

The Euro as a Store of Value

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Abstract. Money has accompanied humankind throughout the long history of development and has continued to this day. This development took place along the lines of maintaining two basic functions - money as a medium of exchange and money as a store of value. The second mentioned function is in our focus because as a financial asset, money has a significant place in the structure of personal financial assets (PFA) of households. Historical experience proves that the preservation of value of money was often a challenge. Goal of this paper is to look at whether money nowadays fulfill the function of preserving values. We state hypothesis that ECB is successful in protecting the value of Euro. We gradually compare the Euro with other assets, either from the foreign exchange or the commodity market. We also observe how the value of the purchasing power of the Euro is effected by the HICP inflation index. Our results indicate that the Euro manages to keep its value in the monitored period only against the US dollar. All other observations ended with the decrease of value of the Euro. The result of the investigation is the finding that the topic of decrease of the value of Euro is relevant in the Eurozone today as well.

Keywords: Money, Value of money, Euro.

JEL classification: E21, E41, E58

1 Introduction

Savings in the form of deposit products are a popular way of creating a wealth. When managing personal finances, they are a tool to accomplish various goals. Households use them as a financial reserve in case of loss of income. From the perspective of managing the personal finances this is the main goal how to use money. When you create an investment portfolio you need to have knowledge and experiences. Moreover you need to be able to bear a market risks. There is number of instruments suitable for this purpose, like mutual funds, ETF, certificates, pension funds, single equities or bonds. However entities that are more conservative tend to use money in the form of deposit products as part of a portfolio to fulfill long-term goals. If we compare popularity of deposit products, we do not find a financial instrument that is used as much as this product group. It is therefore essential that the central banks, institutions which are responsible for managing a monetary stability, develop and implement a policies that money retain its value.

Our analysis focuses at whether money fulfill the function of storing values in present times. We state hypothesis that ECB is successful in protecting the value of Euro. The importance of this paper is that it is not common for households to monitor the share of deposit products within the framework of personal finance management. These are often low-interest or even non-interest bearing products. The question of preserving the value of Euro itself is therefore an important topic.

Our motivation comes from historical experience that holding financial assets in the form of money carries with it the risk of decreasing the value. With the existence of money, we can deduce its functions. In the paper, we focus on money as a store of value. However the past brings us many examples of money having difficulty to retain its value. The minting of metallic coins was often abused by reducing the proportion of precious metals in the coins without their formal value being reduced accordingly. A significant decrease in the value of money occurred in Europe in the 16th century, when it was caused by the import of a huge amount of precious metals from the colonies in America, especially by the Spanish. In the 17th century, paper money in the true sense of the word began to be systematically printed in Europe what opened the door for manipulations with the growth of money supply.

Our results have implications for practice. They underline the risk of decreasing the value of savings in present times in case the households depend too much on deposit products.

This paper is organized as follows. Section 2 approaches the views of key schools of economic thought in the analysis of the money supply and in the analysis of demand for money which are connected to the value of money. Section 3 describes the methodology of observations. Section 4 describes the results. Section 5 concludes.

2 Relationship to the literature

Theories define the features of the demand for money and are largely empirical in nature. When we look back at the previous hundred years, we see two schools of economic thought that significantly influenced the development of theory in economics in general, but also in the field of monetary theory. These two theoretical approaches are known as neoclassical and Keynesian.

The most prominent representatives of the neoclassical school come from the monetarists (Chicago school of economics), represented by the winner of the Alfred Nobel Prize for Economic Sciences, Milton Friedman. In the article "The optimum quantity of money" (1969), Friedman comes up with the idea of a stable growth of the money supply at the level of 5%. This article is based on a hypothetically simplified world. It describes the reasons for the demand for money as a means of payment, as a tool for creating a financial reserve. It explores a scenarios like dropping additional money supply from a helicopter, observing what will happen when the population saves the money, when they spend it, when the state imposes taxes, when lending starts. The literature looks for a "trade off" between inflation and the level of employment or economic growth. Friedman defines expected inflation, claiming that expected inflation does not cause changes in relationships in society (transfer of property from creditors to debtors), as he claims that creditors include expected inflation in the price. "Policy fairly close to optimum" should, with economic growth of 3-4% per year, lead to a growth of the money supply of 5% (he perceived this as a short-term goal of monetary policy). Such an approach would stabilize the prices of goods (while the prices of services continue to rise. Subsequently, in the article "The quantitative theory of money, a Restatement" (1956), Friedman admits that, after further analyzes in the framework of the University of Chicago, he considers the 5% rule to be a short-term monetary goal. From a medium and long-term point of view, he leans towards the 2% rule. These approaches define the route how to keep the value of money. In the case of supplying the money supply at the level of 2%, the prices of services would stabilize when the prices of goods fall. Even though Friedman came up with the 5% rule and then after further analyzes with the 2% rule, he adds in one breath that the most important thing is to deliver the growth of the money supply at a stable pace anyway.

Friedman registers that Keynes moved the quantitative theory of money from the analysis from the point of view of monetary theory (from the point of view of the money supply), to the analysis from the point of view of the theory of savings - the analysis of household assets and liabilities (money as part of the portfolio analysis). However, Friedman enriches it with other types of assets as alternatives to holding money. He thus drives attention to the fact what happens when the value of money is not stable. How difficult it will be to adjust "household balance sheets" to an excessive increase in the money supply. How household consumption behavior will change, what will be the effect on absolute and relative prices. What subsequent waves and time lags will this creates in finding a new macroeconomic equilibrium. He thus supports his perception that central banks should move from monitoring credit conditions to monitoring monetary conditions at the level of quantitative criteria of money supply growth in the

performance of their policies. The "Great Depression" of 1929-1933, when the FED reduced the money supply by a third, would not have happened.

With the crash of the stock exchange in New York in 1929, a crisis began in the USA, which gradually spread to Europe. It is not surprising that at that time the self-healing ability of the market took a back seat. General skepticism declared that what is the use of a theory that says that there will be full employment again when the timeframe for achieving it is not politically and socially sustainable. Keynesianism comes to the fore.

John Keynes, who created a theory to justify the need for state intervention in the market economy, represents this stream. If we called the previous stream monetarism, then this stream of thought should be fiscalism. Keynes denies the general validity of Say's theorem, according to which supply creates demand, and argues that rather effective demand determines the level of output. According to this theory, the role of the state is to ensure the growth of effective demand with the help of the state budget and influencing the amount of money in circulation. In this way, he wants to influence the overall level of employment, production and gross domestic product.

Keynes develops a view of analyzing the money supply. In his book "The General Theory of Employment, Interest and Money" (1936), hereinafter General Theory, Monetary policy in the Keynesian model promotes the growth of the money supply, which stimulates demand. As a result, the price level rises, which must at some point be curbed by increasing interest rates. The demand curve returns to its original position, thus creating a new equilibrium, which differs from the previous one by an increase in the money supply and an increased price level. Unfortunately, this process devalues the currency. By increasing the money supply, Keynes is able to stimulate demand at the level of examining the money supply.

What seemed wishful thinking to Keynes has become a reality today in the tools used by the central bank. He wished there was a way to "focus" on making money when necessary. He saw the only limits to increased "money production" in the uncertainty that might come with such an increased volume of money. He expressed concern about inflation and the devaluation of money in the future.

In current period, this approach of money production represents Modern Monetary Theory (MMT). They support the growth of the money supply to support the economic growth of the country (even with the consequence of deficit management of the state), as long as inflationary pressure does not arise. This should be a signal of overheating of the economy. Stephanie Kelton (2020), as a voice of MMT, considers deficit management of the state to be standard, as the state can print money unlike households. For this theory, the manifestation of excessive spending is inflation. Therefore, as long as deficit management does not create inflation, such an approach to the management of public finances is in order for this economic current, and no correction is expected from the central banks (monetary policy therefore plays the role of a supporter of the state's deficit management).

3 Design of observations

We look at the extent to which the ECB manages to protect the value of the currency, so we focus on the Euro. We observe how the value of Euro develops against the selected assets. For simplification reason, tracked assets do not generate interest. It is a situation comparable to depositing funds in a current account, without incurring market or liquidity risks. We do not take into account transaction costs. We choose assets that, either nowadays or in the past, were perceived as a safe haven for saving the population's savings. The observations indicate the amount of asset what is possible to acquire for the amount of EUR 10,000. We monitor the development of the value in the periods indicated in the results for each observation. Generally, this is the period between the years 2003 - 2022. We compare the final value with the initial value (in this case, it is the average value of the first and last monitored month). In addition, we compare the maximum, minimum and average value with the initial value (the average value of the first month). This becomes the set of trend indicators. We enrich all charts with development of year on year change which helps understand development of trend indicators. We make 4 observations. We begin by comparing Euro (EUR) against the US dollar (USD), the main global reserve currency. As an alternative comparison from foreign exchange market, we use a comparison with the Swiss franc (CHF), which is perceived as a "safe haven currency". We use daily data in these observations. Next, we look at the development of Euro against asset that have been seen as a safe haven for centuries, namely gold. In this case, we use monthly data. Finally, we look at the development of the value of Euro from the point of view of the development of its purchasing power effected by the HICP inflation index. In this case, we also use monthly data. We use reliable publicly available sources as a database for constructing the analytical part. For elaboration, we use the graphic method of data processing enriched with analytical and descriptive processing of results.

4 Results

We start the research by observing the development of the value of EUR against other currencies. In the first observation, we chose the main reserve currency USD.

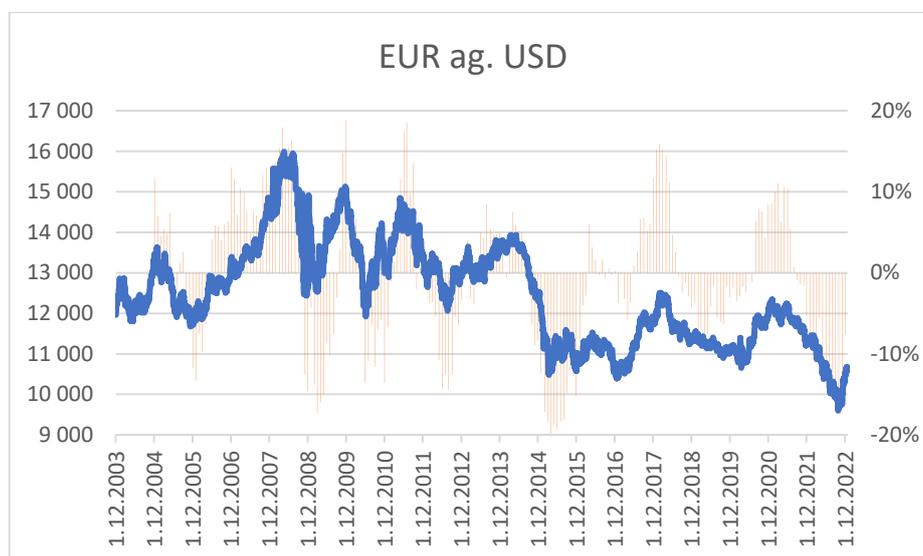


Fig. 1. Development of 10 000 EUR against USD during period 2003 – 2022 (lhs: blue line) and y/y change (rhs: red columns), data source: finance.yahoo.com

Figure 1 shows the development of the amount of USD that the subject can exchange for EUR 10,000. The monitored period is December 1, 2003 to December 31, 2022. In this case we use daily data. We see that these two key reserve currencies are more or less holding the same value. Over the past 20 years, the EUR has lost approximately 15% in the value against the USD. However, there are periods, as in the years 2007-2010, when the EUR strengthened against the USD, while the appreciation exceeded 29% from the initial value. If we compare the average value for the entire monitored period with the initial value, the EUR recorded a slight appreciation of 1.2%. This shows that two major central banks develop their monetary policies in similar way.

Table 1. Descriptive statistics for development of 10 000 EUR against USD

initial value in USD	closing value in USD	max value in USD	min value in USD	average value in USD
12 314	10 572	15 988	9 596	12 462
	-14,1%	29,8%	-22,1%	1,2%

In the second observation, we make an alternative observation from foreign exchange markets by following the development of the EUR against another currency, in this case the CHF.

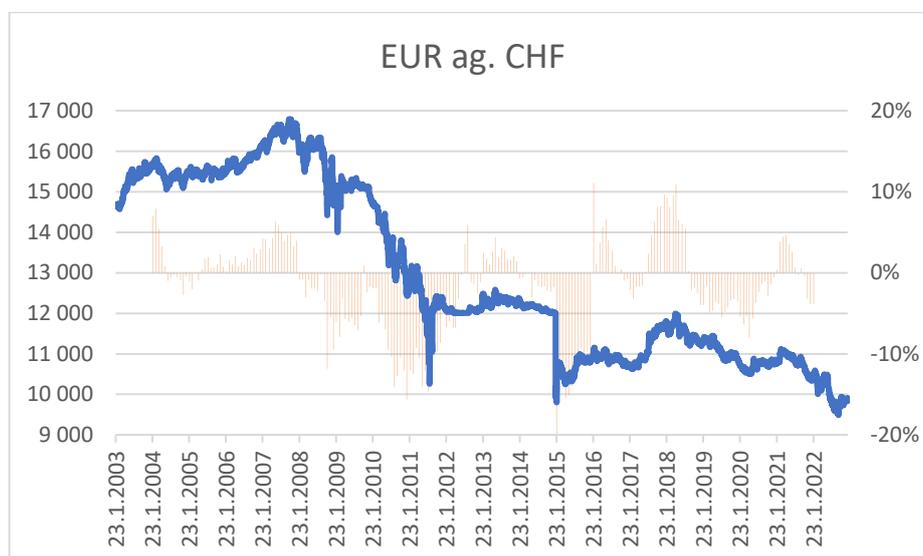


Fig. 2. Development of 10 000 EUR against CHF during period 2003 – 2022 (lhs: blue line) and y/y change (rhs: red columns), data source: finance.yahoo.com

On figure 2, we can see how the value of the EUR continuously falls against the CHF. The monitored period is January 23, 2003 to December 29, 2022. In this study, we use daily data. Over a period of 20 years, the EUR has lost more than 30% of its value. Although the first years in the monitored period develops in favor of the EUR, when it appreciates more than 10%, the trend of EUR depreciation is obvious. On average, the EUR depreciates against the CHF by more than 11%.

Table 2. Descriptive statistics for development of 10 000 EUR against CHF

initial value in CHF	closing value in CHF	max value in CHF	min value in CHF	average value in CHF
14 666	9 868	16 795	9 490	12 937
	-32,7%	14,5%	-35,3%	-11,8%

Subsequently, we see how the value of the EUR develops against precious metals. In the third observation, we look at the development of the EUR against gold.

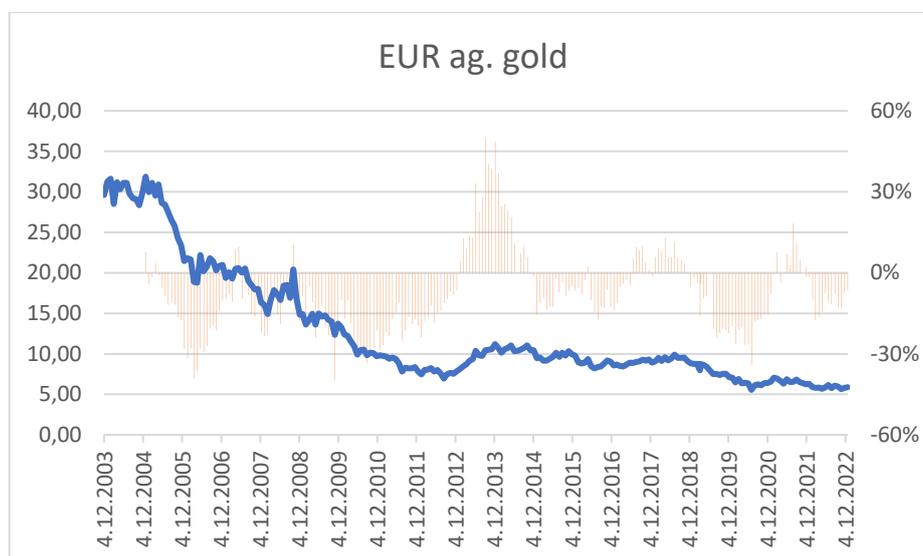


Fig. 3. Development of 10 000 EUR against gold (in troy ounce) during period 2003 – 2022 (lhs: blue line) and y/y change (rhs: red columns), data source: bulionvault.com

Figure 3 shows the development of the amount of troy ounces of gold that a subject can exchange from EUR 10,000 over the last 20 years. The monitored period is December 4, 2003 to December 24, 2022. In this study, we use monthly data. We see that the EUR is continuously depreciating against gold. Over the past 20 years, the EUR has lost 80% of its value against gold. At the beginning of the observed period, we can register that the EUR strengthens against gold, but the devaluation trend is obvious. If we compare the average value for the entire monitored period to initial value, the EUR experiences a depreciation of 57%.

Table 3. Descriptive statistics for development of 10 000 EUR against gold

initial value in t oz	closing value in t oz	max value in t oz	min value in t oz	average value in t oz
29,59	5,87	31,87	5,55	12,73
	-80,2%	7,7%	-81,2%	-57,0%

We make the last fourth observation from the perspective of examining how index HICP for inflation affects the purchasing power of the EUR.

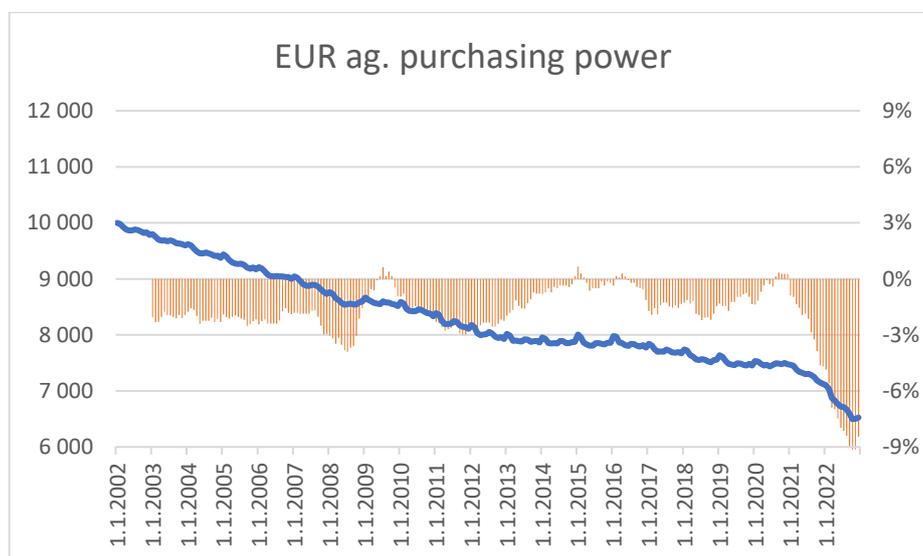


Fig. 4. Development of purchasing power of 10 000 EUR measured by HICP index during period 2002 – 2022 (lhs: blue line) and y/y change (rhs: red columns), data source: Eurostat

Figure 4 shows the development of the value of EUR 10,000 effected by HICP inflation index for the Eurozone. The observed period is January 1, 2002 to December 31, 2022. The ECB declares its inflation target at 2%, so it is not surprise that following this policy, the value of the initial €10,000 decreases by 35% over the observed period. From this point of view, the highest value of money are in the initial phase. We see that the EUR has been continuously decreasing the value since the creation of the common currency. In this way, every entity that keeps its savings in cash or on an non-interest bearing accounts ends up with decreased value of its money according to the chart. In years 2009, 2015 and 2020 we can observe a very small increase of value of Euro. These were periods of deflation during economic downturns. ECB used very quickly its monetary tools to return to its inflation target, thus these periods were a temporary.

Table 4. Results of development of purchasing power of 10 000 EUR measured by HICP index

initial value	closing value	max value	min value	average value
10 000	6 524	10 000	6 497	8 285
	-34,8%	0,0%	-35,0%	-17,2%

5 Concluding remarks

In the observations we try to find out whether money, in our case the Euro, fulfills the function of storing value. We enter this paper with the hypothesis that the central bank is successful in protecting the value of the Euro. We gradually compared the Euro with other assets, either from the foreign exchange or the commodity market. The first two studies focus on comparisons with the US dollar and the Swiss franc. Subsequently, we chose precious metals – gold. In the last survey, we observe how the value of the purchasing power of the Euro is effected by the HICP inflation index.

Our results indicate that the Euro manages to keep its value in the monitored period only against the US dollar (coming from average values). All other observations ended with the decrease of value of the Euro. The highest decrease of value comes from comparison against the gold. On the ECB's website, under the objectives of monetary policy, it is mentioned: “Our main objective at the ECB is price stability. We serve the people living in the Eurozone to protect the value of the Euro.” It looks that ECB is more successful in price stability than in protecting the value of Euro. Just as the decrease of value of the currency was a topic in the past, we see that it is the same topic today. However, it is necessary to carry out further analyzes in order to conclude that the ECB is failing to protect the value of the Euro.

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