
Adopting the Euro will Cause an Increase in Prices: A Study on Inflationary Processes in Euro Area Member States

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Abstract:

Purpose: The main purpose of the article is to identify factors that may affect the course of inflation processes in Poland after the adoption of the single European currency.

Design/Methodology/Approach: The mechanism triggering an inflationary spiral in the first years after the adoption of the euro was especially visible in Spain, which became the subject of comparative analysis. Based on literature, it was determined that the price increase in Spain resulted from an asymmetric demand shock. Its sources should be sought in Spain's adoption of a lower interest rate and in the structural features of the country's economy. Similarly, Poland's submission to the single monetary policy regime imposed by the European Central Bank may affect the course of inflationary processes. This study made use of the document analysis, comparative analysis, and statistical analysis methods.

Findings: Factors that may affect inflation processes in Poland after the adoption of the single currency will be the adoption of a lower interest rate, and expansionary fiscal policy. Lending policy and inflation expectations will be less likely to stimulate price increases. These factors may contribute to the occurrence of asymmetric shock, i.e. surplus of global demand over supply. Reduction of the inflation risk will require a tightening of lending and fiscal policy. Otherwise, the Polish economy will be exposed to the occurrence of crises.

Practical Implications: Reflections on the importance of the single European currency in the course of inflation processes can be a valuable source of information for decision makers in preventing crisis phenomena. The more so because six Central and Eastern European countries have committed themselves in the Accession Treaties to the introduction of the euro and will face similar dilemmas.

Originality/Value: The authors of this article draw attention to the importance of domestic factors in correcting inflation processes in the event of the loss of independence of national monetary policy.

Keywords: Inflation, Spain, EMU, European currency, asymmetric shocks, monetary policy.

JEL classification: E31, E43, E52, F33, H62.

Paper Type: Research study.

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1. Introduction

In the 2003 Accession Treaty, Poland committed itself to adopt the single European currency (Domagała, 2011; Cakici *et al.*, 2020). The only question that remained open was that of the deadline for the country's monetary integration. This is to become possible after the so-called nominal convergence criteria have been fulfilled. However, Poland already does fulfill – or has fulfilled in the past – most of them, and thus it appears that it is the lack of political will that is the greatest obstacle on the path to adopting the euro. Also, public opinion polls confirm the Polish society's reluctance to switch to it (Dallago, 2016; Piasecki *et al.*, 2019). The key argument in favor of rejecting the idea of the monetary union revolves around the fear of an increase in prices and, consequently, a reduced standard of living (Thalassinos *et al.*, 2012). A similar situation happened immediately prior to Poland's accession to the European Union (the EU) in 2003-2004. The unwarranted inflation expectations became a self-fulfilling prophecy, contributing to an actual growth in price levels. The fear of inflation is being inflated by politicians talking of a radical growth in prices that occurred in the euro area countries after they introduced the single currency. Many scientific reports do not confirm an increased level of inflation in the Economic and Monetary Union (EMU) at the aggregated level (Lopez *et al.*, 2012; Meller *et al.*, 2012; Dallago, 2016; Drakos *et al.*, 2020). However, despite the initial convergence, price differences began to grow between the member states with time (Rogers, 2007; Fritsche *et al.*, 2011).

Taking into account the experience gained thus far in the course of inflation processes in the Eurozone, the main purpose of this article is to identify the factors that may affect the course of inflation processes in Poland after the adoption of the common European currency. Referring to the purpose of the article, the authors try to answer the following research questions:

1. Will Poland's adoption of the interest rate set by the ECB affect price growth?
2. What will be the possibilities of correcting inflation processes with the use of the national lending and fiscal policy?
3. Will the domestic labor market be able to restore the competitiveness of the economy during the recession?

Obtaining answers to the above questions first required discussing the course of inflation processes in the Eurozone countries. Due to the numerous similarities to Poland, the focus was put on Spain. These two countries occupy a comparable area and their populations are of a similar size. At the beginning of its membership in the EMU, Spain's economic potential and household debt were parallel to those found in Poland. Both the countries demonstrated price growth rates higher than the European average. Lastly, similarly to Spain, an intensive real-estate market growth is being observed in Poland, which was the origin of the crisis that Spain suffered.

Price convergence in countries with different levels of economic development is a

normal phenomenon, resulting, among others, from the Balassa-Samuelson effect. However, in some countries, the single currency can stimulate the economy, leading to above-average price increases. Therefore, in this article attention was paid to the importance of asymmetric shocks during inflation processes. Asymmetric shocks are disruptions of economic processes between monetary union countries, contributing to the lack of adequacy of the common monetary policy. In the case of Spain, the asymmetric shock that contributed to the price increase (Andrés *et al.*, 2010; Krugman, 2010; Nam, 2014; Álvarez *et al.*, 2019) was an excessive increase in demand with simultaneous restrictions on the supply side. The growing macroeconomic imbalance was particularly evident on the housing market. The sources of asymmetric shock should be seen in the adoption of a lower interest rate, excessive credit expansion, high inflation expectations, and errors made in fiscal policy. With time, the growing prices reduced the economy's competitiveness (Laborda, 2010), whereas the real estate bubble burst brought the country into a crisis. Moreover, the over-regulated labor market delayed any adaptation processes (Conde-Ruiz *et al.*, 2011; Sáez, 2011; Poggi, 2019).

Demand shock analyzed in the article is not the only one to which the countries of the Economic and Monetary Union are exposed, but in the case of Spain it was the main factor contributing to the increase in inflation (García-Cintado *et al.*, 2016). At the same time, properly conducted economic policy aimed at controlling the banking sector and implementing counter-cyclical fiscal policy may limit the price growth dynamics. In turn, making the labor market more flexible can accelerate the restoration of international competitiveness.

This paper uses the comparative analysis method to assess the risk of an increase in prices after Poland adopts the single currency. To this effect, analogous factors that contributed to the emergence of asymmetric shocks and the resulting growth of inflation in Spain will be analyzed.

Reflections on the role of the single European currency in shaping inflationary processes have been the subject-matter of many reports (Byrne *et al.*, 2010; Meller *et al.*, 2012; Gomez-Gonzalez *et al.*, 2018). The Polish-language literature, as well, has discussed the consequences of monetary integration (NBP, 2009; BAS, 2013; Pietrucha, 2015; NIK, 2019). However, no wider analyses have been published comparing how inflationary processes develop in the euro area member states on the one hand and the countries that aspire to adopt the single currency on the other. Therefore, it appears that by creating a scenario for the development of the situation in Poland following the adoption of the euro this paper will bridge the gap in knowledge.

The article consists of five interrelated parts. The first part discusses the course of inflation processes in the euro area countries. Particular attention was paid to countries with above-average price increases. The second part presents the factors that determined inflation processes in Spain. Next, the authors refer to the situation in

Poland, analyzing factors that may shape prices after the adoption of the single currency. In the “discussion” part, attempts were made to answer the question about the risk of price increases in Poland after the adoption of the euro. Recommendations have been presented to counteract excessive inflationary impulses. The article ends with a summary, in which the most important conclusions from the analysis are presented in a synthetic way.

2. Methodological Assumptions

Being able to describe the effect of the euro on the development of inflationary processes called for an analysis of the statistical data for 1990-2019. The temporal scope was divided into four sub-periods, according to the degree of advancement of the monetary integration process and the eurozone countries’ economic situation.

1. The first sub-period from 1990 to 1993 overlapped the first stage of the Economic and Monetary Union. The economic policy of the then EU member states was not yet determined by the need to fulfill the convergence criteria provided for in the Maastricht Treaty, although the very awareness of the upcoming monetary integration might have had an impact on how the inflationary processes were developing.
2. The second sub-period encompassing the years from 1994 to 1998 overlapped the second stage of the EMU. It was characterized by intensive preparations for monetary integration, which for many countries meant they had to pursue an economic policy aiming at limiting price increases.
3. The third sub-period encompassing the years from 1999 to 2008 overlapped the commencement of the third stage of the EMU, which entailed the adoption of the single currency. Having qualified for the third stage and received a guarantee of adopting the single currency diminished the countries’ motivation to implement a strict observation of the price criterion. The subsequent years coincided in time with an improved economic situation.
4. The last sub-period encompassing the years from 2009 to 2019 initially was characterized by the euro area countries’ struggling with the economic crisis accompanied by dropping prices, and then a gradual improvement in the economic situation.

Thus, the temporal scope of 1990-2019 was selected since it comprised a certain sequence of events, i.e. a preparatory period, an improved economic situation resulting from adopting the single currency and an economic downturn, which may appear to accompany Poland’s monetary integration, as well.

The article presents the risk of asymmetric shocks in Poland with the assumption of unchanged economic conditions, i.e. stable inflation, and economic situation. With any other assumptions, results of a similar analysis might vary. When analyzing the phenomenon of asymmetric shocks, Mundell’s theory of optimum currency areas was invoked (1961) on the foundation of which the structure of the eurozone was built.

According to that theory, a long-term success of monetary integration – where the states have been deprived of adjustment factors such as the exchange rate and the nominal interest rate – depends on the susceptibility of national economies to asymmetrical shocks. The latter, in turn, can be determined by, *inter alia*, inflation expectations and credit and fiscal policies (Frankel, 2005; Wawrzyniec, 2012; Chari *et al.*, 2019). Asymmetric shocks encompass various socio-economic phenomena, which contribute to a considerable disruption of the economic activity if changed. They occur within the limited space of the currency area, curbing the adequacy of the current monetary policy. The economic parameters identified during asymmetric shocks diverge significantly from aggregate values.

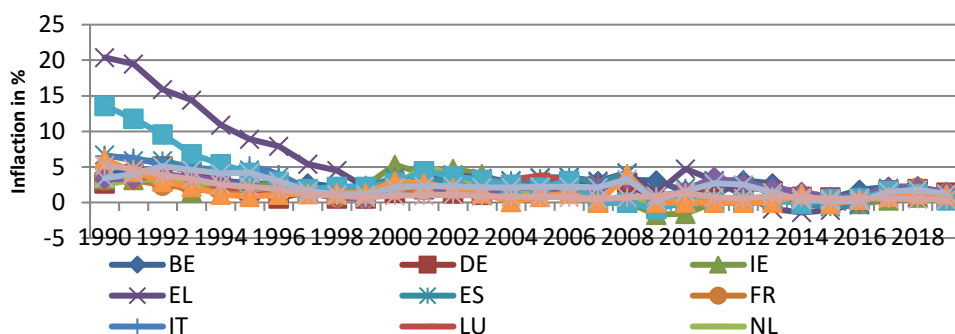
Due to the short timeframe of monetary integration in the new EU member states, the developments of inflationary processes are discussed using the examples of the 12 old EU member states that were the first to adopt the euro, namely Belgium (BE), Germany (DE), Ireland (IE), Greece (EL), Spain (ES), France (FR), Italy (IT), Luxemburg (LU), the Netherlands (NL), Austria (AT), Portugal (PT) and Finland (FI). Accession to the European Union equals, over a period, giving up national currencies in favor of the single one. Presently, its purchasing power depends on many factors, which are discussed herein. The analytical part of the article was developed based on the document analysis, comparative analysis, and descriptive statistics methods. Also, as mentioned above, the main references are made here to Spain which, on the one hand, bears numerous similarities to Poland, but which, on the other hand, has gone its own way towards monetary integration (Carreras, 2016).

3. The Inflationary Processes in the Euro Area

The developments of inflationary processes between 1990 and 2019 in 12 member states that were the first to adopt the single European currency are shown in Figure 1. An analysis of the aggregate data – as mentioned in the methodological assumptions section above – required that four sub-periods be singled out. The first sub-period of 1990-1993 saw a slight increase in the average price level. However, an increase in prices was only found in three countries. It was the most remarkable in Germany, which should be linked to the nation's expansive fiscal policy that was a consequence of its reunification. In the remaining member states of the then EU prices remained similar or fell (Byrne *et al.*, 2010; Gros *et al.*, 2011; Lopez *et al.*, 2012; Meller *et al.*, 2012; Castañeda *et al.*, 2017).

The most noticeable drop in prices was observed in Greece, Portugal, and Spain, where inflation had been falling for some considerable time already. The price convergence of 1990-1993 is confirmed by the lower standard deviation values. However, the increase in prices at the aggregate level was caused by the higher share that Germany enjoyed in the inflation basket of the EU member states.

Figure 1. Developments of inflationary processes in the 12 EMU member states between 1990 and 2019



Source: Developed by the authors based on Eurostat data.

The second sub-period of 1994-1998 was characterized by a systematic and quite considerable price drop at the aggregated level, from 4.7% to 1.1%. Prices were dropping in almost all the studied countries, with the highest drop rate found – similarly to the previous years – in the southern member states of the EU. However, the latter group of countries had an easier job to do fighting inflation thanks to the high base they had built up in the previous periods. The convergence of inflation is confirmed by the value of the standard deviation, which dropped from 3.3% to a mere 0.7%.

This observable drop in prices should be linked to the necessity to fulfil the inflation criterion specified in the 1992 Maastricht Treaty. Several anti-inflation activities were required such as, for example, ensuring the autonomy of central banks or introducing a strict monetary policy, which was frequently accompanied by the tightening of the fiscal policy. Interestingly, in 1998 when the second stage of the EMU was nearing its end and the fate of any future integration hanged in the balance, all countries but Greece had fulfilled the inflation criterion. Greece, however, still needed to make some further progress in fighting inflation before it was allowed to enter the third stage of the EMU in 2001, whereas at the same time its inflation had reached a historical minimum in 1998. A lower price level in Greece would only be observed in the crisis year of 2009. However, it should be remembered that back in that period the anti-inflation processes were not only being determined by monetary integration but were also part of the global price growth reduction trend.

The third sub-period began in 1999 and lasted until the end of the business cycle, i.e. 2008. In 1999, the aggregate price index for the euro area was exceptionally low, but in 2000 it grew by 2.1%. The subsequent years saw inflation stabilize at a similar level, except the last year, i.e. 2008, when it reached 3.3%. The growth in prices in 2000 could not be justified by a changed economic situation (the economic growth commenced in 1997 lasted uninterrupted until 2001). Therefore, a thesis may be risked that the fear of failing to qualify to the third stage of the EMU, or conversely

‘dropping off’ from the integration mainstream, mobilized the states in their fight against inflation more than any loss of public trust resulting from undertaking unpopular economic decisions would have. However, being qualified for the third stage of the EMU and winning the resulting guarantee that the single currency can be adopted reduced the states’ motivation to strictly observe the price convergence criterion. This particularly applied to the countries boasting the largest advancements in fighting inflation, i.e. Portugal, Spain, and Greece, but also Ireland – a country that had not had problems with inflation before. In principle, these countries did not fulfill the inflation criterion, and their price levels were above the inflation target set by the European Central Bank (ECB), i.e. close to but below 2% (Schönwitz, 2014).

At this point, the question must be asked whether the single currency contributed to an increased inflation rate in the eurozone. As mentioned in the introduction to this paper, most research papers claim that the monetary integration pursued in the EU limited the increase in prices. But then, how could one explain another pick-up in inflation that happened between 1999 and 2008? The literature frequently discusses the concept of optimum inflation. The European Central Bank adopted its value to be precisely ‘close to but below 2%’. And indeed, inflation between 2000 and 2008 oscillated around 2%, but between 1998 and 1999 it was too low, and was thus unable to create the optimum conditions for the economy.

Choosing the comparative period is another problem. In fact, the currency systems of the EU member states have never been developing in a completely free manner. Until 1971, the Bretton Woods system was in use, after the termination of which the countries of the then EEC entered into currency cooperation concluding in the Maastricht Treaty that created the legal framework for the Economic and Monetary Union. In 1990s, the willingness to adopt the single currency – contingent on the fulfilling of the inflation criterion – imposed extraordinary actions on the member states aiming at limiting the increase in prices. The apogee of the anti-inflation policy came – as mentioned above – in 1998 and 1999 (Boyko, 2014).

When analyzing inflationary processes, inflation and the aggregate and disaggregated levels should be singled out. In the former case, between 2000 and 2008 the price level oscillated within the boundaries of the inflation target (except for the already mentioned 2008), which proves that the ECB’s monetary policy was effective. The adoption of the inflation target at a level below 2% was quite a strict measure, markedly deviating from the analogous criteria used by many central banks in the times of their autonomy, i.e. prior to 1999. That was why, at the aggregated level, the adoption of the single currency alleviated inflationary pressure (Boyko, 2014; Castañeda *et al.*, 2017).

The situation appeared somewhat different at the disaggregated level, i.e. that of individual countries, especially those with the history of a higher inflation level, namely Spain, Portugal, Greece, and others. The perspective of future accession to the EMU accelerated their price convergence processes. After a period of ‘belt-

tightening’, these states began to ‘loosen’ their strict anti-inflation criteria. In their memory (referred to as persistence), inflation became encoded at a far higher level (Caraballo *et al.*, 2013). Hence, they could accept a higher increase in prices in the years 2000-2008, which resulted from, inter alia, overly expansive fiscal and lending policies pursued by commercial banks. It must be added that the assumptions of the EMU did not envisage a single fiscal policy or a European supervision over the banking activity, which turned out to be a mistake. Nevertheless, even the above-average pick-up in inflation in the southern states of the euro area (Spain, Portugal Greece) does not stand as sufficient proof of the price-driving nature of the single currency. In an alternative scenario (which is discussed in the subsequent section hereof) that assumes the preservation of monetary autonomy, the level of prices in these states would have probably been even higher (Caraballo *et al.*, 2013; Gomez-Gonzalez *et al.*, 2018).

The growing price divergence in the euro area member states caused the lower and lower adequacy of the interest rate set by the ECB (Byrne *et al.*, 2010). For the countries with an above-average increase in prices, the interest rate was too low, which was an additional factor stimulating inflationary processes. In this context, two observations come to mind. Firstly, if the states with excessive inflation had preserved their monetary independence, their central banks would have set higher interest rates. Secondly, the price divergence led to the coexistence of states with inflation levels above the inflation target with those with inflation levels below it. For the latter ones, the ECB’s interest rate might have been too high, which meant there was downward pressure on prices. As an example, in Germany and France, the two largest euro area economies, inflation remained below 2% for a relatively long time (for seven years in Germany and six in France). Bearing in mind that in the aforementioned states prices diverged from the inflation target only slightly, inflation dispersion in the eurozone was not subject to much change, which is indicated by the standard deviation values (Figure 1).

In the last of the analyzed sub-period, i.e. 2009-2019, in the euro area there was a decrease in and a simultaneous differentiation of prices. The price drop was associated with the economic downturn and was most noticeable in countries with the highest price levels in the previous sub-period, namely Spain, Greece, Portugal and – to a spectacular extent - Ireland (Strachinaru *et al.*, 2019).

This was particularly clear to see in the economic downturn years. Interestingly, in the first two of these states – despite the substantial drop in inflation – the average annual price growth rate continued to be higher than in, say, Germany or France. In Portugal it remained at the same level. Ireland, in turn, experienced the largest drop in prices of all the eurozone member states, which means that Ireland was the only country to improve its price competitiveness. This should not come as a surprise, accounting for its liberal economic model that is only slightly regulated. The adaptation processes in the Mediterranean states – due to their labor market rigidities – developed far more slowly. At the same time, the decline in the average annual

inflation in the euro area – with the unchanged value of the standard deviation – was evidence to a higher price volatility in the analyzed sub-period, which was linked to, *inter alia*, the aforementioned sudden drop in prices in Ireland. The divergence process was particularly visible in the first two years of this sub-period, namely 2009 and 2010. The stabilization of the economic situation that set in in the subsequent years contributed to increased price stability.

4. Inflationary Processes in Spain

It can be concluded from the analysis conducted in the previous section hereof) that higher price growth rates after adopting the single currency occurred in states with a lower economic potential, namely in Spain, Portugal, and Greece. In the past, these countries had relatively higher levels of inflation than those found in other Western European states.

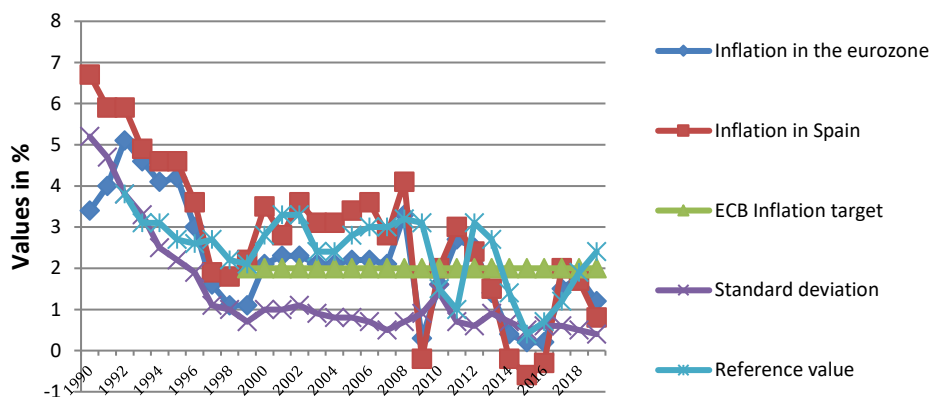
An analysis of the inflationary processes in Spain required the singling out of a few sub-periods (Caraballo *et al.*, 2013; Klimiuk, 2016; Gomez-Gonzalez *et al.*, 2018). The first sub-period from 1990 to 1999 was characterized by a systematic decline in prices from 6.7% to 2.2%, i.e. by 4.5% (Figure 2). Such a substantial containment of inflation was made possible by the reforms carried out and the determination demonstrated by the central authorities. In 1994, Spain's central bank won political and economic independence and introduced a direct inflation target – an effective tool for controlling price increases. The central authorities, in turn, increased fiscal discipline. Because of the actions undertaken in 1997-1998, Spain fulfilled the reference value of the inflation criterion and qualified for the third stage of the EMU (García-Cintado *et al.*, 2016). Interestingly, Spain's inflation levels between 1992 and 1997 did not deviate considerably from the EU average, which shows that these actions were successful.

The next sub-period from 1999 to 2008 was characterized by a pick-up in inflation in 1999-2000, followed by stabilization with minor fluctuations until 2008. For most of this sub-period, Spain failed to fulfill the inflation criterion. Also, the disproportions between the prices in Spain and most eurozone member states increased. What caused the above-average growth in prices in Spain? It was both the inflation expectations and the inadequate lending and fiscal policies in response to the lower cost and the increased availability of capital, which will be discussed in more detail further on in the article.

The last sub-period from 2009 to 2019 saw significant fluctuations of the level of inflation levels, although it did not deviate meaningfully from the aggregated index for the euro area. Although it can be noted that inflation in Spain reached higher extremes in the times of the lowest (2009) and the highest (2011) inflation, the country was generally able to fulfill the inflation criterion in times of a poorer economic situation. On the other hand, during periods of economic recovery prices were above the reference value. The price drop in Spain (in 2009 and 2011-2012) was caused by

the global crisis made worse by the losses sustained by the national banking system. The process of recovering competitiveness was hindered by the little flexibility of the labor market (evidence to which was the average annual price growth rate being higher than in it was Germany or France, as mentioned in the previous section).

Figure 2. Inflationary processes in Spain compared with inflation in other euro area member states between 1990 and 2019



Source: Developed by the authors based on Eurostat and ECB data.

The central question at this moment appears to be whether the degree to which EMU membership affected the growth in prices. Or rather, whether prices in Spain would have behaved differently had the country remained outside the euro area. It is not easy to answer these questions. As mentioned in the previous section of this paper, the increase in prices between 1999 and 2008 itself does not yet confirm the price-driving nature of the euro.

According to Gomez-Gonzalez and Ress (2018), in the alternative scenario – where Spain maintained its monetary policy independence – between 1999 and 2005 inflation would have been somewhat lower (by a few tenths of one percent on an annual average), and between 2006 and 2013 its level would have been significantly higher (by even a few percentage points annually). Consequently, the cumulative inflation rate between 1999 and 2013 would have been higher than it was. Therefore, Spain's submission to the regime of the ECB's single monetary policy decreased its inflation. In turn, Caraballo and Dabús (2013) estimated the optimum inflation for Spain between 1999 and 2013 to be 4%, which was determined by higher inflation expectations. Maintaining price stability at any other level – either lower or higher – would have been more difficult and generate higher costs for the economy to bear. In this context, the ECB's inflation target (close to but below 2%) was inadequate to the Spanish economy. Between 1999 and 2008, i.e. the period of an intensive increase in prices, the average annual inflation rate in Spain was 3.1%. Thus, it was lower than the optimum value estimated by the aforementioned authors, although it exceeded the ECB's inflation target.

Why would preservation of monetary autonomy by Spain have entailed a higher price level? This would have been the result of the price mechanism for restoring macroeconomic equilibrium. In the past, the peseta's devaluation was able to boost the economy's competitiveness by increasing export earnings with a simultaneous reduction in imports resulting from increased prices of goods brought from abroad. This process was automatic and continuous and took place without state interference.

However, while part of the monetary union, Spain's economy requires the so-called internal devaluation, namely wage reductions, to improve its competitiveness. Nevertheless, wages usually grow in good economic times, thus reducing the competitiveness of the economy even further. On the other hand, in times of economic downturn the restoration of international equilibrium requires considerable labor market flexibility. By way of an example, it is estimated that in the alternative scenario the years from 2009 to 2013 would have witnessed a 20% devaluation of the peseta. While part of the euro area, the same effect would have required a 20% wage reduction, which – accounting for the labor market rigidities in Spain – would be unrealistic (Gomez-Gonzalez *et al.*, 2018). From the psychological point of view, as well, it is easier to restore the competitiveness of the economy by increasing prices and keeping wages unaffected (external devaluation, i.e. the devaluation of the national currency), than by reducing wages and keeping prices unaffected (internal devaluation where there is no national currency). Despite the different public perceptions, both these cases may lead to a comparable reduction of household purchasing power.

Moreover, the 'rigidity' of Spain's labor market, paradoxically, made it easier to restore competitiveness (the periodicity of wage bargaining delayed wage increases, thereby extending the economy's competitiveness initiated with currency devaluation). The adoption of the single currency reversed this situation; conversely, the periodicity of wage bargaining delayed the process of reducing wages necessary to improve the competitiveness of the economy. Improving the position of Spain's economy, therefore, required a thorough labor market reform. It must be noted, as well, that in the alternative scenarios Spain would have entered the crisis with a higher interest rate, and thus would have had a better capability of affecting the economic processes. Importantly, in response to the crisis the ECB cut the key interest rate down to zero which, however, was an insufficient move. Consequently, the bank was forced to apply unconventional monetary policy tools, an issue discussed in the next section hereof.

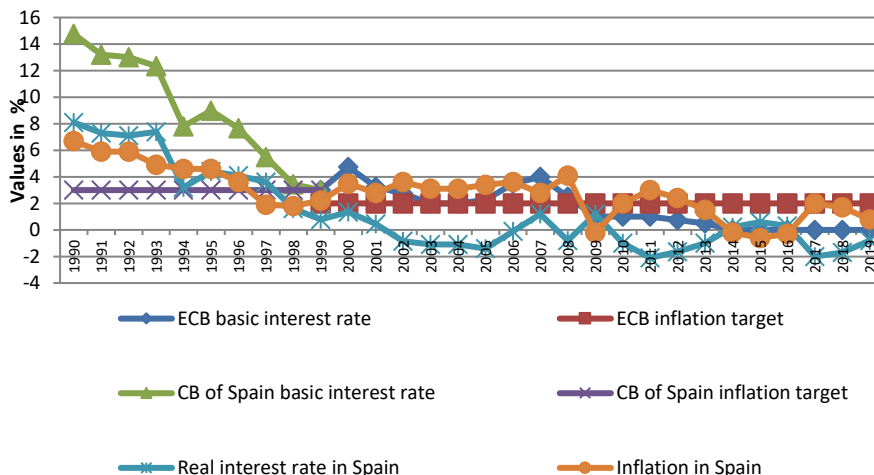
5. Factors Determining Inflationary Processes in Spain

The Monetary Policy:

Monetary policies are aimed at ensuring price stability. They are managed by central banks by affecting the volume of money supply (cost of loans) and the level of the currency exchange rates. This sub-section discusses the factors that affect the cost of loans in Spain. Figure 3 shows the level of the nominal interest rate, the inflation rate

and the inflation target for Spain's economy between 1990 and 2019.

Figure 3. Interest rates in Spain between 1990 and 2019



Source: Developed by the authors based on Eurostat and ECB data.

Between 1990 and 1998 the level of the nominal interest rate set by Spain's Central Bank (CB) exceeded the inflation rate, while at the same time the values of both these variables kept falling. However, since the nominal interest rate cutting cycle ran faster than the decline in inflation, the resultant value of the real interest rate kept dropping. The decreasing difference between the nominal interest rate and inflation was made possible by introducing a restrictive fiscal policy, which was in turn determined by Spain's upcoming membership in the EMU. As a result of this, already in 1997 inflation fell below the Spanish CB's inflation target (close to but below 3%), and the reference value for the price criterion. There were two serious consequences of the changes that were affecting the monetary policy. Firstly, they caused the cost of loans to drop (the nominal interest rate decreased from almost 15% in 1990 to less than 4% in 1998). Secondly, they lowered people's inclination to save money (the real interest rate decreased from over 8% in 1990 to less than 2% in 1998).

Therefore, favorable conditions for ensuring an increase in consumer demand and, consequently, a growth in prices, were created. Spain's accession to the eurozone only deepened the aforementioned phenomena (Byrne et al., 2010; Carballo-Cruz, 2011). During that time, the ECB's nominal interest rate decreased (particularly from 2001 to 2004), while inflation grew. As a result of this, the cost of money fell to Spain's historic low, which led to credit expansion. The value of the real interest rate, however, stayed at a negative level for an extended period, which decreased the already low inclination to save money. Interestingly, during the crisis period (except for 2009 that saw a deep drop in inflation), the interest rates (both nominal and real) declined even further, which – however – failed to prevent the economic downturn.

The Lending Policy:

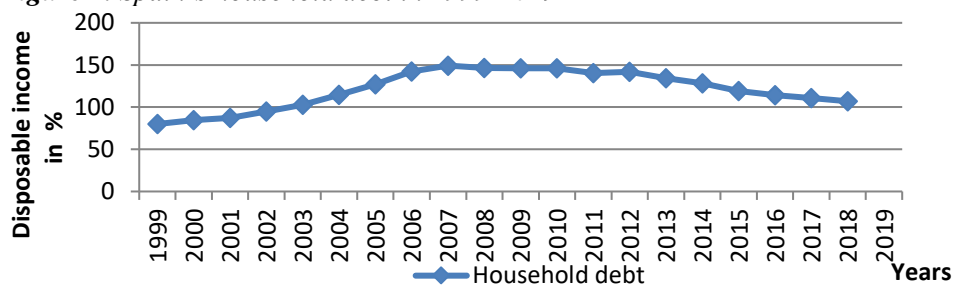
The lowering of the cost of credit itself is not an unwelcome phenomenon, provided that economic equilibrium is maintained in the market (Carballo-Cruz, 2011; Drakos *et al.*, 2020). Spain's accession to the euro area decreased the cost of money and increased confidence in the economy. Hence, a wide stream of cheap capital started to flow into the country – it is estimated that nearly 70% of the value of the loans granted came from foreign capital (García-Cintado *et al.*, 2016). Obviously, there is nothing wrong about that, provided that an appropriate lending policy is observed, which – unfortunately – was not the case in Spain (Merikas *et al.*, 2012). A considerable part of the banking sector was not subject to regulation by the national financial supervision system (particularly savings banks, the so-called Cajas de Ahorros), the weight of which accounted for approx. 50% of the entire sector (Morcate, 2017).

The lack of supervision led to credit expansion that especially affected the real estate market, as mortgage loans for households accounted for approx. 80%-90% of the volume of the banks' loan portfolio. The faith in an uninterrupted growth in house prices dulled bankers' vigilance as they started to offer loans on more and more preferential terms, for instance without down-payment, or to persons with low creditworthiness. The demand for mortgage loans was generated by the increasing affluence of the Spanish society, and by an intensive influx of foreigners. It is estimated that between 1997 and 2007 Spain admitted approx. 4.5 immigrants, who influenced the demand side of the real estate market (Poggi, 2019). Another group that had an impact on this market was that of the so-called non-residents, namely people buying real estate for tourist purposes alone. With the low-interest bank deposits, the real estate market experiencing an above-average price growth became an attractive form of capital investment.

Thus, a significant portion of the demand in the real estate market had a speculative nature (the surplus of the available residential real estate over the country's demographic needs was estimated at approx. 40%). The Spanish government actively promoted an economic growth model based on real estate development (Gorgolas, 2019). The labor-intensive industries were supposed to absorb the surplus low-qualified labor force that is so characteristic of the Spanish labor market. The easy and cheap loans led to a growth in household debt. Between 1999 and 2007, household debt relative to disposable income grew in Spain from 80% to nearly 150%, i.e. almost twice (Figure 4).

The growing demand that began to exceed the production capacity of the construction industry contributed to an above-average price growth (Loungani, 2008; Gorgolas, 2019). The inflationary processes were favored by the monopolized structure of the economy and the already mentioned inflexibility of the labor market. Consequently, the growing wages in Spain's economy could not keep pace with productivity at work, because of which the country was put at a competitive disadvantage.

Figure 4. Spain's household debt in 1999-2019



Source: Developed by the authors based on OECD data.

The economic upturn found not only in Spain but in fact across the entire euro area encouraged the ECB to raise interest rates. The interest rate hiking cycle started in 2005 brought the cost of credit to a higher level. As a result of that, demand for new loans fell, and the debt servicing costs borne by the existing borrowers grew. Some of the least reliable borrowers stopped repaying their loans, which caused banks to start seizing houses. Suddenly, the housing market situation reversed. The demand fell below the production capacity of the over-expanded construction industry – at the peak of the economic upturn the share of the construction industry together with its auxiliary industries in the GDP and in employment grew by 25% and 23%, respectively (Tamames, 2009). The drop in demand was accompanied by a drop in house prices. Unfortunately for the banks, the prices fell below the values of the loans, which was one result of their irresponsible lending policy. Consequently, numerous bankruptcies of developer firms and the losses sustained by the financial sector threw the country into a crisis (Gorgolas, 2019). The burst of the speculative bubble led to a sudden decline in prices, and to deflation in 2009 – a critical year for the economy.

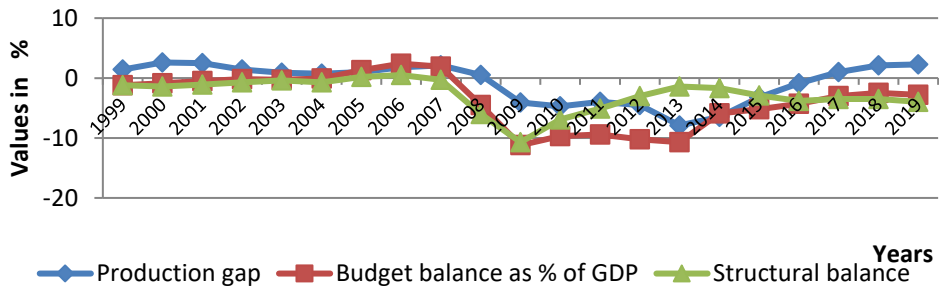
The Fiscal Policy:

Another factor likely to affect inflationary processes in a monetary union is fiscal policy encompassing a number of instruments that influence the level of income and the volume of budget expenditure, such as taxes, government deficit, government debt and loan guarantees issued to businesses. Contrary to the opinions held by many observers (Carballo-Cruz, 2011; Gomez-Gonzalez *et al.*, 2018), Spain's authorities were not always carrying out a budgetary policy preventing inflationary processes, as reported by, inter alia, Serrano (2010) and Ferreiro *et al.* (2013). The budget surpluses, or the slight budget deficits, were to be an argument in favor of the thesis that a proper fiscal policy direction was adopted for the years 1999-2008.

However, a budget surplus does not always equal fiscal restriction, just as a budget deficit does not have to equal fiscal expansion. The structural balance that accounts for budget revenue and expenditure in times of economic development based on full utilization of the economic potential is a measure commonly used to determine the state of public finances. Figure 5 presents the values of the output gap (a measure of

the utilization of a country's economic potential), the government balance and the structural balance in Spain. A positive output gap signifies an economy during an upturn trend and usually means a growing GDP.

Figure 5. The state of public finances in Spain between 1999 and 2019



Source: Developed by the authors based on Eurostat and AMECO data.

The Figure shows that economic recovery in Spain took place between 1999 and 2008. During that time, the initial budget deficit turned into a surplus. The line outlined by the output gap demonstrating the real output in comparison with the potential output is interesting, as well. Its changing inclination reflects the nature of the fiscal policy: a positive inclination denotes an improvement in the state of public finances resulting from a tightened fiscal policy, while a negative inclination denotes a downturn in the state of public finances resulting from fiscal expansion. Even though between 1999 and 2004 and in 2008 the budget showed a deficit, which might denote expansion, in fact the policy pursued between 2000 and 2003 adopted a restrictive nature. In turn, the budget surplus of 2005-2007 might be indicative of restriction, but in 2007 the policy adopted an expansive direction. In summary, 5 years out of the 10 years of the economic upturn saw fiscal policy expansion, which had a stimulating effect on price growth.

The pro-cyclic nature of the fiscal policy overheated the economy and thus deepened the 2009-2013 economic downturn. Another consequence of the improper fiscal policy (especially the overexpansion of 2007-2008) was that the capability of supporting the economy during the downturn was limited. Chapter 5 shows that the fiscal policy adopted an expansive nature only in the first year of the crisis – 2009. The excessive budget deficit and, first, the growing government debt, forced the government to tighten its fiscal policy, thus delaying the economic recovery (Magkonis *et al.*, 2019).

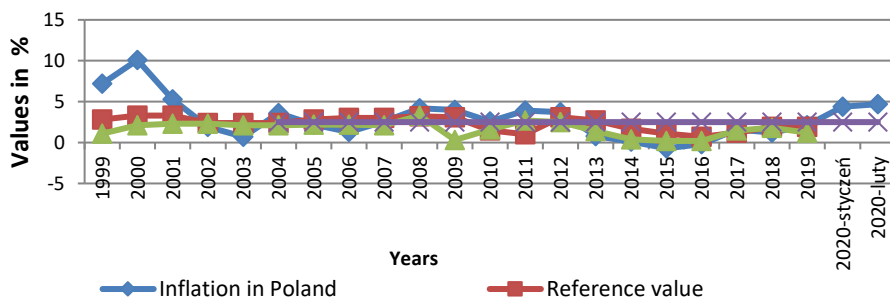
6. The Development of Inflationary Processes in Poland in the Monetary Integration Context

The inflationary processes in Poland between 1999 and 2019 attesting to the purchasing power of the Polish currency varied greatly (Figure 6). Particularly high

inflation was observed in 1999-2001, which was a result of the hyperinflation of the 1990s. In turn, the decline in inflation observed in the subsequent years was a consequence of economic stagnation. However, a turning point for Poland's monetary policy came with the adoption in 2004 of the inflation targets of 2.5% with the deviation range of +/- 1% (Grostal *et al.*, 2015). The aim of setting an inflation target was to facilitate fulfilling the price convergence criterion under the Maastricht Treaty. In this context, it should be noted that the inflation target was set at 0.5% above the same target for the euro area, which was a consequence of Poland's higher price growth rate. As for the deviation range, the reason for setting it as such was due to the instability of the inflationary processes occurring in Poland. Thus, the upper allowable value of inflation was set at 3.5%, i.e. 1.5% above the ECB's inflation target.

Between 2004 and 2019, inflation in Poland became stable around the inflation target and only slightly fluctuated beyond the accepted deviation range. It demonstrated larger fluctuations than the aggregated indicator for the eurozone. Prices, however, were changing in line with the trends set by the inflationary processes happening in the euro area, which is evidence of a far-reaching convergence of the economies from the two currency areas. The average annual price growth rate in Poland between 2004 (i.e. the year the inflation target was adopted) and 2019 was 2.1%, while it was 1.6% in the euro area between 1999 and 2019 (i.e. the period after the creation of the Economic and Monetary Union). The 0.5% difference was exactly the difference between the values of the inflation targets.

Figure 6. *Inflation in Poland compared to the inflation indicators for the euro area between 1999 and 2019*



Source: *Developed by the authors based on Eurostat and ECB data.*

Based on the course of the Figure 6 curves it can be found that Poland fulfilled the inflation criterion under the Maastricht Treaty for a period of nine years. Bearing in mind that, in fact, there has never been any political consent to the adoption of the euro and, therefore, no extraordinary actions aiming at ensuring the fulfilment of the inflation criterion, the national monetary authorities should have no difficulty in the future with stabilizing prices at levels below the reference value. However, the combination of the expansive fiscal and monetary policies (which we have been

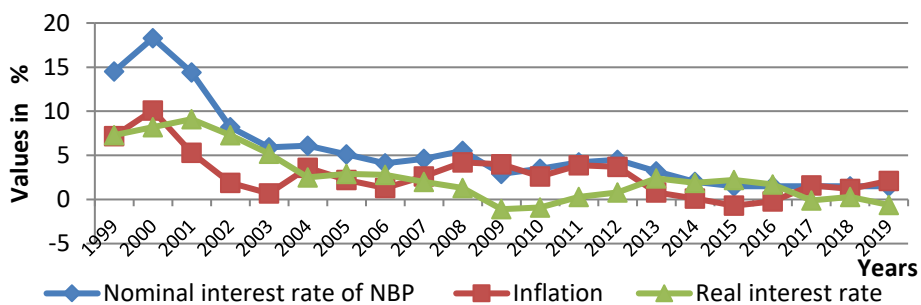
observing in Poland in recent times) and the tensions in the domestic labor market that have been present for a few years now, may have an impact on the development of inflationary processes. Prices in December 2019 grew to the level of 3.4%, in January 2020 to the level of 4.4% and in February to the level of 4.7%. What was worse, that price growth was mainly caused by core inflation, the source of which should be sought in the demand side of the economy, i.e. overconsumption.

7. Factors Increasing the Risk of a Pick-Up in Inflation in Poland in The Event of Adopting the Euro

The Monetary Policy:

It seems that the differences between the national interest rate and the common rate for the euro area will be of major importance in the course of inflationary processes after the adoption of the European currency. Figure 7 present the values of the NBP (National Bank of Poland)'s nominal interest rate, inflation and the resultant of these two, i.e. the real interest rate. A look at the course of the curves shows that over the analyzed period the real interest rate was positive, except for the years 2009-2011 and 2017-2019. In 2009-2011, the negative real interest rates were owed to a pick-up in inflation resulting from the depreciation of the zloty. The monetary authorities of that time responded to the price growth by elevating the nominal interest rate, which decreased inflation and brought the real interest rate back to a positive path. The second period with negative real interest rates commenced in 2017. According to the announcements of the current NBP authorities, the nominal interest rates will remain as they are until 2022. With an unchanged level of prices – or even with increased prices, which should be expected according to some Polish economists – the real interest rates will stay negative.

Figure 7. Interest rates in Poland between 1999 and 2019



Source: Developed by the authors based on Eurostat and NBP data.

The recent coronavirus pandemic (March 2020) has necessitated monetary policy modifications. The monetary authorities have lowered the nominal interest rate by 0.5% (from 1.5% to 1.0%) and introduced non-standard monetary policy tools aimed at limiting adverse effects of the crisis. Namely, open market operations have been carried out consisting in buying bonds from the secondary market, and the level of the

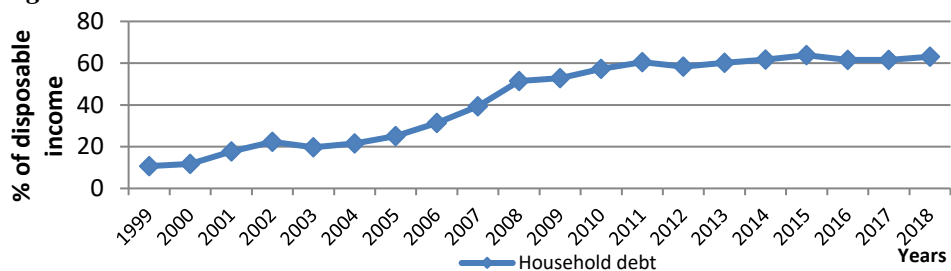
minimum reserves for commercial banks was lowered. There is no consensus among experts as to what the long-term effects of these actions will be.

It should be noted that in the years 2004-2019 the average annual ECB interest rate was 1.2%, and the NBP interest rate was 3.3%. Despite the convergence of interest rates between the euro area and Poland, it should be expected that Poland's currency integration will mean adopting a lower interest rate.

The Lending Policy:

The lending policy is one of the two pillars the use of which can help exert an influence on inflationary processes in absence of monetary autonomy. A vast majority of the Polish banking system is subject to state control through the Polish Financial Supervision Authority (KNF). Restrictive recommendations from the supervisory body prevent an excessively expansive lending policy that could threaten stability of the financial system. Still, however, Poland's household debt is expanding, as evidenced by the growing number and value of loans granted (KNF, 2019). This leads to growing liabilities on the part of the private sector, as shown by household debt relative to disposable income, a ratio that grew six-fold over a twenty-year period to reach over 63% in 2018 (Figure 8). This value is comparable to Spain's household debt prior to 1999. Certainly, there is nothing wrong about private sector debt, provided there is no threat to loan repayment, a factor that depends on, inter alia, the existence of a safety buffer in the form of disposable income which is larger the more wealthy the society is.

Figure 8. *Poland's household debt between 1999 and 2018*

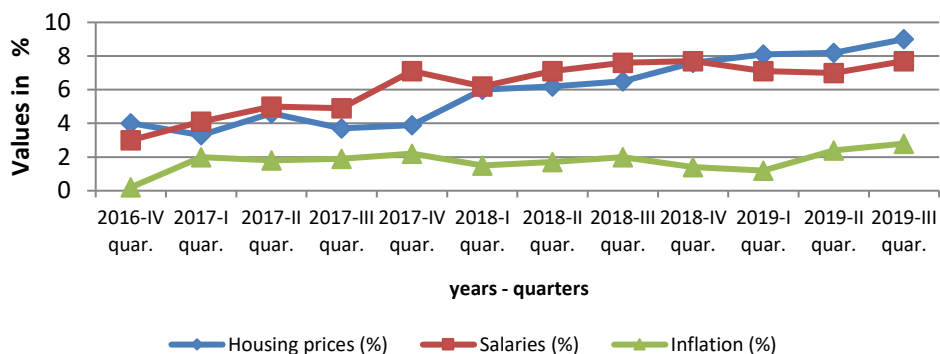


Source: Developed by the authors based on OECD data.

The increasing household debt is contributed to by the NBP's low interest rate policy, which reduces the society's inclination to save money in bank accounts. Hence, investors are looking out for higher rates of return on capital and investing their spare funds in, for instance, the real estate market. A surge in demand for houses faced with shortages in supply causes the expansion of a speculative bubble (Wilkowicz, 2020; Ziemia, 2020), which is confirmed by the course of the curves in Figure 9. Importantly, the house price growth rate is far higher than inflation – over the last few quarters the difference being approx. 6.0%. Another concern is the maintained difference between real estate prices and the level of wages. Consequently, the

purchasing power of households in the real estate market has been falling for three months now.

Figure 9. House price growth rate in Poland between 2016 and 2019 (quarterly)



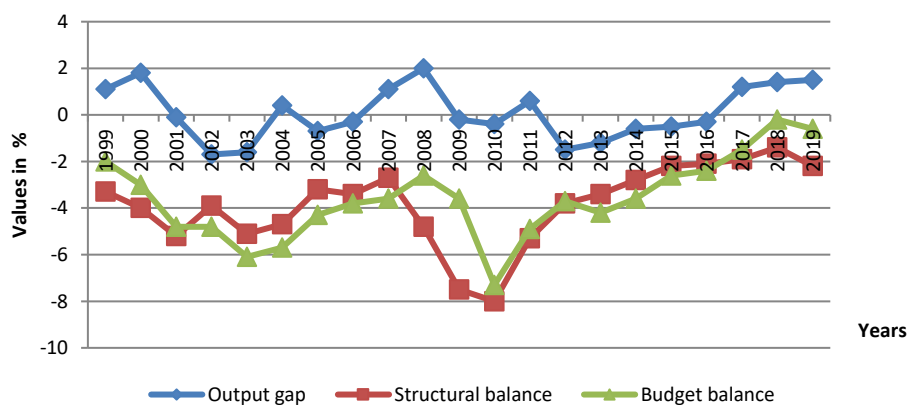
Source: Developed by the authors based on Eurostat and GUS data.

The Fiscal Policy:

The fiscal policy is an essential pillar likely to influence the development of inflationary processes in the context of a loss of monetary independence. Between 1999 and 2019, the state of public finances varied and was largely subject to fluctuations in the economic situation (Figure 10).

Throughout the entire analyzed period, both the government balance and the structural balance showed deficits. The latter of the two indicators is of particular importance, because the negative structural balance suggests that even with complete utilization of the economic potential public finances deviated from equilibrium.

Figure 10. State of public finances in Poland between 1999 and 2019



Source: Developed by the authors based on Eurostat and AMECO data.

Even during the economic upturn of 2016-2019, where the output gap grew to nearly 2%, the structural balance was negative. The year 2019, which saw a downturn in the state of public finances, should be taken note of. Fiscal expansion increased the budget deficit to -0.6%, and the structural deficit to -2.2%. Excessive budget expenditure was one of the factors that contributed to the pick-up in inflation at the turn of 2019/2020.

8. Discussion

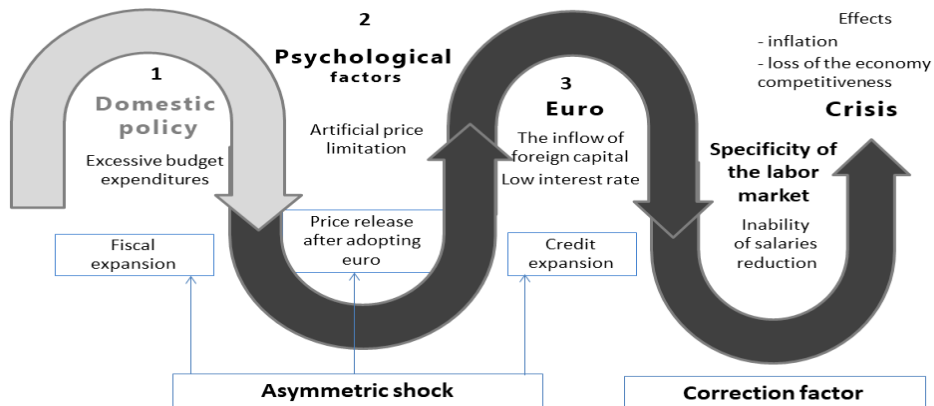
Will prices grow after Poland adopts the single currency as a result of asymmetric shocks? For the Polish economy, monetary integration will mean that a lower nominal interest rate will need to be adopted, which may cause prices to grow (Borowski, 2001). Here, a clear analogy can be observed to the situation that Spain was in during the first few years of its Economic and Monetary Union membership, i.e. a mismatched interest rate of the ECB and a resulting increase in inflation (Carballo-Cruz, 2011).

However, there are also clear differences there, as well (Figures 11 and 12). It appears that Poland's inflation has stabilized in a more natural manner, without the pressure to quickly integrate with the euro area. This could be a factor limiting inflation expectations following the adoption of the single currency (factor 1). Another difference is that relating to the labor market.

Spain entered the eurozone with considerable reserve of unused labor force (its unemployment rate was nearly 16% in 1999). As a matter of fact, the supply side could not catch up with the demand (stimulated by the easy and cheap loan), but was partly able to neutralize the growing prices by increasing its potential (by the time of the peak of the economic upturn in 2007, Spain's unemployment rate had fallen to almost 8%).

However, Poland's labor force resources have been practically exhausted, as evidenced by the unemployment rate that fell to nearly 3.0% in 2019. Under such circumstances, after adopting the single currency lower interest rates – without appropriate adjustments on the part of the fiscal and lending policies – could lead to an uncontrolled pick-up in inflation. An accruing macroeconomic imbalance might cause an economic crisis.

Wages would need to be reduced in order to improve competitiveness, but although the Polish labor market is more flexible than the Spanish one, this could be difficult to achieve due to the complete exhaustion of the domestic labor force resources. This issue is depicted, as mentioned, in Figures 11 and 12, which present the correlations between the country's internal policy (factor 1), psychological factors (factor 2) and the adoption of the euro (factor 3). The Figures also show the role of the adjustment factor in the form of the labor market.

Figure 11. Asymmetric shock in the Spanish economy (1999 – 2013)

Note: The darker the shade of the arrows the larger the factor's effect.

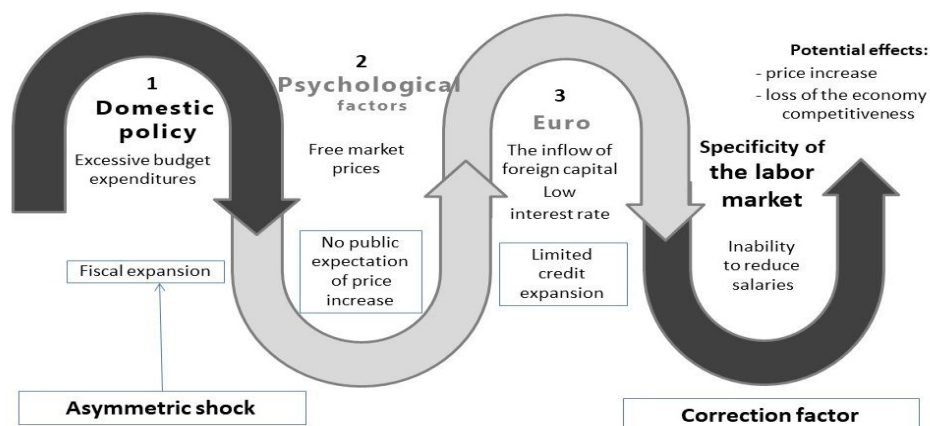
Source: Developed by the authors.

An asymmetric shock affecting the development of inflationary processes may have its roots in the fiscal policy (factor 1). Poland's public finances are in a far worse state than those of Spain during its economic prosperity of 1999-2008, which may influence inflationary processes after the euro is adopted. Monetary integration with the euro area, with the fiscal expansion continuing at the same level as it has so far, will undoubtedly lead to a growth in prices. However, contrary to Spain, that growth may be even higher due to the aforementioned labor market tensions (Klimiuk, 2016; Dallago, 2016).

Under such circumstances, with the assumption that the economic upturn will remain at the same level, any lowering of the price growth risk will require a tighter fiscal policy, i.e. by limiting budget expenditure and/or raising taxes. Curbing expenditure will not be an easy task because most of it (over 80%) is of the so-called 'statutory' nature. Also, this variant is less preferable from the point of view of social policy, although due to the already excessive budget expenditure to the GDP ratio it would be more beneficial for the economy. An increase in taxes would be a far worse solution, especially that it would soon cause an increase in prices and, thus, exacerbate the inflationary processes.

The labor market is a factor used for adjusting asymmetric shocks. In Spain, it failed to do its job because there was no social consent to wage reductions (Gorgolas, 2019). A similar situation can be expected to happen in Poland, which is why it has been found that after Poland's adoption of the euro the main determinants of price growth will be excessive budget expenditure and the resulting fiscal expansion.

Figure 12. Scenario for asymmetric shock after Poland's adoption of the euro



Note: The darker the shade of the arrows the larger the factor's effect

Source: Developed by the authors.

It appears that Poland's monetary integration with the euro area will increase the financial sector's credit expansion (factor 3), which will be a consequence of adopting a lower interest rate (as mentioned above) and the inflow of foreign capital. Without a doubt, this will boost an upward pressure on prices, while the construction industry (with more than 70% of the worth of all loans granted) will be particularly exposed to overheating – a situation where the supply side is unable to meet consumers' growing needs. The Polish real estate market is already (i.e. early 2020) beginning to resemble that of Spain from 1999-2008. The country is experiencing a short supply of houses, which combined with the growing affluence of the society is stimulating demand (Jędrzyński, 2020).

Like in Spain, Poland has recently admitted more than 2 million economic immigrants who are exerting growing pressure on the housing rental market. Where interest rates are low and the house prices are growing, the real estate market offering an above-average rate of return is becoming an attractive investment target. This equally applies to investments financed with one's own funds and those funded with loans. In the latter case, the debt servicing costs are lower than the income from the rental of flats and houses. Additionally, the price growth is being exacerbated by the weakness of the supply side, i.e. the already mentioned short supply in the labor market and the specificity of the construction process (a long cycle of completion of construction projects). However, price growth after the adoption of the euro can be prevented in Poland by introducing stricter terms for granting loans. This task will be far easier than it was in Spain thanks to the strong supervision over the financial sector in Poland (NBP, 2009; Schönwitz, 2014; Gomez-Gonzalez *et al.*, 2018).

A summary of the above considerations authorizes the statement that Poland's accession to the euro area may contribute to an increase in prices. When compared

with Spain, lower inflation expectations and deeper financial supervision over the banking sector will be factors limiting price growth. On the other hand, the fiscal policy with excessive government expenditure will be a risk factor. Labor force shortages, as well, will exacerbate inflation impulses more than they did in Spain. Therefore, the authors of this article recommend that Poland applies a combination of restrictive fiscal and credit policies.

Finally, the question arises of whether the Polish currency is effective at restoring the macroeconomic equilibrium. The significance of the Polish zloty is far lower than that of the former Spanish peseta, which is due to the deepening problems within the Polish labor market. The almost complete exhaustion of the labor force resources will lead to an upward pressure on wages to compensate for the growth in prices of imported goods. It should be remembered, though, that the effects of devaluation are also dependent on the degree of the economy's openness and the flexibility of exports and imports to exchange rate variations. The lower significance of devaluation in restoring macroeconomic equilibrium is an argument in favor of considering whether the zloty should be replaced with the single European currency as soon as possible.

9. Conclusions

Without a doubt, the single European currency has contributed to a decline in inflation, although it is difficult to determine the exact scale of the currency's anti-inflation effect on the economy. The present analysis of statistical data showed that the perspective of monetary integration itself reduced inflation expectations, especially in countries with traditionally high price levels. In the first period of the Economic and Monetary Union's operation (1999-2008), the single currency contributed to price convergence at the aggregated level. Nevertheless, some countries witnessed an increase in prices that considerably deviated from the ECB's inflation target. One of these countries was Spain, which showed many similarities with the Polish economy. The price increase in Spain was a consequence of macroeconomic imbalances, i.e. excess demand over supply, the source of which were higher inflation expectations, expansive credit policy and excessive budget expenditure.

The inability to regulate inflationary processes particularly visible in the construction sector. The growing prices were limiting the economy's using interest rates contributed to the overheating of the economy, which was competitiveness, while the real estate bubble burst brought the country into recession. Additionally, labor market rigidities delayed adaptation processes, simultaneously leading to an increase in unemployment and exacerbating the economic downturn.

In many aspects, Poland resembles Spain's economy in the first decade of the 21st century. It is equally exposed to the risk of asymmetric shocks occurring after the adoption of the euro. However, in Poland inflation has stabilized itself at a lower level in a more natural manner, and its level does not deviate much from the ECB's inflation target. A milder course of inflationary processes diminishes the significance of the

domestic currency in restoring international equilibrium and reduces the risk of increasing prices after the adoption of the single currency. However, credit expansion resulting from adopting a lower interest rate may cause the danger of a pick-up in inflation. The real estate market, which is already experiencing a deepening imbalance, will be especially susceptible to price growth. The building up of the speculative bubble is accompanied by a low cost of credit, an increase in the purchasing power of households and the inflow of economic immigrants, much as it was in Spain. The pro-cyclic nature of the fiscal policy may offer an additional boost to the increase in prices. The labor market, due to the complete exhaustion of the domestic labor force resources and the high pressure on wages may, in turn, delay Poland's economy's recovery from a potential crisis.

Therefore, efforts to prevent excessive inflationary impulses will require an appropriate adjustment on the part of the lending and/or fiscal policies, that the authors of this article recommend. The Polish economic policy's asset is in the strong supervision over the banking industry, which was what Spain lacked. The imposition of additional restrictions on the financial sector may limit credit expansion. However, the situation does not look equally promising in the case of public finances, which are strongly affected by the current political climate.

Considering all the pros and cons, it appears that Poland should take advantage of the opportunities that monetary integration brings with it. However, the country must not make the mistakes that brought euro area countries into a crisis before. Although the European currency was not directly to blame for the growth in prices, it facilitated and accelerated the build-up of inflationary processes, simultaneously delaying the economies' recovery from the period of downturn. This is what Poland needs to take into account.

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