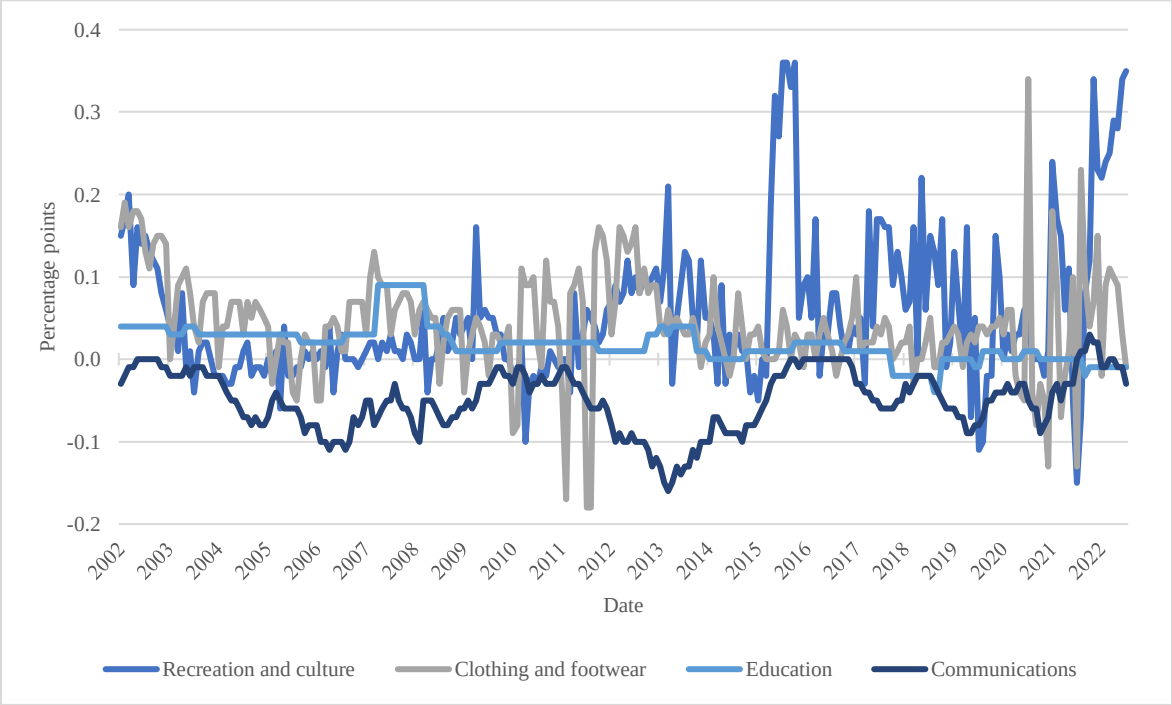


Adapted from Eurostat (2022b).

Figure A.2: HICP - contributions to EA annual inflation (Jan 2002 – Jul 2022), 2/3

Adapted from Eurostat (2022b).

Figure A.3: HICP - contributions to EA annual inflation (Jan 2002 – Jul 2022), 3/3



Adapted from Eurostat (2022b).

Appendix 3: Online questionnaire in Slovene

Pozdravljeni,

sem Rok Križaj, študent IMB programa na Ekonomski fakulteti v Ljubljani, in pripravljam magistrsko nalogo o vplivu inflacije na nakupne navade Slovencev. Vaše sodelovanje je ključnega pomena za raziskavo, saj bom z vašimi odgovori lahko dobil boljši vpogled v naravo razmerja.

Anketa je anonimna in vam bo vzela približno 5 minut časa za izpolnjevanje. Zbrani podatki bodo obravnavani strogo zaupno in analizirani na splošno, ter uporabljeni izključno za pripravo te magistrske naloge.

Za vaše sodelovanje se vam prijazno zahvaljujem,

Rok Križaj

Q1 - Kako zaskrbljeni ste zaradi inflacije in zvišanja cen, ko sprejemate večino odločitev o nakupu?

1) Zelo zaskrbljeni
2) Zaskrbljeni
3) Niti zaskrbljeni niti nezaskrbljeni
4) Nezaskrbljeni
5) Zelo nezaskrbljeni

Q2 - Kakšne spremembe cen ste opazili v zadnjem letu v naslednjih kategorijah?

	Znatno zmanjšanje	Zmanjšanje	Niti zmanjšanje niti povečanje	Povečanje	Znatno povečanje	Ne vem
Transport (tj. prevozne storitve, ipd.) in gorivo	1)	2)	3)	4)	5)	6)
Rekreacija in zabava (tj. hoteli in gostinstvo, ipd.)	1)	2)	3)	4)	5)	6)
Živila in druge osnovne potrebščine (tj. čistila in izdelki za osebno nego, ipd.)	1)	2)	3)	4)	5)	6)
Stanovanje (tj.najemnina/hipoteka) in komunalne storitve (tj. elektrika, plin, voda, ipd.)	1)	2)	3)	4)	5)	6)
Ostale neosnovne potrebščine (tj. elektronika, oblačila, pohištvo, ipd.)	1)	2)	3)	4)	5)	6)

Q3 - Kako ocenjujete, da so se cene življenjskih potrebščin (tj. drobnoprodajne cene izdelkov in storitev) na splošno spremenile v zadnjem letu?

1) Znižale
2) Zvišale

IF (1) Q3 = [2] (Zvišale)

Q4 - Za koliko odstotkov ocenjujete, da so se cene življenjskih potrebščin v zadnjem letu zvišale?

Prosim vpišite vrednost: _____

IF (2) Q3 = [1] (Znižale)

Q5 - Za koliko odstotkov ocenjujete, da so se cene življenjskih potrebščin v zadnjem letu znižale?

Prosim vpišite vrednost: _____

Q6 - Kako ocenjujete, da so bodo cene življenjskih potrebščin (tj. drobnoprodajne cene izdelkov in storitev) na splošno spremenile v naslednjem letu?

1) Znižale
2) Zvišale

(3) Q6 = [2] (Zvišale)

Q7 - Za koliko odstotkov ocenjujete, da se bodo cene življenjskih potrebščin v naslednjem letu zvišale?

Prosim vpišite vrednost: _____

IF (4) Q6 = [1] (Znižale)

Q8 - Za koliko odstotkov ocenjujete, da se bodo cene življenjskih potrebščin v naslednjem letu znižale?

Prosim vpišite vrednost: _____

Q9 - Kako se je vaša skupna poraba spremenila v zadnjem letu zaradi inflacije?

1) Znatno zmanjšala
2) Zmanjšala
3) Niti zmanjšala niti povečala
4) Povečala
5) Znatno povečala

Q10 - Kako se je vaša poraba spremenila v zadnjem letu zaradi inflacije v naslednjih kategorijah?

	Znatno zmanjšanje	Zmanjšanje	Niti zmanjšanje niti povečanje	Povečanje	Znatno povečanje	Ne vem
Transport (tj. prevozne storitve, ipd.) in gorivo	1)	2)	3)	4)	5)	6)
Rekreacija in zabava (tj. hoteli in gostinstvo, ipd.)	1)	2)	3)	4)	5)	6)
Živila in druge osnovne potrebščine (tj. čistila in izdelki za osebno nego, ipd.)	1)	2)	3)	4)	5)	6)
Stanovanje (tj.najemnina/hipoteka) in komunalne storitve (tj. elektrika, plin, voda, ipd.)	1)	2)	3)	4)	5)	6)
Ostale neosnovne potrebščine (tj. elektronika, oblačila, pohištvo, ipd.)	1)	2)	3)	4)	5)	6)
Varčevanje (tj. prilivi na varčevalni račun)	1)	2)	3)	4)	5)	6)

Q11 - Kako pričakujete, da se bo vaša skupna poraba spremenila v naslednjem letu zaradi inflacije?

1) Znatno zmanjšala
2) Zmanjšala
3) Niti zmanjšala niti povečala
4) Povečala
5) Znatno povečala

Q12 - Ali so se vaše nakupovalne navade v zadnjem letu spremenile zaradi inflacije?

1) Ne
2) Da

(5) Q12 = [2] (Da)

Q13 - Kako je inflacija ali trenutna rast cen vplivala na vaše nakupovalne navade v zadnjem letu? Možnih je več odgovorov.

1) Kupil/a sem več izdelkov na znižanju, cenejših izdelkov in izdelkov trgovskih blagovnih znamk
2) Kupil/a sem manj izdelkov na nakup
3) Več kot prej sem nakupoval/a pri diskontih
4) Žrtvoval/a sem druge nakupe, da bi imel/a dovolj za najnujnejše potrebščine
5) Odločil/a sem se preložiti večje nakupe

Q14 - S katerim spolom se identificirate?

1) Moški
2) Ženski
3) Drugo

Q15 - Koliko let imate?

_____

Q16 - Kakšna je vaša najvišja stopnja izobrazbe?

1) (Ne)dokončana osnovna šola
2) Poklicna šola
3) Srednja šola
4) Univerzitetna
5) Magisterij, doktorat

Q17 - Koliko članov šteje vaše gospodinjstvo? Kot vaše gospodinjstvo smatramo vse, ki doma jedo in spijo, vključno z vami.

1) 1 član
2) 2 člana
3) 3 člani
4) 4 člani
5) 5 članov
6) Več kot 5 članov (prosimo, vpišite št. članov): _____

Q18 - Kolikšen je vaš mesečni neto dohodek gospodinjstva?

1) manj kot 700 EUR
2) 700 – 2100 EUR
3) 2101 – 4200 EUR
4) 4201 – 6000 EUR
5) več kot 6000 EUR

Q19 - Kako pričakujete, da se bo finančni položaj vašega gospodinjstva spremenil v naslednjem letu?

1) Znatno poslabšal
2) Poslabšal
3) Niti poslabšal niti izboljšal
4) Izboljšal
5) Znatno izboljšal

Q20 - Kakšen je vaš trenutni zaposlitveni status?

1) Zaposlen
2) Samozaposlen
3) Nezaposlen
4) Upokojenec
5) Študent

Q21 - Kako pričakujete, da se bodo splošne gospodarske razmere v Sloveniji spremenile v naslednjem letu?

1) Znatno poslabšale
2) Poslabšale
3) Niti poslabšale niti izboljšale
4) Izboljšale
5) Znatno izboljšale

Appendix 4: Online questionnaire in English

Q1 - How concerned are you about inflation and price increases when you make most of your purchase decisions?

1) Extremely concerned
2) Concerned
3) Neither concerned nor unconcerned
4) Unconcerned
5) Extremely unconcerned

Q2 - Over the last year, what do you think has happened to prices in general across the following categories?

	Decreased significantly	Decreased	Neither decreased nor increased	Increased	Increased significantly	Don't know
Transport and gasoline	1)	2)	3)	4)	5)	6)
Restaurants and hospitality	1)	2)	3)	4)	5)	6)
Groceries and other essentials (i.e., cleaning and personal care products)	1)	2)	3)	4)	5)	6)
Housing (i.e., rent/mortgage) and utilities	1)	2)	3)	4)	5)	6)
Nonfood discretionary (e.g., electronics, clothing, furniture, etc.)	1)	2)	3)	4)	5)	6)

Q3 - How do you think consumer prices have generally changed over the past year?

1) Decreased
2) Increased

IF (1) Q3 = [2] (Increased)

Q4 - By what percentage do you estimate that the prices of consumer goods increased in the last year?

Please enter the value: _____

IF (2) Q3 = [1] (Decreased)

Q5 - By what percentage do you estimate that consumer prices fell in the last year?

Please enter the value: _____

Q6 - How has your total spending changed over the past year due to inflation?

1) Decreased significantly
2) Decreased
3) Neither decreased nor increased
4) Increased
5) Increased significantly

Q7 - How has your spending changed over the past year due to inflation in the following categories?

	Decreased significantly	Decreased	Neither decreased nor increased	Increased	Increased significantly	Don't know
Transport and gasoline	1)	2)	3)	4)	5)	6)
Restaurants and hospitality	1)	2)	3)	4)	5)	6)
Groceries and other essentials (i.e., cleaning and personal care products)	1)	2)	3)	4)	5)	6)
Housing (i.e., rent/mortgage) and utilities	1)	2)	3)	4)	5)	6)
Nonfood discretionary (e.g., electronics, clothing, furniture, etc.)	1)	2)	3)	4)	5)	6)
Savings	1)	2)	3)	4)	5)	6)

Q8 - How do you expect your total spending will change over the next year compared to now due to inflation?

1) Decrease significantly
2) Decrease
3) Neither decrease nor increase
4) Increase
5) Increase significantly

Q9 - Over the past year, as a result of inflation or price increases, have you done any of the following when purchasing a product? Check all that apply.

1) Didn't change my purchasing habits
2) Traded down to cheaper and private-label items
3) Purchased fewer items per shopping trip
4) Decided to shop at discount retailers more than I used to
5) Sacrificed other purchases to have enough for essentials (i.e., groceries, housing, utilities, transport, etc.)
6) Decided to postpone major purchases

Q10 - What gender do you identify as?

1) Male
2) Female
3) Other

Q11 - What is your age?

_____

Q12 - What is the highest degree or level of education you have completed?

1) Elementary school or less
2) Vocational school
3) High school
4) Bachelor's degree
5) Master's degree or Ph.D.

Q13 - How many members does your household have? Your household includes everyone who eats and sleeps at home, including you.

1) 1 member
2) 2 members
3) 3 members
4) 4 members
5) 5 members
6) More than 5 members (please enter the number of members): _____

Q14 - What is your monthly household net income?

1) less than 700 EUR
2) 700 – 2100 EUR
3) 2101 – 4200 EUR
4) 4201 – 6000 EUR
5) more than 6000 EUR

Q15 - How do you expect the financial position of your household to change over the next year?

1) It will get a lot worse
2) It will get a little worse
3) It will stay the same
4) It will get a little better
5) It will get a lot better

Q16 - What is your current employment status?

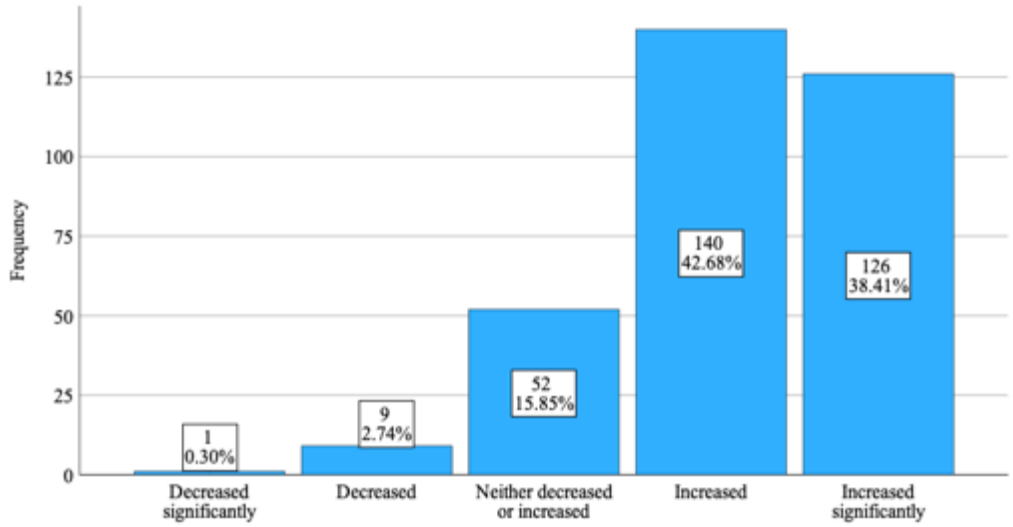
1) Employed
2) Self-employed
3) Unemployed
4) Student
5) Retired

Q17 - How do you expect the general economic situation in Slovenia to develop over the next year?

1) It will get a lot worse
2) It will get a little worse
3) It will stay the same
4) It will get a little better
5) It will get a lot better

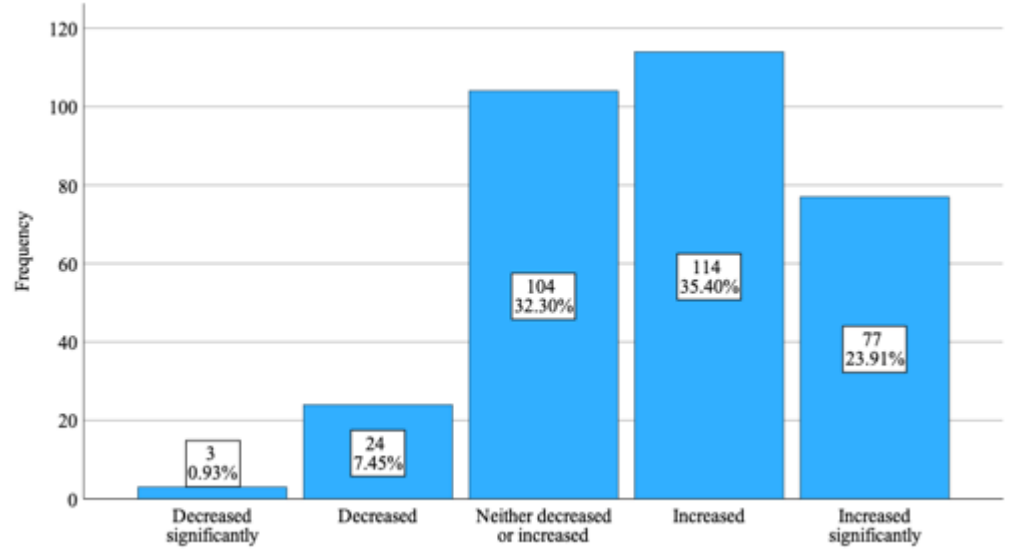
Appendix 5: Survey questions analysis

Figure A.4: Perception of price change in category Transport and gasoline over the past year[47]



Source: Own work.

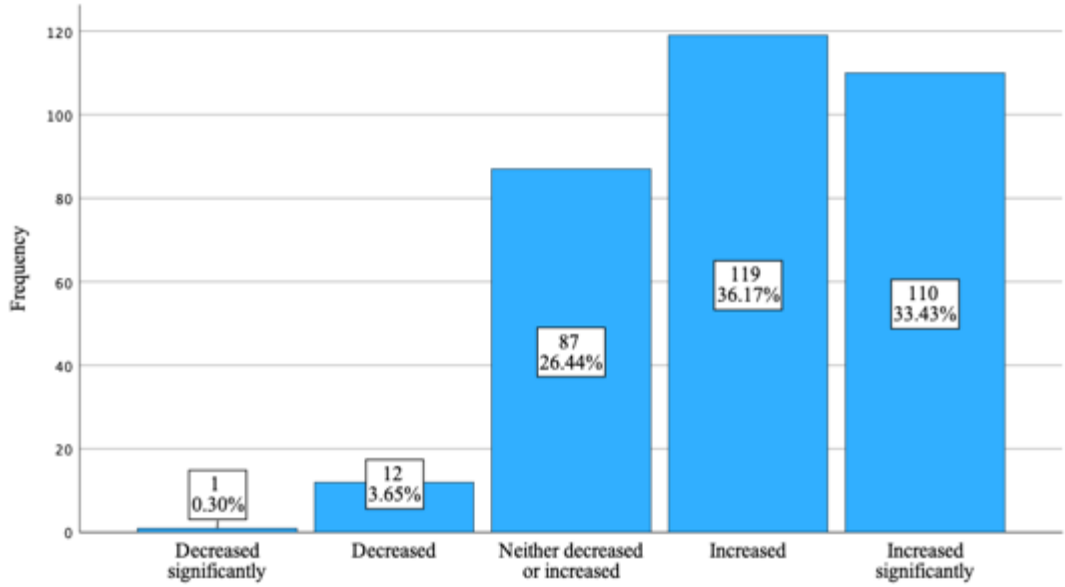
Figure A.5: Perception of price change in category Restaurants and hospitality over the past year[48]



Source: Own work.

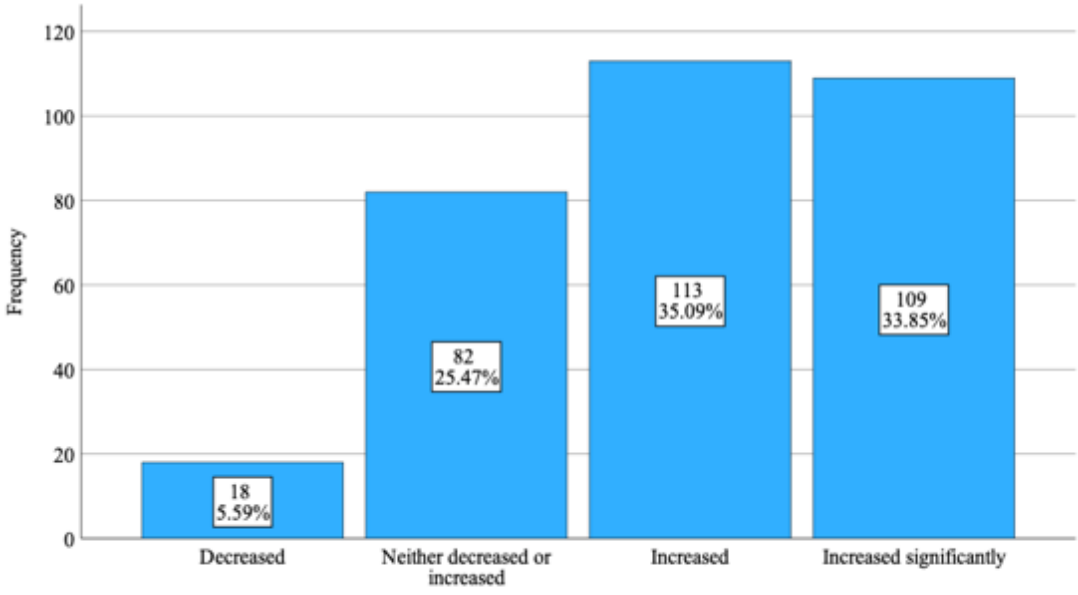
[47] Q: Over the past year, what do you think has happened to prices in category "Transport and gasoline"?
[48] Q: Over the past year, what do you think has happened to prices in category "Restaurants and hospitality"?

Figure A.6: Perception of price change in category Groceries and other essentials over the past year[49]



Source: Own work.

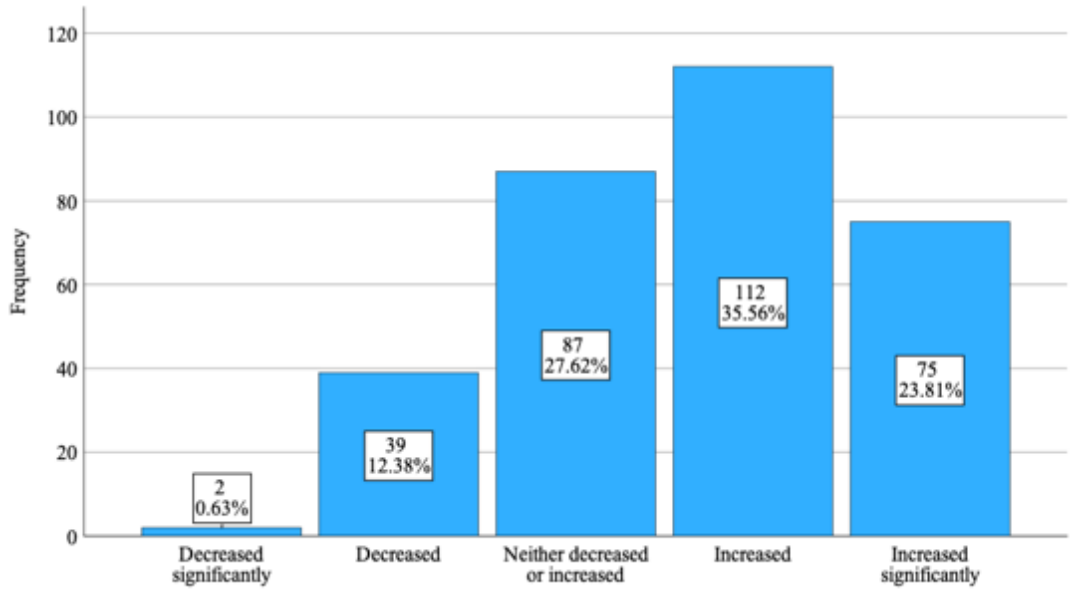
Figure A.7: Perception of price change in category Housing and utilities over the past year[50]



Source: Own work.

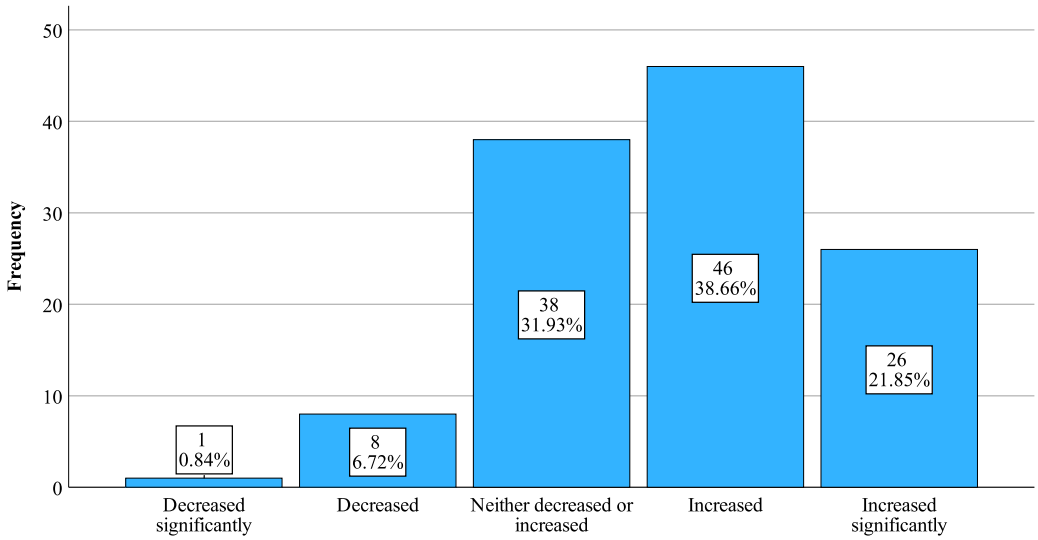
[49] Over the past year, what do you think has happened to prices in category "Groceries and other essentials"?
[50] Over the past year, what do you think has happened to your spending in category "Housing and utilities"?

Figure A.8: Perception of price change in category Nonfood discretionary over the past year[51]



Source: Own work.

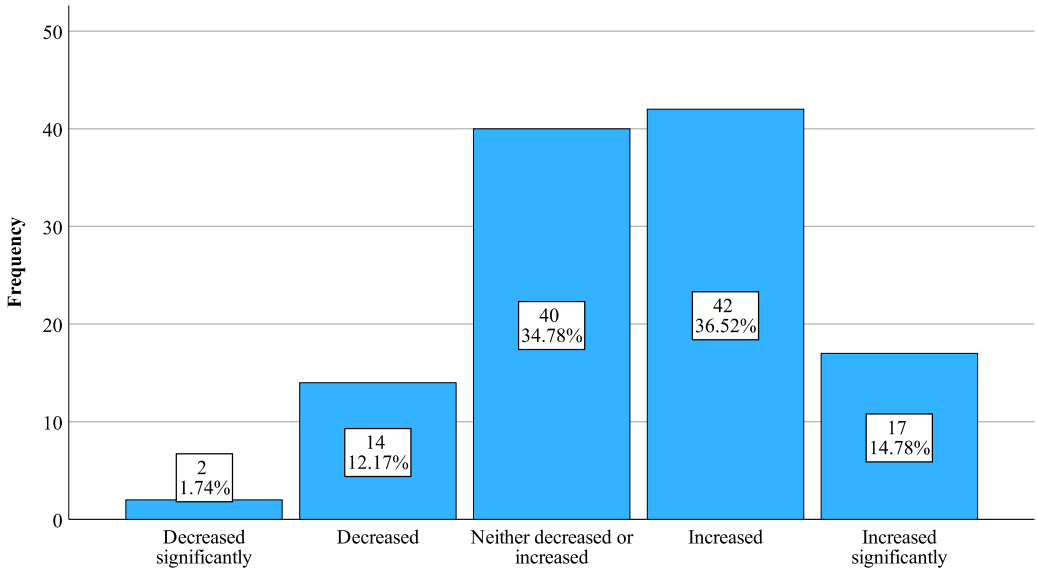
Figure A.9: Perception of spending in category "Transport and gasoline"[52]



Source: Own work.

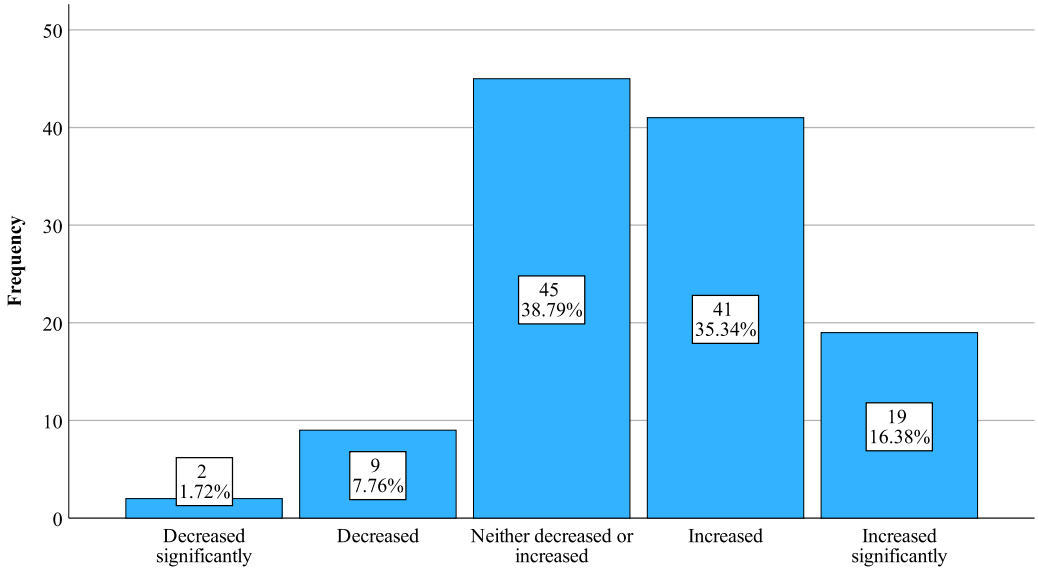
[51] Over the past year, what do you think has happened to your spending in category "Nonfood discretionary"?
[52] Over the past year, what do you think has happened to your spending in category "Transport and gasoline"?

Figure A.10: Perception of spending in category "Restaurants and hospitality"[53]



Source: Own work.

Figure A.11: Perception of spending in category "Groceries and other essentials" [54]

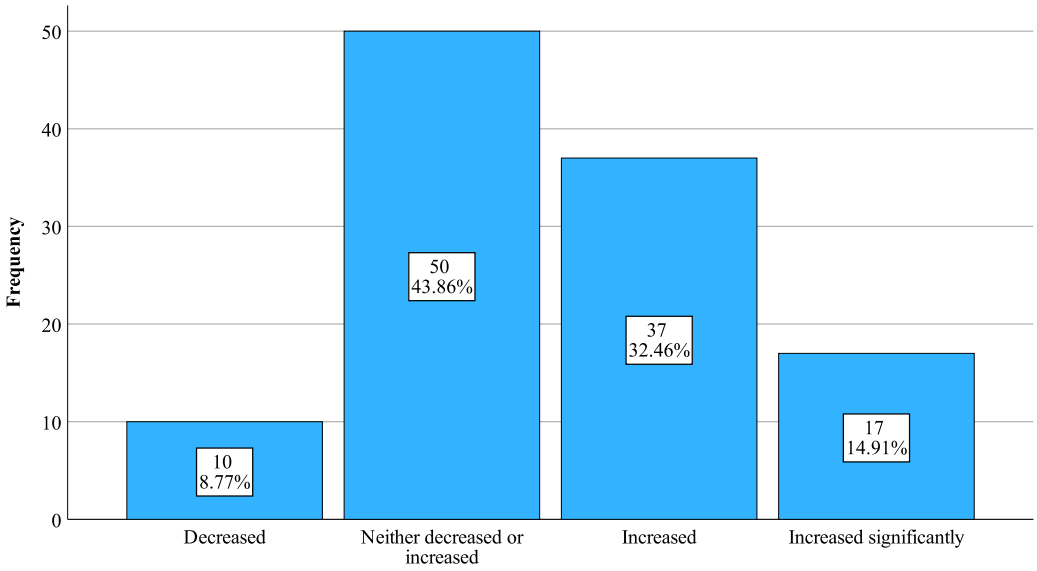


Source: Own work.

[53] Over the past year, what do you think has happened to your spending in category "Restaurants and hospitality"?

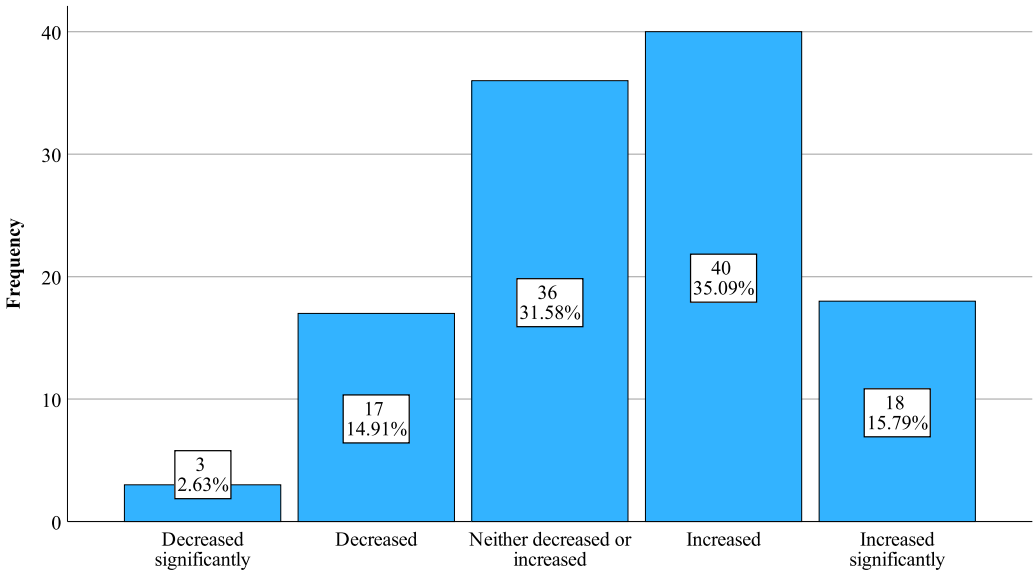
[54] Over the past year, what do you think has happened to your spending in category "Groceries and other essentials"?

Figure A.12: Perception of spending in category "Housing and utilities" [55]



Source: Own work.

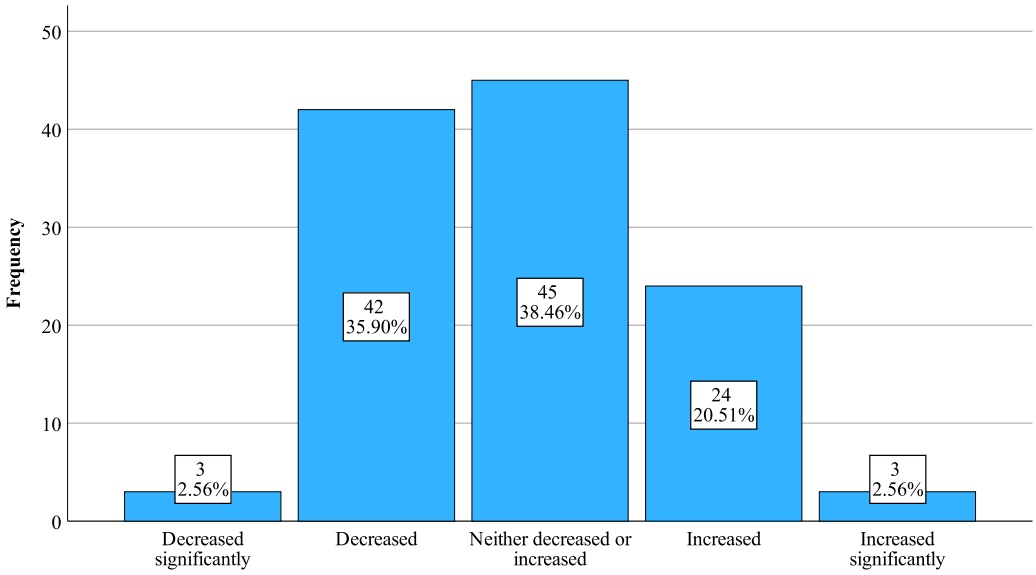
Figure A.13: Perception of spending in category "Nonfood discretionary"[56]



Source: Own work.

[55] Over the past year, what do you think has happened to your spending in category "Housing and utilities"?
[56] Over the past year, what do you think has happened to your spending in category "Nonfood discretionary"?

Figure A.14: Perception of spending in category "Savings"[57]



Source: Own work.

[57] Over the past year, what do you think has happened to your spending in category "Savings"?

Appendix 6: Data validation

Figure A.15: Test of normality (Inflation perceptions – All age generations)

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Inflation perceptions	324	92.0%	28	8.0%	352	100.0%

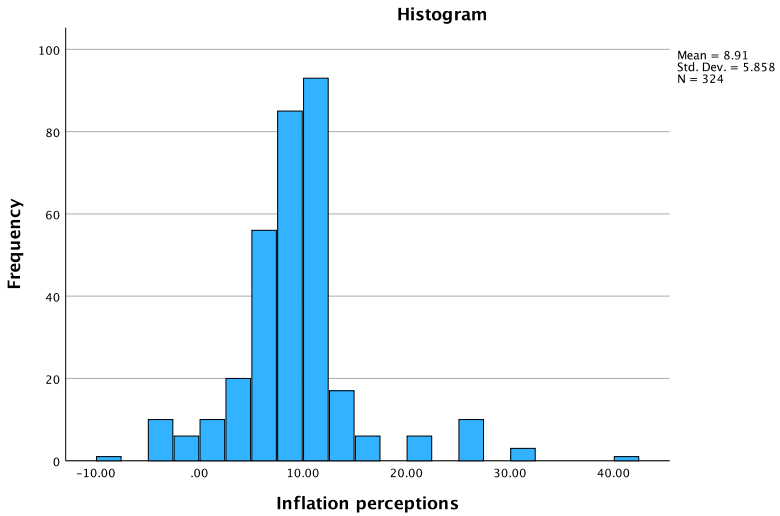
Descriptives

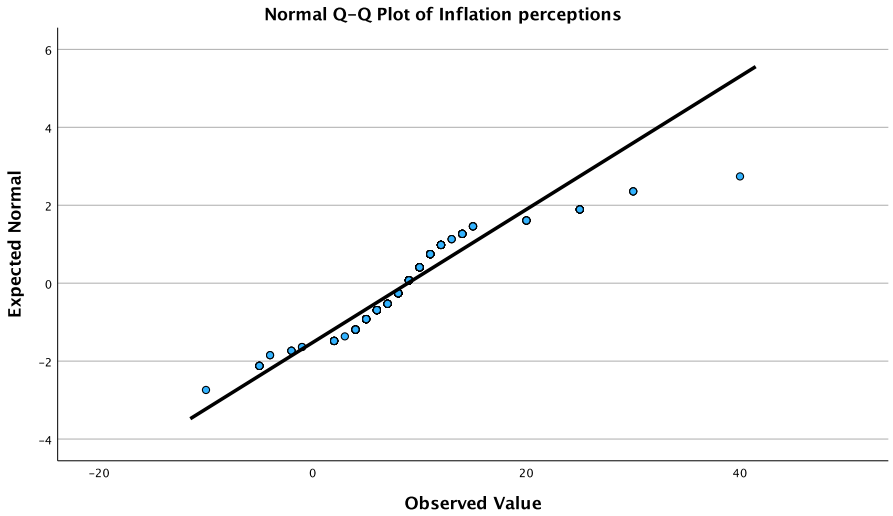
			Statistic	Std. Error
Inflation perceptions	Mean		8.9135	.32547
	95% Confidence Interval for Mean	Lower Bound	8.2732	
		Upper Bound	9.5538	
	5% Trimmed Mean		8.6804	
	Median		9.0000	
	Variance		34.322	
	Std. Deviation		5.85849	
	Minimum		-10.00	
	Maximum		40.00	
	Range		50.00	
	Interquartile Range		5.00	
	Skewness		1.003	.135
	Kurtosis		4.762	.270

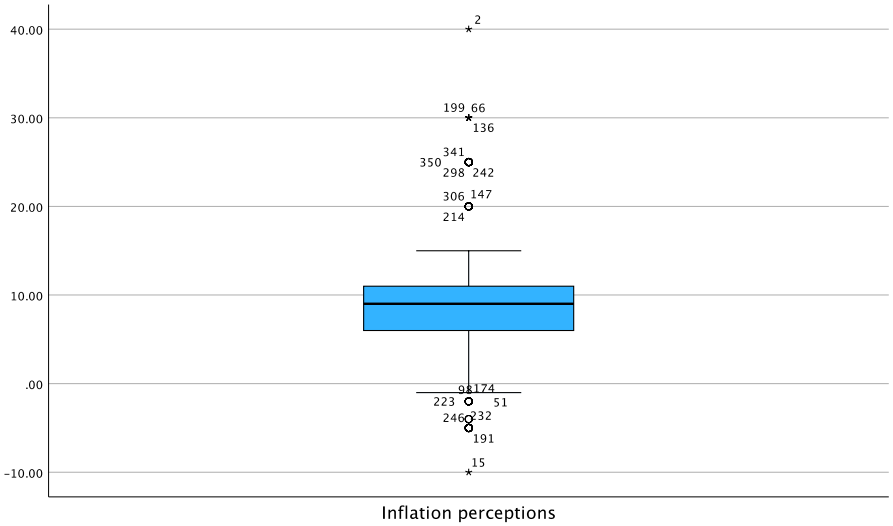
Tests of Normality

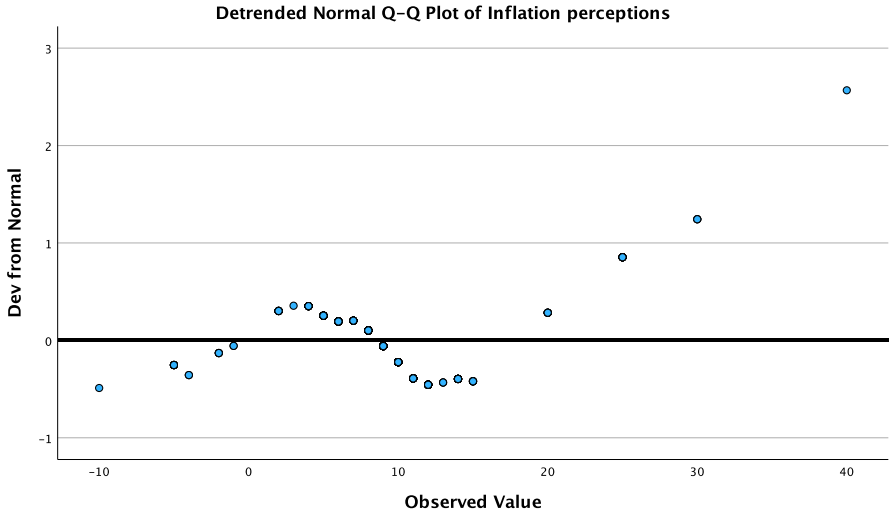
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Inflation perceptions	.170	324	<.001	.877	324	<.001

a. Lilliefors Significance Correction









Source: Own work.

Figure A.16: Test of normality (Inflation expectations – All age generations)

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Inflation expectations	315	89.5%	37	10.5%	352	100.0%

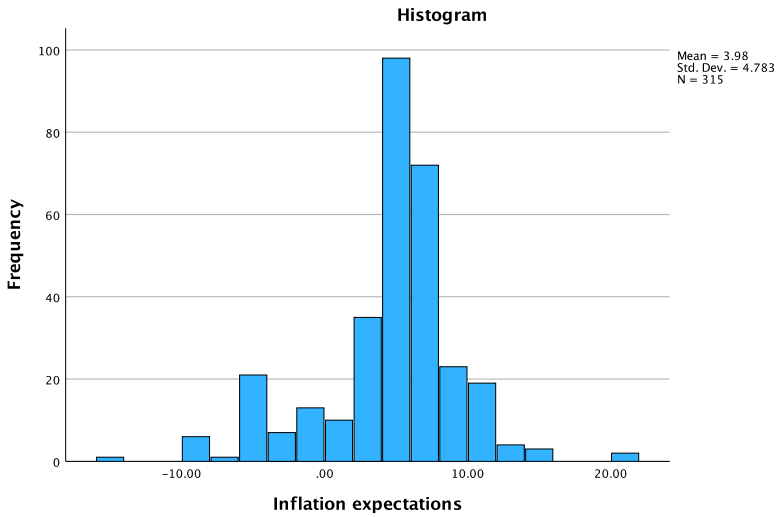
Descriptives

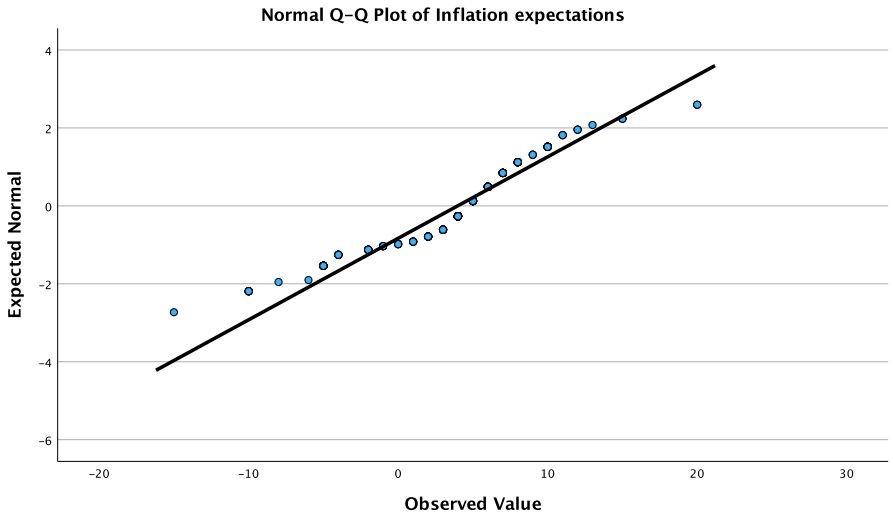
			Statistic	Std. Error
Inflation expectations	Mean		3.9808	.26951
	95% Confidence Interval for Mean	Lower Bound	3.4506	
		Upper Bound	4.5111	
	5% Trimmed Mean		4.1348	
	Median		5.0000	
	Variance		22.880	
	Std. Deviation		4.78329	
	Minimum		-15.00	
	Maximum		20.00	
	Range		35.00	
	Interquartile Range		3.00	
	Skewness		-.737	.137
	Kurtosis		1.913	.274

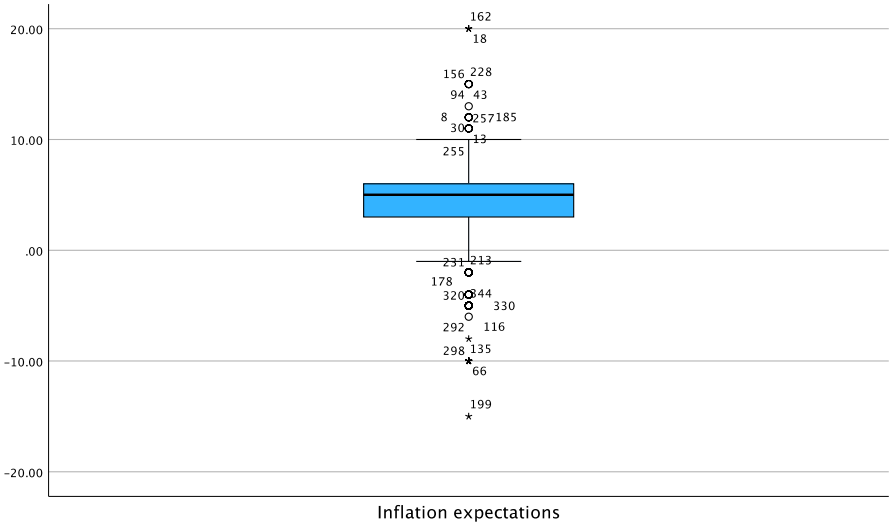
Tests of Normality

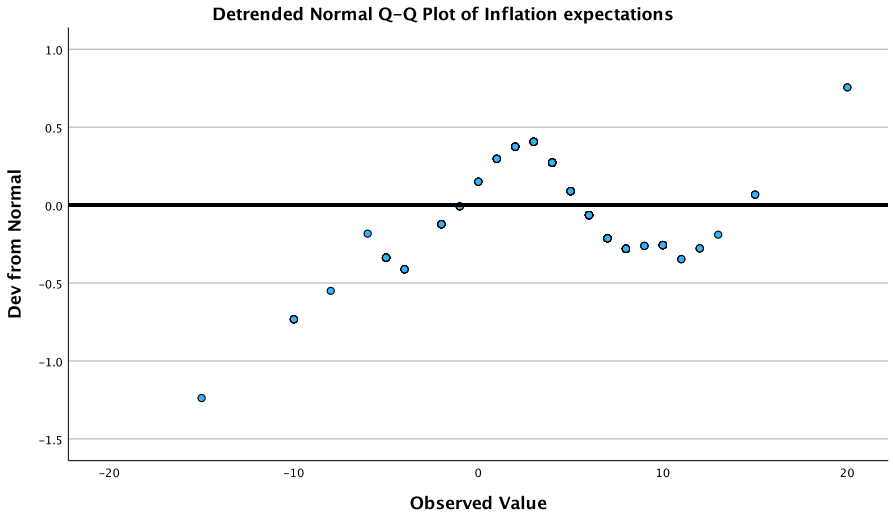
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Inflation expectations	.203	315	<.001	.915	315	<.001

a. Lilliefors Significance Correction









Source: Own work.

Figure A.17: Test of normality (Inflation perceptions – Millennials)

Explore

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Inflation perceptions	114	91.2%	11	8.8%	125	100.0%

Descriptives

			Statistic	Std. Error
Inflation perceptions	Mean		8.2895	.46350
	95% Confidence Interval for Mean	Lower Bound	7.3712	
		Upper Bound	9.2077	
	5% Trimmed Mean		8.1491	
	Median		8.0000	
	Variance		24.491	
	Std. Deviation		4.94881	
	Minimum		-5.00	
	Maximum		30.00	
	Range		35.00	
	Interquartile Range		4.00	
	Skewness		.920	.226
	Kurtosis		5.115	.449

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Inflation perceptions	.181	114	<.001	.879	114	<.001

a. Lilliefors Significance Correction

Source: Own work.

Figure A.18: Test of normality (Inflation expectations – Millennials)

Explore

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Inflation expectations	111	88.8%	14	11.2%	125	100.0%

Descriptives

			Statistic	Std. Error
Inflation expectations	Mean		4.4054	.41656
	95% Confidence Interval for Mean	Lower Bound	3.5799	
		Upper Bound	5.2309	
	5% Trimmed Mean		4.4770	
	Median		5.0000	
	Variance		19.261	
	Std. Deviation		4.38878	
	Minimum		-10.00	
	Maximum		20.00	
	Range		30.00	
	Interquartile Range		4.00	
	Skewness		-.457	.229
	Kurtosis		2.651	.455

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Inflation expectations	.175	111	<.001	.900	111	<.001

a. Lilliefors Significance Correction

Source: Own work.

Appendix 7: Hypotheses testing

H1: Millennials are less concerned about inflation when making purchase decisions compared to older age generations.

Figure A.19: H1 hypothesis testing - Spearman's Rank-Order Correlation results

Correlations

			Level of concern with inflation	Age generation
Spearman's rho	Level of concern with inflation	Correlation Coefficient	1.000	-.181**
		Sig. (2-tailed)	.	<.001
		N	352	352
	Age generation	Correlation Coefficient	-.181**	1.000
		Sig. (2-tailed)	<.001	.
		N	352	352

**. Correlation is significant at the 0.01 level (2-tailed).

Source: Own work.

H2a: Millennials form higher inflation perceptions compared to older age generations.

Figure A.20: H2a hypothesis testing - Kruskal-Wallis H test results

NPar Tests

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
Inflation perceptions	324	8.9135	5.85849	-10.00	40.00
Age generation	352	2.5966	1.20151	1.00	5.00

Kruskal-Wallis Test

Ranks

	Age generation	N	Mean Rank
Inflation perceptions	Gen Z	62	144.84
	Millennials	114	153.81
	Gen X	71	162.46
	Baby boomers	48	176.86
	Silent generation	29	210.76
	Total	324	

Test Statistics[a,b]

	Inflation perceptions
Kruskal-Wallis H	12.140
df	4
Asymp. Sig.	.016

a. Kruskal Wallis Test

b. Grouping Variable: Age generation

Means

Case Processing Summary

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
Inflation perceptions * Age generation	324	92.0%	28	8.0%	352	100.0%

Report

Median

Age generation	Inflation perceptions
Gen Z	8.0000
Millennials	8.0000
Gen X	9.0000
Baby boomers	9.0000
Silent generation	10.0000
Total	9.0000

Source: Own work.

H2b: Millennials who are male report lower inflation perceptions compared to Millennials who are female.

Figure A.21: H2b hypothesis testing - Mann-Whitney test results

NPar Tests

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
Inflation perceptions	114	8.2895	4.94881	-5.00	30.00
Gender	124	1.5081	.50196	1.00	2.00

Mann-Whitney Test

Ranks

	Gender	N	Mean Rank	Sum of Ranks
Inflation perceptions	Male	57	64.33	3667.00
	Female	57	50.67	2888.00
	Total	114		

Test Statistics[a]

	Inflation perceptions
Mann-Whitney U	1235.000
Wilcoxon W	2888.000
Z	-2.220
Asymp. Sig. (2-tailed)	.026

a. Grouping Variable: Gender

Means

Case Processing Summary

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
Inflation perceptions * Gender	114	91.2%	11	8.8%	125	100.0%

Report

Gender	Median Inflation perceptions
Male	9.0000
Female	7.0000
Total	8.0000

Source: Own work.

H2c: Millennials who report higher education attainment report lower inflation perceptions compared to Millennials who report lower education attainment.

Figure A.22: H2c hypothesis testing - Kruskal-Wallis H test results

NPar Tests
Kruskal-Wallis Test

Ranks

	Educational attainment	N	Mean Rank
Inflation perceptions	Elementary school or less	4	93.25
	Vocational school	30	62.68
	High school	24	55.94
	Bachelor's degree	31	57.47
	Master's degree or Ph.D.	25	47.10
	Total	114	

Test Statistics[a,b]

	Inflation perceptions
Kruskal-Wallis H	8.038
df	4
Asymp. Sig.	.090

a. Kruskal Wallis Test
b. Grouping Variable: Educational attainment

Source: Own work.

H2d: Millennials who are from higher income household report lower inflation perceptions compared to Millennials who are from lower income household.

Figure A.23: H2d hypothesis testing - Kruskal-Wallis H test results

NPar Tests

Kruskal-Wallis Test

Ranks

	Monthly household net income level	N	Mean Rank
Inflation perceptions	less than 700 EUR	3	94.17
	700 – 2.100 EUR	35	68.10
	2.101 – 4.200 EUR	44	56.83
	4.201 – 6.000 EUR	27	46.24
	more than 6,000 EUR	5	28.00
	Total	114	

Test Statistics[a,b]

	Inflation perceptions
Kruskal-Wallis H	14.592
df	4
Asymp. Sig.	.006

a. Kruskal Wallis Test

b. Grouping Variable: Monthly household net income level

Means

Case Processing Summary

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
Inflation perceptions * Monthly household net income level	114	91.2%	11	8.8%	125	100.0%

Report

Median

Monthly household net income level	Inflation perceptions
less than 700 EUR	14.0000
700 – 2.100 EUR	9.0000
2.101 – 4.200 EUR	8.0000
4.201 – 6.000 EUR	6.0000
more than 6,000 EUR	5.0000
Total	8.0000

Source: Own work.

H3a: Millennials form higher inflation expectations compared to older age generations.

Figure A.24: H3a hypothesis testing - Kruskal-Wallis H test results

NPar Tests

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
Inflation expectations	315	3.9808	4.78329	-15.00	20.00
Age generation	352	2.5966	1.20151	1.00	5.00

Kruskal-Wallis Test

Ranks

	Age generation	N	Mean Rank
Inflation expectations	Gen Z	59	162.53
	Millennials	109	153.78
	Gen X	71	157.47
	Baby boomers	47	142.26
	Silent generation	29	191.45
	Total	315	

Test Statistics[a,b]

	Inflation expectations
Kruskal-Wallis H	5.779
df	4
Asymp. Sig.	.216

a. Kruskal Wallis Test

b. Grouping Variable: Age generation

Means

Case Processing Summary

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
Inflation expectations * Age generation	315	89.5%	37	10.5%	352	100.0%

Report

Median

Age generation	Inflation expectations
Gen Z	4.0000
Millennials	4.0000
Gen X	5.0000
Baby boomers	4.0000
Silent generation	6.0000
Total	5.0000

Source: Own work.

H3b: Millennials who expect that financial position of their household will get better report lower inflation expectations compared to Millennials who expect that financial position of their household will stay the same or get worse.

Figure A.25: H3b hypothesis testing - Kruskal-Wallis H test results

NPar Tests

Kruskal-Wallis Test

Ranks

	Expected household's financial position	N	Mean Rank
Inflation expectations	It will get a lot worse	5	96.80
	It will get a little worse	29	55.57
	It will stay the same	37	59.12
	It will get a little better	33	44.26
	It will get a lot better	7	67.50
	Total	111	

Test Statistics[a,b]

	Inflation expectations
Kruskal-Wallis H	13.871
df	4
Asymp. Sig.	.008

a. Kruskal Wallis Test

b. Grouping Variable: Expected household's financial position

Means

Case Processing Summary

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
Inflation expectations * Expected household's financial position	111	88.8%	14	11.2%	125	100.0%

Report

Median

Expected household's financial position	Inflation expectations
It will get a lot worse	9.0000
It will get a little worse	5.0000
It will stay the same	5.0000
It will get a little better	4.0000
It will get a lot better	6.0000
Total	5.0000

Source: Own work.

H3c: Millennials who expect that general economic situation will get better report lower inflation expectations compared to Millennials who expect that general economic situation will stay the same or get worse.

Figure A.26: H3c hypothesis testing - Kruskal-Wallis H test results

NPar Tests
Kruskal-Wallis Test

Ranks

	Expected general economic situation	N	Mean Rank
Inflation expectations	It will get a lot worse	9	61.78
	It will get a little worse	33	64.18
	It will stay the same	29	55.48
	It will get a little better	31	51.00
	It will get a lot better	9	39.11
	Total	111	

Test Statistics[a,b]

	Inflation expectations
Kruskal-Wallis H	5.738
df	4
Asymp. Sig.	.220

a. Kruskal Wallis Test

b. Grouping Variable: Expected general economic situation

Source: Own work.

H4: Millennials who report higher expected change in inflation are more likely to have higher spending expectations compared to Millennials who report lower expected change in inflation.

Figure A.27: H4 hypothesis testing - Ordinal Regression and Generalized Linear Model results

PLUM - Ordinal Regression

Case Processing Summary

		N	Marginal Percentage
Spending expectations	Decrease significantly	2	1.8%
	Decrease	24	21.2%
	Neither decrease or increase	42	37.2%
	Increase	43	38.1%
	Increase significantly	2	1.8%
Valid		113	100.0%
Missing		12	
Total		125	

Model Fitting Information

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	111.454			
Final	104.403	7.051	1	.008

Link function: Logit.

Goodness-of-Fit

	Chi-Square	df	Sig.
Pearson	108.904	83	.030
Deviance	58.338	83	.982

Link function: Logit.

Pseudo R-Square

Cox and Snell	.060
Nagelkerke	.066
McFadden	.026

Link function: Logit.

Parameter Estimates

		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	[Q7 = 1.00]	-4.615	.765	36.395	1	<.001	-6.115	-3.116
	[Q7 = 2.00]	-1.652	.293	31.833	1	<.001	-2.226	-1.078
	[Q7 = 3.00]	.042	.243	.030	1	.862	-.434	.518
	[Q7 = 4.00]	3.677	.721	26.003	1	<.001	2.264	5.090
Location	C7	.110	.041	7.409	1	.006	.031	.190

Link function: Logit.

Generalized Linear Models

Model Information

Dependent Variable	Spending expectations[a]
Probability Distribution	Multinomial
Link Function	Cumulative logit

a. The procedure applies the cumulative link function to the dependent variable values in ascending order.

Case Processing Summary

	N	Percent
Included	113	90.4%
Excluded	12	9.6%
Total	125	100.0%

Categorical Variable Information

			N	Percent
Dependent Variable	Spending expectations	Decrease significantly	2	1.8%
		Decrease	24	21.2%
		Neither decrease or increase	42	37.2%
		Increase	43	38.1%
		Increase significantly	2	1.8%
		Total	113	100.0%

Continuous Variable Information

		N	Minimum	Maximum	Mean	Std. Deviation
Covariate	Expected change in inflation	113	-24.00	7.00	-3.9204	4.54765

Goodness of Fit[a]

	Value	df	Value/df
Deviance	58.338	83	.703
Scaled Deviance	58.338	83	
Pearson Chi-Square	108.904	83	1.312
Scaled Pearson Chi-Square	108.904	83	
Log Likelihood[b]	-52.202		
Akaike's Information Criterion (AIC)	114.403		
Finite Sample Corrected AIC (AICC)	114.964		
Bayesian Information Criterion (BIC)	128.040		
Consistent AIC (CAIC)	133.040		

Dependent Variable: Spending expectations
Model: (Threshold), Expected change in inflation
[a]

a. Information criteria are in smaller-is-better form.
b. The full log likelihood function is displayed and used in computing information criteria.

Omnibus Test[a]

Likelihood Ratio Chi-Square	df	Sig.
7.051	1	.008

Dependent Variable: Spending expectations
Model: (Threshold), Expected change in inflation
[a]

a. Compares the fitted model against the thresholds-only model.

Tests of Model Effects

Source	Type III Wald Chi-Square	df	Sig.
Expected change in inflation	6.864	1	.009

Dependent Variable: Spending expectations
Model: (Threshold), Expected change in inflation

Parameter Estimates

Parameter		B	Std. Error	95% Wald Confidence Interval Lower	95% Wald Confidence Interval Upper	Hypothesis Test Wald Chi-Square	Hypothesis Test df
Threshold	[Spending expectations=1.00]	-4.615	.7717	-6.128	-3.103	35.772	1
	[Spending expectations=2.00]	-1.652	.2895	-2.219	-1.085	32.558	1
	[Spending expectations=3.00]	.042	.2405	-.429	.513	.031	1
	[Spending expectations=4.00]	3.677	.7236	2.259	5.095	25.820	1
Expected change in inflation		.110	.0421	.028	.193	6.864	1
(Scale)		1[a]					

Parameter Estimates

Parameter		Hypothesis Test Sig.	Exp(B)	95% Wald Confidence Interval for Exp(B) Lower	Upper
Threshold	[Spending expectations=1.00]	<.001	.010	.002	.045
	[Spending expectations=2.00]	<.001	.192	.109	.338
	[Spending expectations=3.00]	.861	1.043	.651	1.671
	[Spending expectations=4.00]	<.001	39.530	9.571	163.265
Expected change in inflation		.009	1.117	1.028	1.213
(Scale)					

Dependent Variable: Spending expectations
Model: (Threshold), Expected change in inflation

a. Fixed at the displayed value.

Source: Own work.

H5a: Millennials who report higher inflation perceptions more likely changed their shopping behavior compared to Millennials who report lower inflation perceptions.

Figure A.28: H5a hypothesis testing – Logistic Regression results

Logistic Regression

Case Processing Summary

Unweighted Cases[a]		N	Percent
Selected Cases	Included in Analysis	114	91.2
	Missing Cases	11	8.8
	Total	125	100.0
Unselected Cases		0	.0
Total		125	100.0

a. If weight is in effect, see classification table for the total number of cases.

Dependent Variable Encoding

Original Value	Internal Value
No	0
Yes	1

Block 0: Beginning Block

Classification Table[a,b]

Observed			Predicted: Change in shopping behavior		
			No	Yes	Percentage Correct
Step 0	Change in shopping behavior	No	0	44	.0
		Yes	0	70	100.0
	Overall Percentage				61.4

a. Constant is included in the model.

b. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 0	Constant	.464	.192	5.824	1	.016	1.591

Variables not in the Equation

			Score	df	Sig.
Step 0	Variables	Inflation perceptions	4.240	1	.039
	Overall Statistics		4.240	1	.039

Block 1: Method = Enter

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	4.568	1	.033
	Block	4.568	1	.033
	Model	4.568	1	.033

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	147.487[a]	.039	.053

a. Estimation terminated at iteration number 4 because parameter estimates changed by less than .001.

Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	13.935	7	.052

Contingency Table for Hosmer and Lemeshow Test

		Change in shopping behavior = No		Change in shopping behavior = Yes		
		Observed	Expected	Observed	Expected	Total
Step 1	1	5	5.843	5	4.157	10
	2	9	5.580	3	6.420	12
	3	4	5.602	9	7.398	13
	4	4	4.085	6	5.915	10
	5	6	5.798	9	9.202	15
	6	4	5.109	10	8.891	14
	7	5	6.534	14	12.466	19
	8	7	3.421	4	7.579	11
	9	0	2.028	10	7.972	10

Classification Table[a]

			Predicted		
			Change in shopping behavior		
	Observed		No	Yes	Percentage Correct
Step 1	Change in shopping behavior	No	5	39	11.4
		Yes	5	65	92.9
	Overall Percentage				61.4

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	Inflation perceptions	.092	.046	3.940	1	.047	1.096
	Constant	-.274	.411	.443	1	.506	.761

a. Variable(s) entered on step 1: Inflation perceptions.

Source: Own work.

H5b : Millennials who report higher expected change in inflation less likely postponed major purchases compared to Millennials who report lower expected change in inflation.

Figure A.29: H5b hypothesis testing – Logistic Regression results

Logistic Regression

Case Processing Summary

Unweighted Cases[a]		N	Percent
Selected Cases	Included in Analysis	72	57.6
	Missing Cases	53	42.4
	Total	125	100.0
Unselected Cases		0	.0
Total		125	100.0

a. If weight is in effect, see classification table for the total number of cases.

Dependent Variable Encoding

Original Value	Internal Value
No	0
Yes	1

Block 0: Beginning Block

Classification Table[a,b]

			Predicted		
			Postponed major purchases		
	Observed		No	Yes	Percentage Correct
Step 0	Postponed major purchases	No	0	26	.0
		Yes	0	46	100.0
	Overall Percentage				63.9

a. Constant is included in the model.

b. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 0	Constant	.571	.245	5.407	1	.020	1.769

Variables not in the Equation

			Score	df	Sig.
Step 0	Variables	Expected change in inflation	.962	1	.327
	Overall Statistics		.962	1	.327

Block 1: Method = Enter

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	1.013	1	.314
	Block	1.013	1	.314
	Model	1.013	1	.314

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	93.171[a]	.014	.019

a. Estimation terminated at iteration number 3 because parameter estimates changed by less than .001.

Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	8.716	7	.274

Classification Table[a]

			Predicted		
			Postponed major purchases		
	Observed		No	Yes	Percentage Correct
Step 1	Postponed major purchases	No	1	25	3.8
		Yes	0	46	100.0
	Overall Percentage				65.3

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	Expected change in inflation	-.054	.056	.932	1	.334	.947
	Constant	.362	.320	1.281	1	.258	1.437

a. Variable(s) entered on step 1: Expected change in inflation.

Source: Own work.

Appendix 8: Additional analyses for research question

Figure A.30: Spending perceptions across age generations

Custom Tables

		Age generation				
		Gen Z	Millennials	Gen X	Baby boomers	Silent generation
Spending perceptions	Decreased significantly	6.1%	1.6%	2.5%	0.0%	0.0%
	Decreased	15.2%	6.5%	6.3%	1.9%	0.0%
	Neither decreased or increased	34.8%	41.9%	29.1%	5.8%	16.1%
	Increased	21.2%	41.9%	46.8%	57.7%	58.1%
	Increased significantly	22.7%	8.1%	15.2%	34.6%	25.8%

Pearson Chi-Square Tests

		Age generation
Spending perceptions	Chi-square	64.498
	df	16
	Sig.	<.001[*,b,c]

Results are based on nonempty rows and columns in each innermost subtable. *. The Chi-square statistic is significant at the .05 level.

b. More than 20% of cells in this subtable have expected cell counts less than 5. Chi-square results may be invalid.

c. The minimum expected cell count in this subtable is less than one. Chi-square results may be invalid.

Comparisons of Column Proportions[b]

		Age generation				
		Gen Z (A)	Millennials (B)	Gen X (C)	Baby boomers (D)	Silent generation (E)
Spending perceptions	Decreased significantly				.[a]	.[a]
	Decreased					.[a]
	Neither decreased or increased	D(.002)	D(.000)	D(.010)		
	Increased		A(.043)	A(.013)	A(.000)	A(.003)
	Increased significantly	B(.044)			B(.000)	

Results are based on two-sided tests. For each significant pair, the key of the category with the smaller column proportion appears in the category with the larger column proportion.

Significance level for upper case letters (A, B, C): .05[b]

a. This category is not used in comparisons because its column proportion is equal to zero or one.

b. Tests are adjusted for all pairwise comparisons within a row of each innermost subtable using the Bonferroni correction.

Source: Own work.

Figure A.31: Spending expectations across age generations

Custom Tables

		Age generation				
		Gen Z Column N %	Millennials Column N %	Gen X Column N %	Baby boomers Column N %	Silent generation Column N %
Spending expectations	Decrease significantly	10.6%	1.6%	2.5%	0.0%	0.0%
	Decrease	28.8%	21.8%	17.7%	13.5%	9.7%
	Neither decrease or increase	31.8%	36.3%	22.8%	61.5%	45.2%
	Increase	21.2%	37.9%	46.8%	23.1%	45.2%
	Increase significantly	7.6%	2.4%	10.1%	1.9%	0.0%

Pearson Chi-Square Tests

		Age generation
Spending expectations	Chi-square	54.528
	df	16
	Sig.	<.001[*,b,c]

Results are based on nonempty rows and columns in each innermost subtable.
*. The Chi-square statistic is significant at the .05 level.
b. More than 20% of cells in this subtable have expected cell counts less than 5. Chi-square results may be invalid.
c. The minimum expected cell count in this subtable is less than one. Chi-square results may be invalid.

Comparisons of Column Proportions[b]

		Age generation				
		Gen Z (A)	Millennials (B)	Gen X (C)	Baby boomers (D)	Silent generation (E)
Spending expectations	Decrease significantly	B(.016)			.[a]	.[a]
	Decrease					
	Neither decrease or increase				A(.013) B(.021) C(.000)	
	Increase			A(.013)		
	Increase significantly					.[a]

Results are based on two-sided tests. For each significant pair, the key of the category with the smaller column proportion appears in the category with the larger column proportion.
Significance level for upper case letters (A, B, C): .05[b]
a. This category is not used in comparisons because its column proportion is equal to zero or one.
b. Tests are adjusted for all pairwise comparisons within a row of each innermost subtable using the Bonferroni correction.

Source: Own work.

Figure A.32: Spending perceptions within millennial generation

Custom Table 1

		Gender	
		Male	Female
Spending perceptions	Decreased significantly	1.6%	1.6%
	Decreased	3.3%	9.5%
	Neither decreased or increased	50.8%	33.3%
	Increased	36.1%	47.6%
	Increased significantly	8.2%	7.9%

Pearson Chi-Square Tests

		Gender
Spending perceptions	Chi-square	5.123
	df	4
	Sig.	.275[a,b]

Results are based on nonempty rows and columns in each innermost subtable.

a. More than 20% of cells in this subtable have expected cell counts less than 5. Chi-square results may be invalid.

b. The minimum expected cell count in this subtable is less than one. Chi-square results may be invalid.

Comparisons of Column Proportions[a]

		Gender	
		Male (A)	Female (B)
Spending perceptions	Decreased significantly		
	Decreased		
	Neither decreased or increased	B(.049)	
	Increased		
	Increased significantly		

Results are based on two-sided tests. For each significant pair, the key of the category with the smaller column proportion appears in the category with the larger column proportion.

Significance level for upper case letters (A, B, C): .05

[a]

a. Tests are adjusted for all pairwise comparisons within a row of each innermost subtable using the Bonferroni correction.

Custom table 2

		Educational attainment				
		Elementary school or less	Vocational school	High school	Bachelor's degree	Master's degree or Ph.D.
Spending perceptions	Decreased significantly	25.0%	3.1%	0.0%	0.0%	0.0%
	Decreased	25.0%	9.4%	8.0%	2.9%	3.4%
	Neither decreased or increased	0.0%	50.0%	52.0%	35.3%	37.9%
	Increased	50.0%	34.4%	40.0%	47.1%	44.8%
	Increased significantly	0.0%	3.1%	0.0%	14.7%	13.8%

Pearson Chi-Square Tests

		Educational attainment
Spending perceptions	Chi-square	29.526
	df	16
	Sig.	.021[*,b,c]

Results are based on nonempty rows and columns in each innermost subtable.
*. The Chi-square statistic is significant at the .05 level.
b. More than 20% of cells in this subtable have expected cell counts less than 5. Chi-square results may be invalid.
c. The minimum expected cell count in this subtable is less than one. Chi-square results may be invalid.

Comparisons of Column Proportions[b]

		Educational attainment				
		Elementary school or less (A)	Vocational school (B)	High school €	Bachelor's degree (D)	Master's degree or Ph.D. €
Spending perceptions	Decreased significantly			.[a]	.[a]	.[a]
	Decreased					
	Neither decreased or increased	.[a]				
	Increased					
	Increased significantly	.[a]		.[a]		

Results are based on two-sided tests. For each significant pair, the key of the category with the smaller column proportion appears in the category with the larger column proportion.
Significance level for upper case letters (A, B, C): .05
[b]

a. This category is not used in comparisons because its column proportion is equal to zero or one.
b. Tests are adjusted for all pairwise comparisons within a row of each innermost subtable using the Bonferroni correction.

Custom Table 3

		Monthly household net income level				
		less than 700 EUR	700 – 2.100 EUR	2.101 – 4.200 EUR	4.201 – 6.000 EUR	more than 6,000 EUR
Spending perceptions	Decreased significantly	0.0%	5.7%	0.0%	0.0%	0.0%
	Decreased	33.3%	8.6%	6.1%	3.1%	0.0%
	Neither decreased or increased	33.3%	51.4%	44.9%	34.4%	0.0%
	Increased	33.3%	31.4%	38.8%	56.3%	60.0%
	Increased significantly	0.0%	2.9%	10.2%	6.3%	40.0%

Pearson Chi-Square Tests

		Monthly household net income level
Spending perceptions	Chi-square	24.204
	df	16
	Sig.	.085[a,b]

Results are based on nonempty rows and columns in each innermost subtable.
a. More than 20% of cells in this subtable have expected cell counts less than 5. Chi-square results may be invalid.
b. The minimum expected cell count in this subtable is less than one. Chi-square results may be invalid.

Comparisons of Column Proportions[b]

		Monthly household net income level				
		less than 700 EUR (A)	700 – 2.100 EUR (B)	2.101 – 4.200 EUR €	4.201 – 6.000 EUR (D)	more than 6,000 EUR €
Spending perceptions	Decreased significantly	.[a]		.[a]	.[a]	.[a]
	Decreased					.[a]
	Neither decreased or increased					.[a]
	Increased					
	Increased significantly	.[a]				B(.019)

Results are based on two-sided tests. For each significant pair, the key of the category with the smaller column proportion appears in the category with the larger column proportion.
Significance level for upper case letters (A, B, C): .05
[b]

a. This category is not used in comparisons because its column proportion is equal to zero or one.
b. Tests are adjusted for all pairwise comparisons within a row of each innermost subtable using the Bonferroni correction.

Source: Own work.

Figure A.33: Spending expectations within millennial generation

Custom Table 1

		Expected household's financial position				
		It will get a lot worse	It will get a little worse	It will stay the same	It will get a little better	It will get a lot better
Spending expectations	Decrease significantly	0.0%	3.4%	0.0%	2.7%	0.0%
	Decrease	0.0%	31.0%	19.0%	21.6%	18.2%
	Neither decrease or increase	60.0%	37.9%	40.5%	35.1%	9.1%
	Increase	40.0%	27.6%	35.7%	40.5%	63.6%
	Increase significantly	0.0%	0.0%	4.8%	0.0%	9.1%

Pearson Chi-Square Tests

		Expected household's financial position
Spending expectations	Chi-square	15.065
	df	16
	Sig.	.520[a,b]

Results are based on nonempty rows and columns in each innermost subtable.
a. More than 20% of cells in this subtable have expected cell counts less than 5. Chi-square results may be invalid.
b. The minimum expected cell count in this subtable is less than one. Chi-square results may be invalid.

Comparisons of Column Proportions[b]

		Expected household's financial position				
		It will get a lot worse (A)	It will get a little worse (B)	It will stay the same €	It will get a little better (D)	It will get a lot better €
Spending expectations	Decrease significantly	.[a]		.[a]		.[a]
	Decrease	.[a]				
	Neither decrease or increase					
	Increase					
	Increase significantly	.[a]	.[a]		.[a]	

Results are based on two-sided tests. For each significant pair, the key of the category with the smaller column proportion appears in the category with the larger column proportion.
Significance level for upper case letters (A, B, C): .05
[b]

a. This category is not used in comparisons because its column proportion is equal to zero or one.
b. Tests are adjusted for all pairwise comparisons within a row of each innermost subtable using the Bonferroni correction.

Custom Table 2

		Expected general economic situation				
		It will get a lot worse	It will get a little worse	It will stay the same	It will get a little better	It will get a lot better
Spending expectations	Decrease significantly	0.0%	3.0%	0.0%	2.6%	0.0%
	Decrease	11.1%	30.3%	17.6%	18.4%	30.0%
	Neither decrease or increase	44.4%	36.4%	44.1%	34.2%	10.0%
	Increase	44.4%	30.3%	32.4%	42.1%	60.0%
	Increase significantly	0.0%	0.0%	5.9%	2.6%	0.0%

Pearson Chi-Square Tests

		Expected general economic situation
Spending expectations	Chi-square	11.841
	df	16
	Sig.	.755[a,b]

Results are based on nonempty rows and columns in each innermost subtable.
a. More than 20% of cells in this subtable have expected cell counts less than 5. Chi-square results may be invalid.
b. The minimum expected cell count in this subtable is less than one. Chi-square results may be invalid.

Comparisons of Column Proportions[b]

		Expected general economic situation				
		It will get a lot worse (A)	It will get a little worse (B)	It will stay the same €	It will get a little better (D)	It will get a lot better €
Spending expectations	Decrease significantly	.[a]		.[a]		.[a]
	Decrease					
	Neither decrease or increase					
	Increase					
	Increase significantly	.[a]	.[a]			.[a]

Results are based on two-sided tests. For each significant pair, the key of the category with the smaller column proportion appears in the category with the larger column proportion.
Significance level for upper case letters (A, B, C): .05
[b]

a. This category is not used in comparisons because its column proportion is equal to zero or one.
b. Tests are adjusted for all pairwise comparisons within a row of each innermost subtable using the Bonferroni correction.

Source: Own work.

Figure A.34: Change in shopping behavior across age generations

Custom Table 1

		Age generation				
		Gen Z	Millennials	Gen X	Baby boomers	Silent generation
Change in shopping behavior	No	53.0%	38.7%	43.0%	36.5%	45.2%
	Yes	47.0%	61.3%	57.0%	63.5%	54.8%

Pearson Chi-Square Tests

		Age generation
Change in shopping behavior	Chi-square	4.574
	df	4
	Sig.	.334

Results are based on nonempty rows and columns in each innermost subtable.

Comparisons of Column Proportions[a]

		Age generation				
		Gen Z (A)	Millennials (B)	Gen X €	Baby boomers (D)	Silent generation €
Change in shopping behavior	No					
	Yes					

Results are based on two-sided tests. For each significant pair, the key of the category with the smaller column proportion appears in the category with the larger column proportion.
Significance level for upper case letters (A, B, C): .05
[a]

a. Tests are adjusted for all pairwise comparisons within a row of each innermost subtable using the Bonferroni correction.

Source: Own work.

Figure A.35: Change in shopping behavior within millennial generation

Custom Table 1

		Gender	
		Male	Female
Change in shopping behavior	No	36.1%	41.3%
	Yes	63.9%	58.7%

Pearson Chi-Square Tests

		Gender
Change in shopping behavior	Chi-square	.354
	df	1
	Sig.	.552

Results are based on nonempty rows and columns in each innermost subtable.

Comparisons of Column Proportions[a]

		Gender	
		Male (A)	Female (B)
Change in shopping behavior	No		
	Yes		

Results are based on two-sided tests. For each significant pair, the key of the category with the smaller column proportion appears in the category with the larger column proportion. Significance level for upper case letters (A, B, C): .05

[a]

a. Tests are adjusted for all pairwise comparisons within a row of each innermost subtable using the Bonferroni correction.

Custom Table 2

		Educational attainment				
		Elementary school or less	Vocational school	High school	Bachelor's degree	Master's degree or Ph.D.
Change in shopping behavior	No	0.0%	34.4%	28.0%	52.9%	41.4%
	Yes	100.0%	65.6%	72.0%	47.1%	58.6%

Pearson Chi-Square Tests

		Educational attainment
Change in shopping behavior	Chi-square	6.978
	df	4
	Sig.	.137[a]

Results are based on nonempty rows and columns in each innermost subtable.

a. More than 20% of cells in this subtable have expected cell counts less than 5. Chi-square results may be invalid.

Comparisons of Column Proportions[b]

		Educational attainment				
		Elementary school or less (A)	Vocational school (B)	High school (C)	Bachelor's degree (D)	Master's degree or Ph.D. (E)
Change in shopping behavior	No	.[a]				
	Yes	.[a]				

Results are based on two-sided tests. For each significant pair, the key of the category with the smaller column proportion appears in the category with the larger column proportion.
Significance level for upper case letters (A, B, C): .05
[b]

a. This category is not used in comparisons because its column proportion is equal to zero or one.
b. Tests are adjusted for all pairwise comparisons within a row of each innermost subtable using the Bonferroni correction.

Custom Table 3

		Monthly household net income level				
		less than 700 EUR	700 – 2.100 EUR	2.101 – 4.200 EUR	4.201 – 6.000 EUR	more than 6,000 EUR
Change in shopping behavior	No	0.0%	34.3%	34.7%	50.0%	60.0%
	Yes	100.0%	65.7%	65.3%	50.0%	40.0%

Pearson Chi-Square Tests

		Monthly household net income level
Change in shopping behavior	Chi-square	5.191
	df	4
	Sig.	.268[a]

Results are based on nonempty rows and columns in each innermost subtable.
a. More than 20% of cells in this subtable have expected cell counts less than 5. Chi-square results may be invalid.

Comparisons of Column Proportions[b]

		Monthly household net income level				
		less than 700 EUR (A)	700 – 2.100 EUR (B)	2.101 – 4.200 EUR (C)	4.201 – 6.000 EUR (D)	more than 6,000 EUR (E)
Change in shopping behavior	No	.[a]				
	Yes	.[a]				

Results are based on two-sided tests. For each significant pair, the key of the category with the smaller column proportion appears in the category with the larger column proportion.
Significance level for upper case letters (A, B, C): .05[b]
a. This category is not used in comparisons because its column proportion is equal to zero or one.
b. Tests are adjusted for all pairwise comparisons within a row of each innermost subtable using the Bonferroni correction.

Custom Table 4

		Expected household's financial position				
		It will get a lot worse	It will get a little worse	It will stay the same	It will get a little better	It will get a lot better
Change in shopping behavior	No	0.0%	34.5%	45.2%	21.6%	100.0%
	Yes	100.0%	65.5%	54.8%	78.4%	0.0%

Pearson Chi-Square Tests

		Expected household's financial position
Change in shopping behavior	Chi-square	26.101
	df	4
	Sig.	<.001[*,b]

Results are based on nonempty rows and columns in each innermost subtable.

*. The Chi-square statistic is significant at the .05 level.

b. More than 20% of cells in this subtable have expected cell counts less than 5. Chi-square results may be invalid.

Comparisons of Column Proportions[b]

		Expected household's financial position				
		It will get a lot worse (A)	It will get a little worse (B)	It will stay the same (C)	It will get a little better (D)	It will get a lot better (E)
Change in shopping behavior	No	.[a]				.[a]
	Yes	.[a]				.[a]

Results are based on two-sided tests. For each significant pair, the key of the category with the smaller column proportion appears in the category with the larger column proportion.

Significance level for upper case letters (A, B, C): .05

[b]

a. This category is not used in comparisons because its column proportion is equal to zero or one.

b. Tests are adjusted for all pairwise comparisons within a row of each innermost subtable using the Bonferroni correction.

Custom Table 5

		Expected general economic situation				
		It will get a lot worse	It will get a little worse	It will stay the same	It will get a little better	It will get a lot better
Change in shopping behavior	No	33.3%	33.3%	44.1%	39.5%	40.0%
	Yes	66.7%	66.7%	55.9%	60.5%	60.0%

Pearson Chi-Square Tests

		Expected general economic situation
Change in shopping behavior	Chi-square	.947
	df	4
	Sig.	.918[a]

Results are based on nonempty rows and columns in each innermost subtable.

a. More than 20% of cells in this subtable have expected cell counts less than 5. Chi-square results may be invalid.

Comparisons of Column Proportions[a]

		Expected general economic situation				
		It will get a lot worse (A)	It will get a little worse (B)	It will stay the same (C)	It will get a little better (D)	It will get a lot better (E)
Change in shopping behavior	No					
	Yes					

Results are based on two-sided tests. For each significant pair, the key of the category with the smaller column proportion appears in the category with the larger column proportion.

Significance level for upper case letters (A, B, C): .05[a]

a. Tests are adjusted for all pairwise comparisons within a row of each innermost subtable using the Bonferroni correction.

Source: Own work.

Figure A.36: Change in shopping behavior across age generations

Custom Table 1

		What is your monthly household net income?				
		less than 700 EUR	700 – 2.100 EUR	2.101 – 4.200 EUR	4.201 – 6.000 EUR	more than 6,000 EUR
Change in shopping behavior	No	22.7%	32.9%	36.2%	59.0%	53.1%
	Yes	77.3%	67.1%	63.8%	41.0%	46.9%

Pearson Chi-Square Tests

		What is your monthly household net income?
Change in shopping behavior	Chi-square	21.077
	df	4
	Sig.	<.001*

Results are based on nonempty rows and columns in each innermost subtable.

*. The Chi-square statistic is significant at the .05 level.

Comparisons of Column Proportions[a]

		What is your monthly household net income?				
		less than 700 EUR (A)	700 – 2.100 EUR (B)	2.101 – 4.200 EUR (C)	4.201 – 6.000 EUR (D)	more than 6,000 EUR (E)
Change in shopping behavior	No				A(.020) B(.005) C(.008)	
	Yes	D(.020)	D(.005)	D(.008)		

Results are based on two-sided tests. For each significant pair, the key of the category with the smaller column proportion appears in the category with the larger column proportion.
Significance level for upper case letters (A, B, C): .05
[a]

a. Tests are adjusted for all pairwise comparisons within a row of each innermost subtable using the Bonferroni correction.

Custom Table 2

		How do you expect the general economic situation in Slovenia to develop over the next year?				
		It will get a lot worse	It will get a little worse	It will stay the same	It will get a little better	It will get a lot better
Change in shopping behavior	No	25.0%	32.7%	43.1%	54.7%	50.0%
	Yes	75.0%	67.3%	56.9%	45.3%	50.0%

Pearson Chi-Square Tests

		How do you expect the general economic situation in Slovenia to develop over the next year?
Change in shopping behavior	Chi-square	12.249
	df	4
	Sig.	.016*

Results are based on nonempty rows and columns in each innermost subtable.
*. The Chi-square statistic is significant at the .05 level.

Comparisons of Column Proportions[a]

		How do you expect the general economic situation in Slovenia to develop over the next year?				
		It will get a lot worse (A)	It will get a little worse (B)	It will stay the same (C)	It will get a little better (D)	It will get a lot better (E)
Change in shopping behavior	No				B(.017)	
	Yes		D(.017)			

Results are based on two-sided tests. For each significant pair, the key of the category with the smaller column proportion appears in the category with the larger column proportion.
Significance level for upper case letters (A, B, C): .05
[a]

a. Tests are adjusted for all pairwise comparisons within a row of each innermost subtable using the Bonferroni correction.

Custom Table 3

		How do you expect the financial position of your household to change over the next year?				
		It will get a lot worse	It will get a little worse	It will stay the same	It will get a little better	It will get a lot better
Change in shopping behavior	No	17.6%	28.4%	42.3%	52.9%	82.6%
	Yes	82.4%	71.6%	57.7%	47.1%	17.4%

Pearson Chi-Square Tests

		How do you expect the financial position of your household to change over the next year?
Change in shopping behavior	Chi-square	30.953
	df	4
	Sig.	<.001*

Results are based on nonempty rows and columns in each innermost subtable.

*. The Chi-square statistic is significant at the .05 level.

Comparisons of Column Proportions[a]

		How do you expect the financial position of your household to change over the next year?				
		It will get a lot worse (A)	It will get a little worse (B)	It will stay the same (C)	It will get a little better (D)	It will get a lot better (E)
Change in shopping behavior	No				B(.008)	A(.000) B(.000) C(.004)
	Yes	E(.000)	D(.008) E(.000)	E(.004)		

a. Tests are adjusted for all pairwise comparisons within a row of each innermost subtable using the Bonferroni correction.

Source: Own work.