THE RETURN OF INFLATION, ENERGY CRISIS, AND GEOPOLITICAL SHOCKS DURING 2022

WHAT ARE THE IMPLICATIONS FOR THE PORTUGUESE ECONOMY?

AUTHORED BY:

Miguel Andrade

Luis Felipe Bolaños Serrano

Tiago Campos

Nicolas Gassen

FALL 2022/2023

MINISTÉRIO DAS FINANÇAS • MINISTRY OF FINANCE

Nova Economics Club is the Economics club at Nova School of Business and Economics. Since 2012, its focus is to create a bridge between the theory learnt in classes with the work performed by economists on a daily basis.
e-mail: novaeconomicsclub@novasbe.pt
website: www.novaeconomicsclub.pt
Title: The Return of Inflation, Energy Crisis, and Geopolitical Shocks during 2022: What are the implications for the Portuguese Economy?
Authors: Luis Felipe Bolaños Serrano, Miguel Andrade, Nicolas Gassen, Tiago Campos
Partner: Gabinete de Planeamento, Estratégia, Avaliação e Relações Internacionais (GPEARI)
Date: February 2023

The Return of Inflation, Energy Crisis and Geopolitical Shocks during 2022: What are the implications for the Portuguese Economy?

ABSTRACT

The energy crisis of 2021, which significantly accelerated since the Russian invasion of Ukraine, is threatening Portuguese and European economic development prospects, in the short-term and possibly long-term. Triggered primarily by an unprecedented increase in energy prices, inflation picked up significantly in the course of 2022, peaking at over 10% for both Portugal and the Euro Area. While a rebound in inflation rates is discernible partly due to the monetary policy reaction of the European Central Bank, real wage compensation already underwent a sharp depression, which poses the risk of having a lasting negative impact on consumer demand.

Index

1. Introduction

“Nothing so weakens a government as inflation” (J.K. Galbraith, 1958). Indeed, most nations have long feared inflation for its ability to generate political-economic instability. Some modern economists suggest that inflation works like a virus that infects the mind of markets, wreaking havoc on the real economy if left untreated. Arguably, globalization has left the world even more vulnerable to such a virus as economies became increasingly interconnected through supply chains and institutions. Therefore, price stability has become a fundamental principle for countries that seek not only economic growth but, above all, predictability.

However, this principle has been seriously challenged since Covid-19 began spreading through Chinese cities and eventually to the rest of the world. Countries shut down their economies which made the international system contract in an unprecedented way, resulting in lower levels of inflation. Likewise, many governments injected huge amounts of money to sustain economic demand while production stalled due to lockdowns, especially in China. As restrictions eased (although asymmetrically) across the world, demand – partly fueled by fiscal packages – outpaced bottlenecked supply chains. Thus, commodity and energy prices began to increase significantly at the end of 2021. This was only exacerbated by Russia’s invasion of Ukraine in early 2022, which constrained the world’s most important food and energy markets. Notably, central banks began increasing interest rates in the hopes of cooling down the demand but economists worry about such policies triggering an economic recession, given the persistent problems of supply chain restrictions and the war.

Hence, this report aims at understanding the causes and impact of recent inflationary pressures and contractionary monetary policy on the economy by exploring the case of Portugal[1]. By being a small and open economy in the EU, Portugal is particularly vulnerable to negative economic shocks affecting the continent. Accordingly, we begin by analyzing the evolution of inflation since 2019 as well as assessing the contribution of energy and food prices to Consumer and Producer prices indexes. This will establish the level of price instability felt in the Portuguese economy. Then, we describe the measures enacted by the ECB to stabilize prices and examine how they might destabilize the Portuguese financial sector . Lastly, we determine how inflation has impacted the real economy (namely wages) while also providing a brief outlook on the economic future of Portugal, given how both this virus has spread and been treated.

[1] Developments after the fourth quarter of 2022 were not considered in this report.

2. Energy and Food Price Inflation

In 2022, European economies such as Portugal saw inflation returning to pre-Euro levels. The Harmonized Index of Consumer Prices (HICP), which is the leading indicator for consumer price inflation, rose to 8.5% over the year for the Euro area and 7.5% for Portugal – reaching levels not seen for decades. Thus, the last crises (such as Covid-19 and Russia's invasion of Ukraine) have put an end to the disinflationary trend that had been prevailing in most of Europe, following the financial crisis of 2008.

2022's increase in inflation was primarily driven by soaring energy and food prices, which started to rise in 2021, causing inflationary pressures that have since started to spread to other goods and services.

On the one hand, individuals resumed consumption after restrictions began lifting in 2021 and 2022. Aided by expansionary fiscal packages, many households were now taking consumption decisions that had been postponed during the pandemic. Consumer prices started to increase significantly during 2021 for food and energy-intensive goods and services. Furthermore, Banco de Portugal reports that the main components of the HICP showed the strongest contagion effects in 2022. In other words, price increases in food and energy were increasing the price of other commodities in an unprecedent way. Notably, tourism also boomed in Portugal as demand for international holidays surged to new heights (even beyond pre-pandemic levels in 2022). This led to significant price hikes in tourism-related services as well.

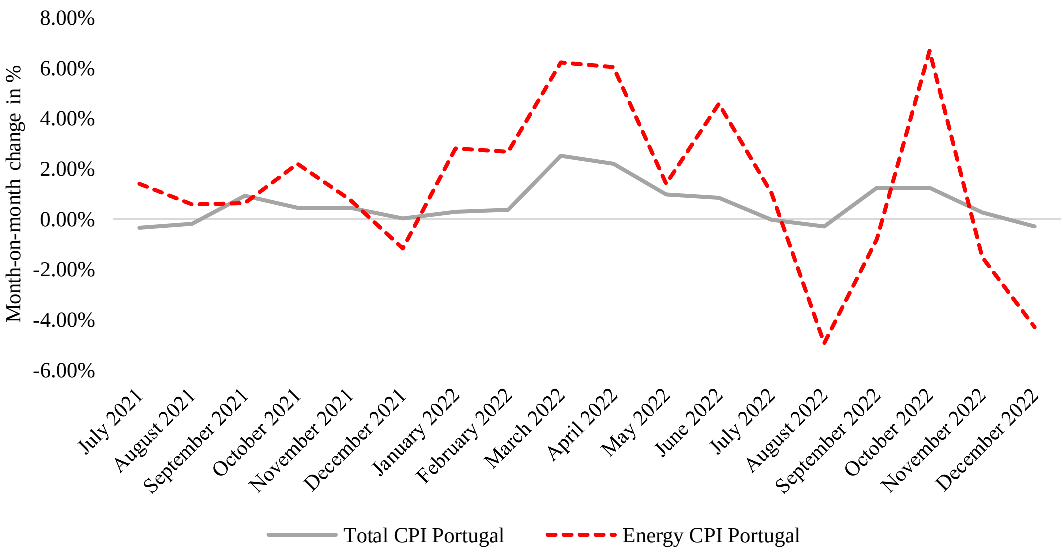
On the other hand, China's 'zero-Covid' policy meant that the world's biggest factory saw many of its industries in a standstill which led to an increase in prices of key commodities. Furthermore, shipping costs also increased significantly due to shortage of materials and recurrent absence of labor. Research shows that an increase in shipping costs can have a longer-lasting effect on inflation than shocks to commodity prices. (Ostry, 2023)

Moreover, Russia's invasion of Ukraine constrained two of the largest suppliers of food and energy in the world. The prices of grain, wheat, oil and natural gas significantly increased soon after the war started. With energy reflecting a substantial input in the production of most goods and services, elevated energy prices rippled through production chains over the course of 2022 (Chart 2), eventually triggering a broad rise in prices across industries. This mechanism is observable in the comparison of the Producer Price Index, which reflects the inflation of inputs used in production, and in the inflation index for energy components, which both experienced rising price levels prior to the HICP (Chart 1). Notably, the influence of energy on the latter cannot be completely ruled out despite the breakdown into energy-related inflation components and so-called core inflation components.

After marking multi-decade highs, energy price inflation has tamed down significantly since October 2022. With basis effects running out and energy prices, month-on-month changes in the respective price index for energy turned negative (i.e., decreasing prices) in November 2022[2]. In consequence, energy is expected to put lower pressure on inflation than before.

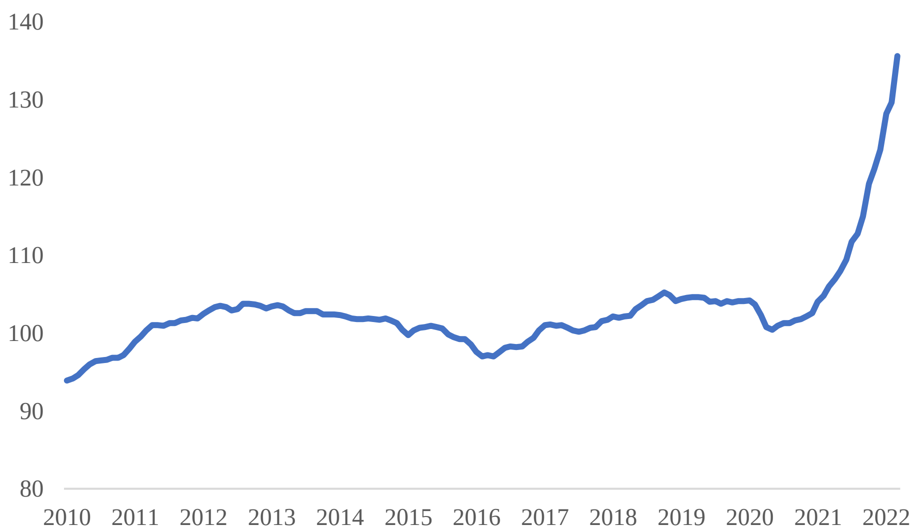
[2] The period of June-August 2022 also saw decreases in energy prices, potentially due to the Iberian exception. Portugal and Spain managed to strike a deal with the EU and leave the common energy market on the 14th of June. This appeared to temporarily decrease energy prices, but external factors pushed prices back up in September 2022.

Chart 1: CPI for Energy as an early indicator for Total CPI (Portugal)



Source: INE Portugal

Chart 2: Producer Prices European Union (2015 = 100)



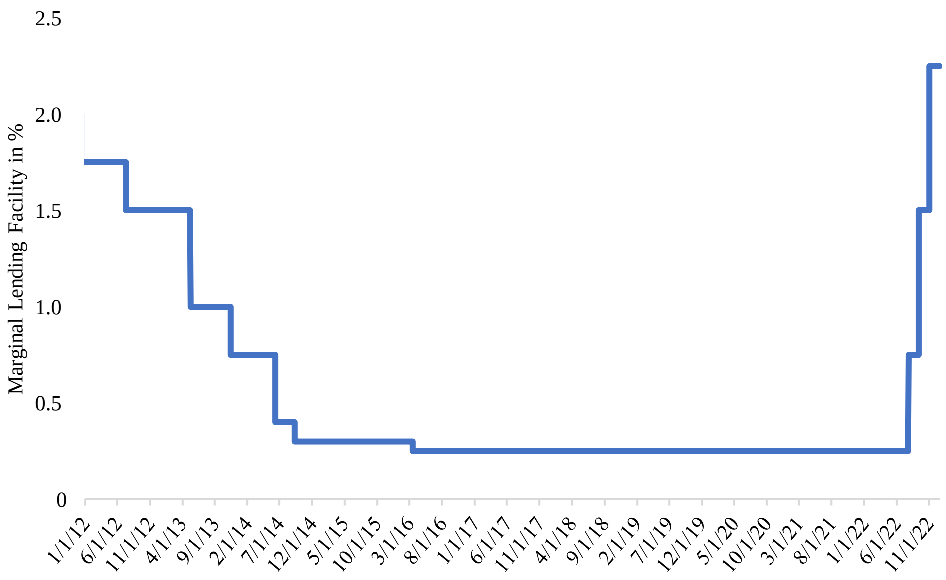
Source: INE Portugal

3. Monetary Policy

3.1 The ECB's Reaction

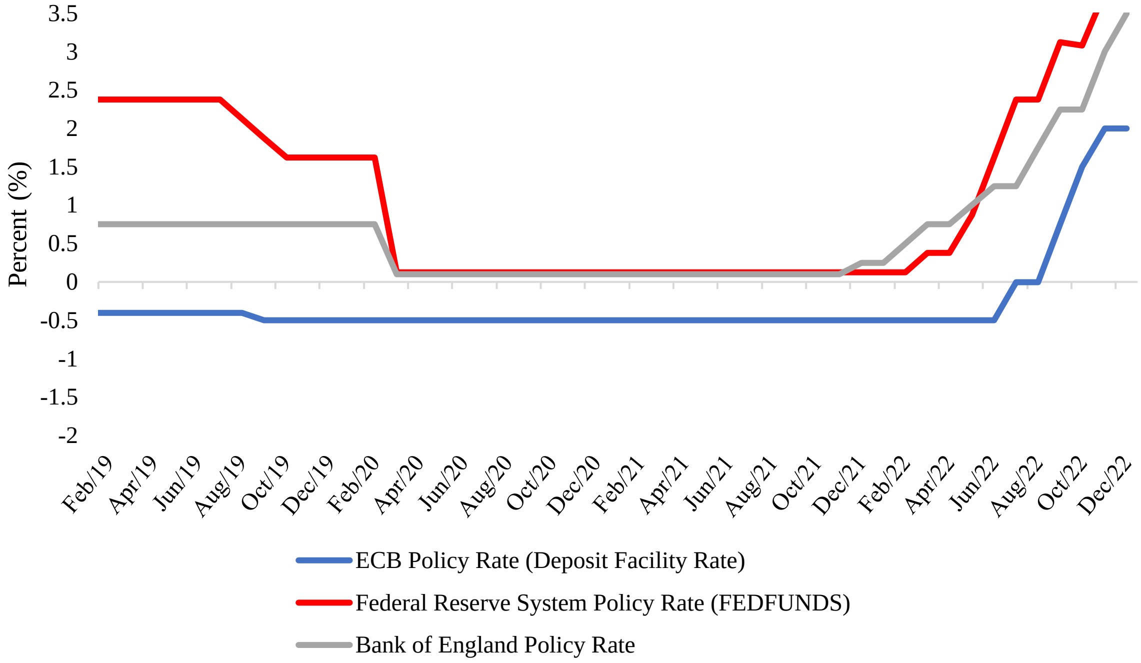
With inflation accelerating, pressure increased upon central banks to act. The European Central Bank (ECB) decided to tighten its monetary policy significantly by raising its Marginal Lending Facility Rate several times (Chart 3). As a complementary measure, the ECB stopped buying new debt from Euro Area countries in July with its Public Sector Purchase Program (PSPP). As a result, the strongest interest rate hike cycle since the ECB's founding was initiated, with the ECB increasing rates 2.5 percentage points in 2022. Globally, the situation was similar. Most central banks around the world had entered or accelerated their interest rate hike cycles, including the U.S. Federal Reserve, and the Bank of England. As of August 2022, 49 percent of Central Banks in developing and advanced economies had already begun the process of increasing interest rates. However, this process has been very diverse in terms of timing and severity, for example, in the United States, the Federal Reserve started tightening on March 2022 and the Bank of England commenced even earlier, in January 2022 (Chart 4). As it can be noted in Chart 3, the ECB started increasing interest rates until July 2022 when the marginal lending facility increased 50 basis points from 0.25% to 0.75%. These differences in the velocity and severity of changes in monetary policy of key central banks resulted in significant changes in exchange rates and a sharp appreciation of the dollar during the second semester of 2022.

Chart 3: Marginal Lending Facility ECB



Source: European Central Bank

Chart 4: Monetary Policy Timing: 3 Major Economies



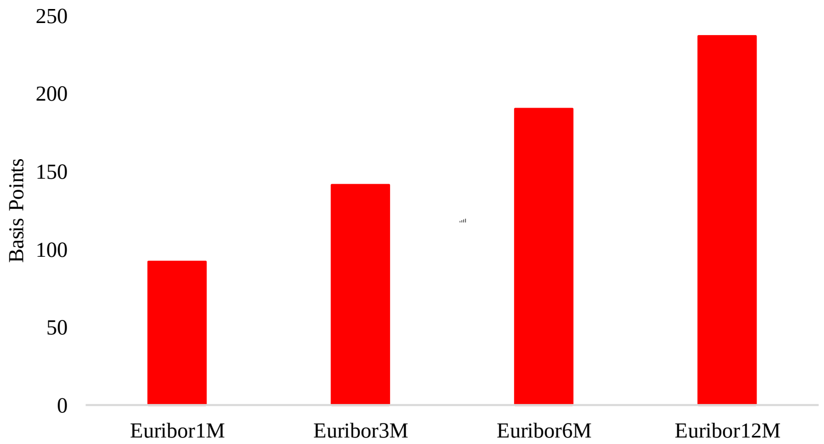
Source: Banco de Portugal[3]

[3] Note: Cutoff date is December 2022.

3.2. Private Sector Credit Implications

Due to higher interest rates in the Euro Area as a response to inflation, investment and consumption of the European private sector has been negatively affected. One of the proxies that we can observe to assess the cost of credit for the private sector is the Euribor interest rate. As it can be observed in Chart 5, the Euribor rate increased for each of the maturities. This implies that consumers and firms with credits that are pegged to a market interest rate will have to make higher interest payments. The fact that credit is more expensive and there is uncertainty regarding the future, can constrain investment and consumption decisions and this in turn, will have negative implications on economic growth, job creation, savings, and available income.

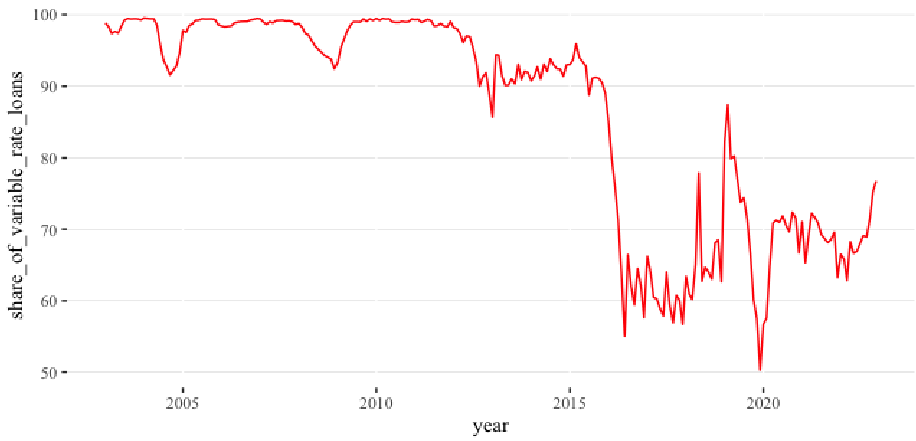
Chart 5: Changes in Euribor December 2021 with respect to December 2022



Source: Banco de Portugal

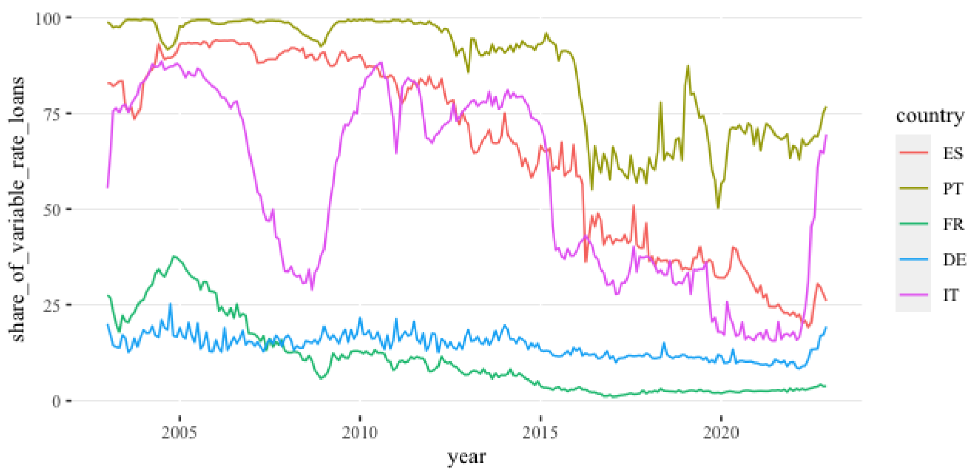
However, the vulnerability of the private sector to changes in interest rates is not easy to measure. For instance, a higher share of total mortgages under variable interest rates can increase its vulnerability since such contracts are more exposed to interest rate hikes, posing a higher risk of default of households. As it can be observed in Charts 6 and 7, Portugal is considerably vulnerable to this rise in interest rates because of the high percentage of consumers whose loans consist of a variable rate. This share of total loans was 66% in January 2022 and 76% in December 2022. This ten-percentage-point increase during the year is not minor and represents a higher risk for Portuguese households. As of 2022, Portugal is the country with the highest percentage of variable rate loans in the Euro Area, making the country particularly vulnerable to defaults as interest rates increase.

Chart 6: Percentage of Variable-Rate Mortgage Loans Portugal



Source: ECB[4]

Chart 7: Percentage of Variable-Rate Mortgage Loans Euro Area Countries



Source: ECB[5]

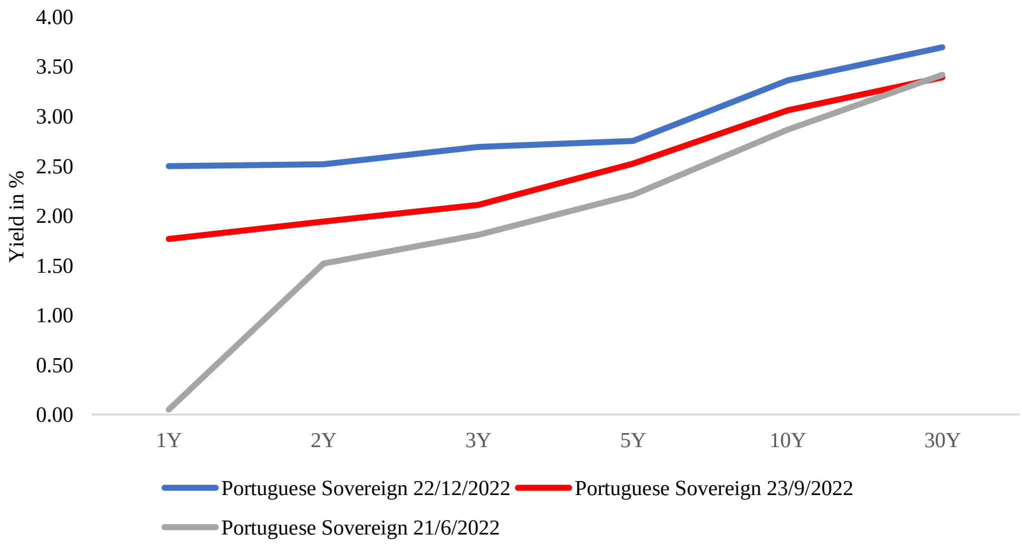
[4] Note: Data corresponds to share of the variable rate loans in total mortgages for Portugal.

[5] Note: Data for Spain, Portugal, France, Germany, and Italy. Share of variable rate loans in total loans for house purchase.

3.3. Fixed Income Market and Portuguese Sovereign Debt

The negative impacts that inflation has had over the Portuguese economy are not restricted to the private sector. Another key market that was severely affected was the Fixed-Income Market. For instance, yields on sovereign bonds increased across maturities for many nations, including Portugal. As can be observed in Chart 8, for one and two-year maturities the Portuguese Sovereign Bonds have recorded the strongest increases. Additionally, there has been a significant flattening of the yield curve on Portuguese government securities during 2022. Even though monetary policy is not the only variable that affects sovereign bond yields, it has arguably been one of the main drivers of the increase in yields of Portuguese Sovereigns during 2022. While macroeconomic developments have had a similar impact on government bonds in other countries, the interest rate spread of Portuguese Sovereign bonds compared with German bonds has risen above the 100-basis-point mark for the first time since spring 2020.

Chart 8: Yield Curve Portuguese Sovereign Bonds



Source: Bloomberg

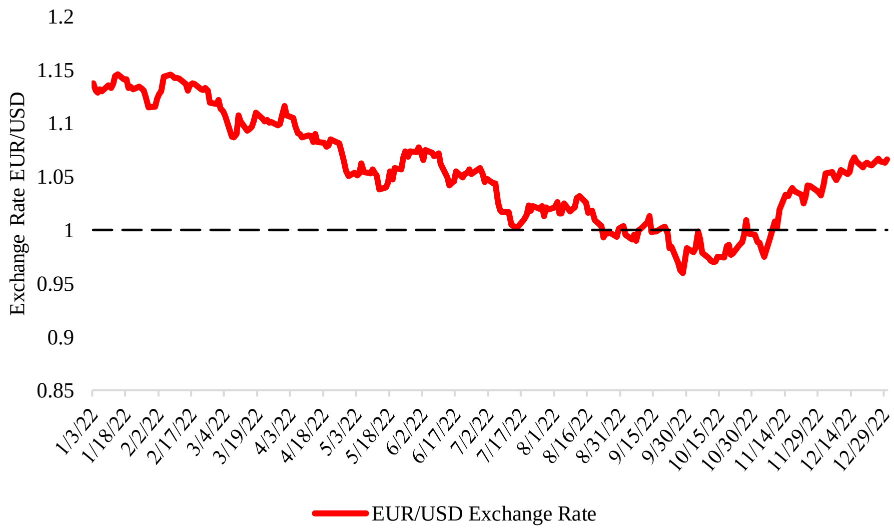
These increases on yields bring higher pressures over debt payments, constrain public investment, and make Portugal have less fiscal space for the near future. An increase in interest payments would mean a reversal of the downward trend that has been observed in interest payments on Portuguese sovereign debt since 2014. According to World Bank data, Portugal spent 4.7% of GDP in interest payments in 2014 while in 2020 it spent less than 3% of GDP. It is possible that in 2022 and 2023, this scenario of decreasing interest payments would change due to gloomy expectations for the near future, higher interest rates in financial markets and less fiscal space available for the country.

According to 2021 forecasts by the Bank of Portugal, interest payments on Portuguese debt were expected to decrease by 0.2 percentage points during 2022. However, this forecast assumed lower interest rates, and tightening had not yet started. Potentially, an updated forecast would predict an increase in interest payments as a percentage of GDP. Notably, it is important to mention that this must be taken with a grain of salt because due to inflation, steady growth, and the continued fiscal containment measures, it is not probable that the stock of debt will increase.

3.4. International Trade, Current Account and Foreign Exchange Rate

As mentioned in Section 3.1, the differences in the velocity and severity of changes in monetary policy of key central banks had important effects in terms of velocity and severity of changes which were reflected in the foreign currency market. As it can be noted in Chart 9, in 2022, the U.S. Dollar (USD) appreciated significantly, resulting in the EUR/USD exchange rate falling below parity for the first time since 2002 in September 2022. It can be argued that this appreciation might have happened because of investors' preference for USD denominated assets with respect to Euro denominated assets. This had special importance during the period in which the ECB had not started to increase interest rates and there was uncertainty regarding the strategy to combat inflationary pressures. The fact that the Federal Reserve commenced its severe tightening cycle before the ECB made investors seek U.S Dollar-denominated assets which in turn might have strengthened this currency even further.

Chart 9: EUR/USD Exchange Rate during 2022

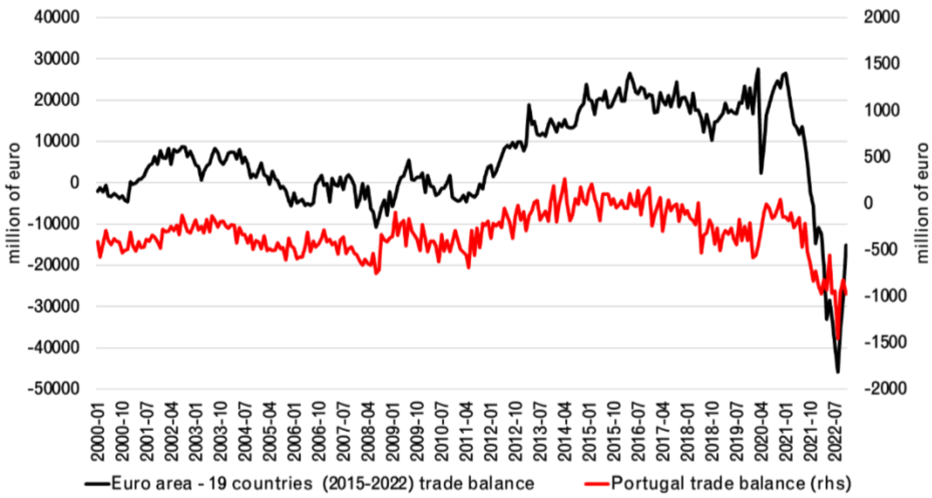


Source: Yahoo Finance

At the end of the year, when markets realized that the ECB was taking inflation seriously, there was a recovery of the EUR with respect to the USD. This might be explained by two facts: firstly, the ECB's response to inflation was robust enough to change the negative expectations there were starting to build up before it started increasing rates. Secondly, as many other economies around the world started to tighten their monetary policies and inflation started to normalize in the U.S., the USD started to weaken during late 2022. If there is a weakening of the USD, in relative terms, this would mean an appreciation of the EUR. However, there are other factors regarding trade that might also help explain the appreciation of the EUR at the end of 2022.

As mentioned above, commodity prices began to surge at the end of 2021 which meant trade deficits for a lot of European countries and thus put strain on the currency. The trade balance of the Euro area, which has been constantly positive since the European sovereign debt crisis, has turned negative since the second half of 2021 (Chart 10). The increase in import prices has negatively impacted the income for households (discussed in more detail in the next section), given the importance of the commodities having stronger price hikes.

Chart 10: Deterioration of Portuguese and Euro Area Trade Balances



Source: Eurostat

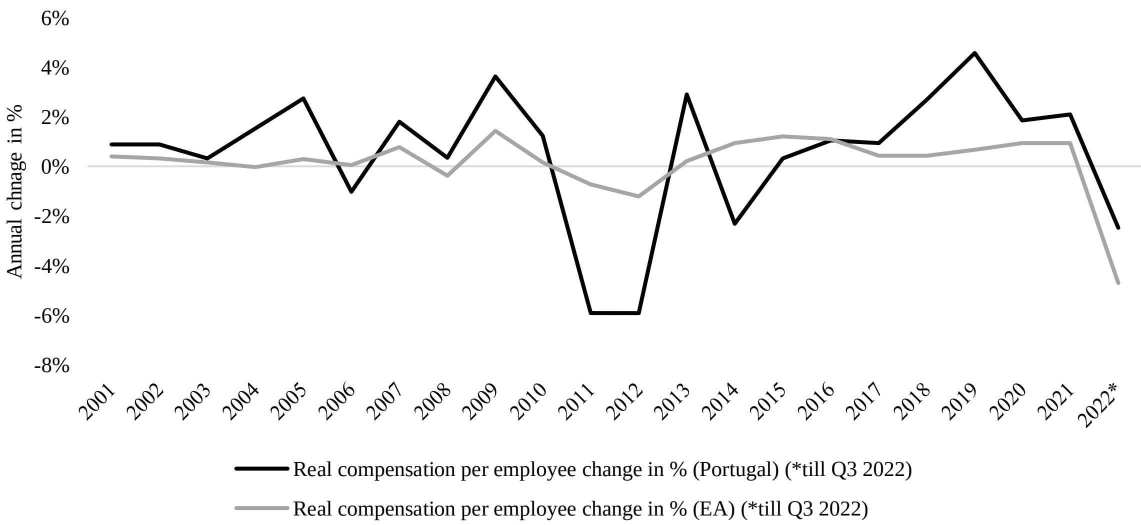
4. Real Wage Deterioration

The inflationary shock that hit the European continent has also put adverse pressure on households' disposable income. 2022's significant increases in nominal wage compensation were fully eaten up by inflation, causing real wages to decrease significantly, in historical comparison especially on the Euro Area level (Chart 11). Moreover, the monetary shift into a tightening cycle may intensify the decreases to the income available to families especially for the most indebted ones.

Despite wage compensation being the most important source of income for most households, negative spillover effects on domestic consumption have been comparatively limited. For Portugal, inflation relief policies such as one-off payments and reduction of taxes, as well as a relatively robust labor market with record high participation rates mitigated the effects of real wage depreciation on consumption. In addition, households were able to tug on savings from the COVID-19 pandemic period, which in turn stabilized consumption.

However, uncertainty among consumers remains high. For both the euro area and Portugal, consumer confidence declined rapidly over the course of 2022, ending its post-pandemic recovery[6]. For the eurozone, all-time lows were marked; for Portugal, it can still be noted that consumer sentiment was weaker at the time of the sovereign debt crisis. Nonetheless, the swings in this early indicator of consumer sentiment are substantial. Besides the development of disposable income, factors such as general expectations of economic growth and geopolitical uncertainty might explain the observed worsening.

Chart 11: Real Wage deterioration in 2022 for Portugal and Euro Area



Source: Eurostat, ECB, INE, and Bank of Portugal

[6] OECD, Consumer confidence index (CCI) (2023)

5. Economic Outlook and Persistence of the Shock

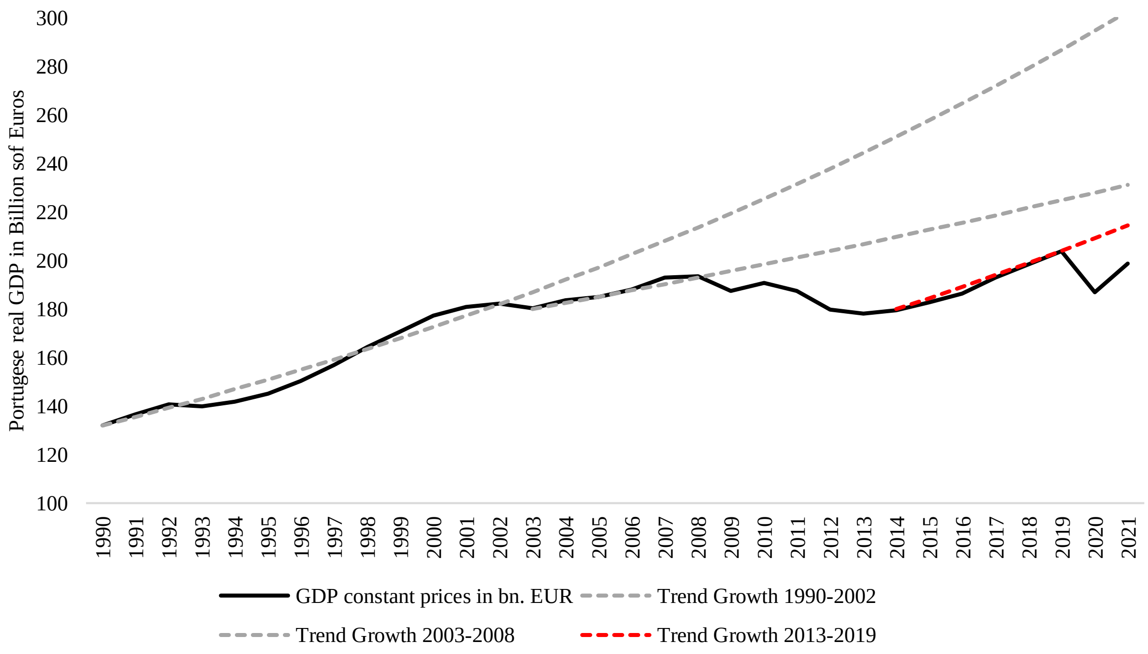
Given the pressure on disposable incomes and the rapid rise in interest rates, the economic environment remains difficult. Rising interest costs are likely to weigh on lending and ultimately on consumer spending and investment by firms. Expiring government support programs for households and dwindling savings could depress domestic consumption. As a similar picture is emerging for the euro zone countries and thus important economic partners of Portugal, positive stimulus from foreign trade with the euro economies is rather unlikely. China's possible economic recovery after the end of the lockdown measures could lead to a revival of the export-dependent European economy, which could, however, come with renewed inflationary pressure from increased global demand.

In the medium to long term, the effects of 2022's energy shock are uncertain. With structurally elevated energy costs for European based production, competitiveness of European export-orientated economies might weaken, with possible negative spillover effects to Portugal. Moreover, the persistence of the shock will depend crucially on whether the labor market remains robust and real wage losses are permanently realized and pass through to consumption. On the other hand, potential structural changes stemming from the COVID-19 pandemic could provide growth possibilities. For example, a reshoring of production capacities to Europe as a reaction to the experienced issues with global supply chains.

The long-term consequences of the current crisis are uncertain at this point. One simple indicator for the persistence of the effects of the energy shock could be the observation of hysteresis effects. So called hysteresis effects describe when, for example, a one-off recession reduces the average year-on-year growth realized in the long term in terms of GDP. To give a numerical example, Portuguese real GDP grew by roughly 2.5-3% per year between 1990 and 2002. Following a recession in real GDP in 2002 to 2003, the growth reduced to only about 1.5% from 2003 to 2008. Although GDP cannot be seen as an exhaustive indicator, clear positive correlations can be drawn from the prosperity of a society and the number of jobs. If trend growth suddenly changes to a lower level after a recession, it can be assumed that a crisis is having a structural after-effect. For example, the collapse in investment during a crisis can lead to lower productivity growth and lower employment in the long term. Even small changes in trend growth can lead to large differences in economic development in the long run, with direct implications for the government budget, as both tax revenues and government spending are directly related to employment, unemployment, and consumption.

In the historical context of the dot-com bubble burst and the financial crisis, a pattern can be seen for Portugal. In both examples, trend growth before the respective crisis was significantly more pronounced than after the crisis (Chart 12). In contrast to previous crises, the GDP trend after COVID-19 showed a significant upswing, suggesting a possible return to the growth trend before COVID-19. However, this interim development has been called into question by the energy price shock and growth forecasts by leading institutions have already been downgraded for 2023 from their early 2022 predictions. Looking at possible hysteresis effects after the 2022 energy price shock can therefore shed light on how well the Portuguese economy has managed to withstand the crisis long-term.

Chart 12: Great Financial Crisis had persistent negative effects on Portuguese GDP growth



Source: PorData

6. Conclusion

In conclusion, the current inflation in the Portuguese economy has been driven by several factors, including the Covid-19 pandemic, global supply chain disruptions, and expansionary fiscal and monetary policies. While inflation can have some positive effects, such as promoting economic growth and stimulating investment, its negative effects on the Portuguese economy cannot be ignored. High inflation can lead to a decline in real wages, a decrease in purchasing power, and a decrease in economic competitiveness. It is crucial for the Portuguese government and European Institutions to take appropriate measures to control inflation and address the underlying factors contributing to its rise. This may involve implementing targeted fiscal and monetary policies, improving supply chain resilience, and promoting investment in key sectors of the economy.

7. References[7]

Banco de Portugal (2022) *Boletim Económico de Outubro 2022* . Lisbon: Banco de Portugal.

Banco de Portugal (2023) *Compensation of employees-Quarterly-Current prices-MEUR*. Lisbon: Banco de Portugal. Available at: https://bpstat.bportugal.pt/dados/series?mode=graphic&svid=3wO_AAAAAAA.!I!A!C!10!!!False!!!!!!!%3A1pPSc5%3AgmacXu2CyvQRJKeCOiyfi3NpYyM&series=12518367&redirectTo=%2Fdados%2Fselecao

Governo da República Portuguesa (2022): *OE2022 - Orçamento do Estado 2022* (2022) *OE 2022*. Available at: https://oe2022.gov.pt/.

European Central Bank (ECB) (2023): *Compensation per employee – Euro area 19 (fixed composition). Available at:*
https://sdw.ecb.europa.eu/browseTable.do?org.apache.struts.taglib.html.TOKEN=8e2be80df5668a6b153d77d3b7433c2c&node=SEARCHRESULTS&start=&end=&submitOptions.x=0&submitOptions.y=0&trans=PC&q=MNA.Q.Y.I8.W2.S1.S1._Z.COM_PS._Z._T._Z.IX.V.N&type=

European Central Bank (ECB) (April, 2022): *Energy price developments in and out of the COVID-19 pandemic – from commodity prices to consumer prices. Available at: https://www.ecb.europa.eu/pub/economicbulletin/articles/2022/html/ecb.ebart202204_01~7b32d31b29.en.html*

Eurostat (2023): *HICP - annual data (average index and rate of change)*. Available at:
https://ec.europa.eu/eurostat/databrowser/view/PRC_HICP_AIND__custom_4883814/default/table?lang=en

Instituto Nacional de Estatistica (2023): *Employed population aged between 16 and 74 years old (No.) by Age group; Monthly*. Available at:
https://www.ine.pt/xportal/xmain?xpid=INE&xpgid=ine_indicadores&contecto=pi&indOcorrCod=0007970&selTab=tab0

[7] According to Harvard method.

Instituto Nacional de Estatistica (2023): *Consumer price index (CPI, Base - 2012) by Geographic localization and Special aggregates; Annual*. Available at: https://www.ine.pt/xportal/xmain?xpid=INE&xpgid=ine_indicadores&contecto=pi&indOcorrCod=0003863&selTab=tab0

Ministerio das Finanças de Portugal (2022): *Keeping the Strong Momentum. Lisbon: Agencia da Gestão da Tesouraria e da Dívida Pública.* Available at: https://www.igcp.pt/fotos/editor2/2022/Apresentacao_Investidor/Investors_Presentation_20220607.pdf

International Monetary Fund (IMF) (June, 2022). *Article IV IMF for Portugal, June 2022*.

Ostry, J. D. & International Monetary Fund. (2023, January 24). *The 2021 surge in global shipping costs was a canary in the coal mine for the persistent rise in inflation*. IMF. https://www.imf.org/en/Publications/fandd/issues/2023/03/the-costs-of-misreading-inflation-jonathan-ostry