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# **DOES THE INTRODUCTION OF THE EURO LEAD TO HIGH INFLATION? MYTH OR FACT?**

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**Abstract:** The replacement of the local currency with the Euro has led to a number of discussions, commentaries and arguments, most of which refer to issues related to an increase of the common levels of the prices of goods and services. **The subject** of the research comprises the countries which adopted the common European currency after the year 2007. Cyprus and Malta are not discussed due to pages limit. **The purpose** of the article is to discuss the facts related to the myths about high inflation after the adoption of the Euro and to ascertain whether this myth is significant or whether it can be refuted. In order to accomplish this, we must first study the experience of the newly joined Member States when the common currency was introduced; then we analyze the inflation rates and the changes in the years following their admission to the eurozone. **The thesis** that is to be proven or rejected is that the adoption of the Euro does not have significant impact on the prices of goods and services in the country that adopts the new currency, whereas if inflation processes are observed, their rates coincide with those of the preceding years.

**Key words:** euro, eurozone, inflation.

**JEL:** E31, E42.

## **Introduction**

**T**he most frequent economic arguments in favour of the Euro as a common currency are the complete elimination of the expenses for exchange of currency and the decrease of transaction fees concerning business partners in the eurozone. This has created an opportunity for

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stimulating the foreign trade of each particular country, as well as avoiding the currency risk. These facts have become the driving force for the decrease of interest rates and the increase of investment. There are some risks, specifically related to the speculations regarding prices.

It is thought that inflation insecurity creates risks for the real economy. One of the most frequently asked questions concerning the countries joining the eurozone and adopting the common currency is: Will this process lead to an increase of the prices? This topic is the subject of numerous commentaries and analyses, most of which disagree and are at opposite poles. According to some sources, high inflation is inevitable, while according to others, inflation is moderate, or even deflation can be observed in the first months after the adoption. The public opinion has a position which often disagrees with that of experts, which is normal, as it is formed mostly on the basis of the articles read online or the analyses by commentators on television channels. These analyses and articles are not always plausible or supported by reliable sources of information.

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The economic monetary union (EMU) was established in 1992 and is characterized by common currency and monetary policy for its members. It aims at increasing the economic efficiency and standard of living through the introduction of a common currency, which could facilitate the exchange of goods, services, money, etc. Eleven out of the fifteen EU member states adopted the Euro conforming to the Maastricht Treaty. Although Greece did not meet all the criteria of Maastricht in 1999, it joined the EMU two years later (in 2001). The voluntary replacement of the national currencies of those countries means that the transition from one currency is not only a political act, but also there exist a number of economic arguments. Over the last years, seven countries have switched to adopting the Euro – Slovenia, Cyprus, Malta, Slovakia, Estonia, Latvia and Lithuania.

Under the Treaty of the Functioning of the Union, all other eight member states (Bulgaria, the Czech Republic, Croatia, Hungary, Poland, Romania, Denmark and Sweden) made a commitment to adopt the Euro (Hristozov, Y., 2016, pp. 124-138). In this respect, the member states which are to join the eurozone in the future, must analyze the impact of this process on several economic indicators and draft strategies for a smooth transition. It is recommended that these strategies are prepared by central banks and the Ministry of Finance in collaboration with other involved institutions. In Bulgaria, such strategy is still missing, which is a good reason why the monetary authorities are criticized. In comparison, Croatia, which has been an EU member state since 2013 already has a working strategy (2017) (<https://euro.hnb.hr/documents>).

One of the main purposes of such a document is inform and reassure the population if issues related to an increase in prices arise. A research study carried out by Barometer, later cited by the Institute of Market Economy in their paper (Nikolova, D., 2018) “Bulgaria’s joining the Eurozone – the economic view” proves that to a large extent the majority of the population thinks that the introduction of the Euro will lead to an increase in prices. Table 1 shows the percentage of the surveyed persons who think that the introduction of the Euro will lead to an increase in prices. The surveyed are citizens of the seven countries which have made a commitment to adopt the common currency.

*Table 1*  
**Research carried out by Barometer regarding inflation**

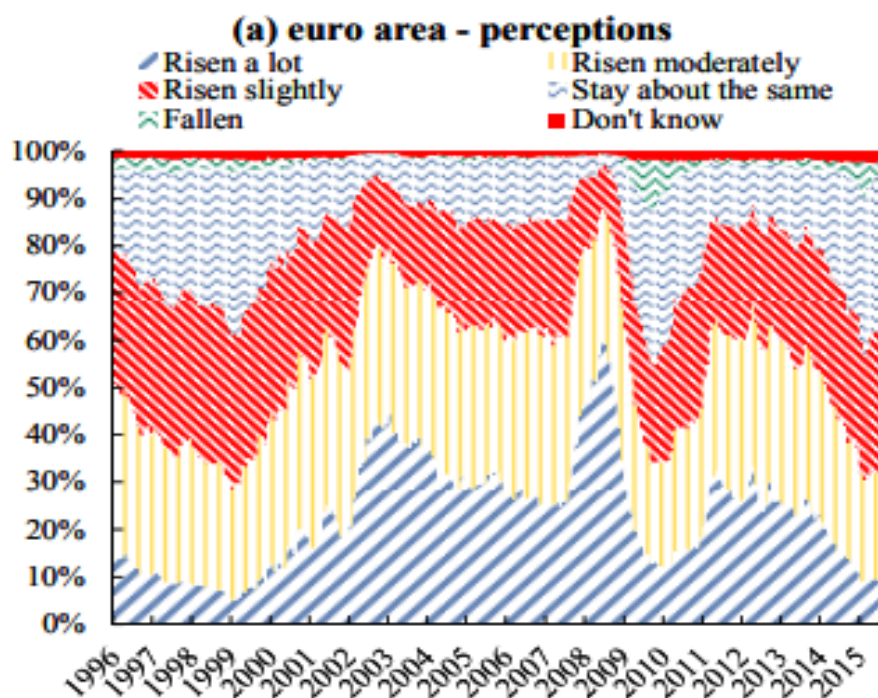
<b>What impact will the introduction of the Euro have in your country?</b>								
	Total (number)/ Average (%)	Bulgaria	Czech Republic	Croatia	Hungary	Poland	Romania	Sweden
Total number of surveyed persons	7,006	1,000	1,000	1,000	1,005	1,000	1,000	1,001
Will result in an increase in prices (%)	66%	69%	72%	69%	53%	76%	53%	58%

**Source:** Eurobarometer (Flash Eurobarometer 453: Introduction of the Euro in the Member States That Have Not Yet Adopted the Common Currency, 2017).

It turns out that an average of 66% of all surveyed persons perceive the myth of inflation as a reality. Thus, a myth is born that the introduction of the Euro will lead to an increase in prices.

When the Euro is introduced, the prices expressed in national currency are converted to Euro in accordance with an already established conversion rate. This process is a technical operation which is unlikely to have an impact on the relative prices, i.e., it is unlikely to lead to a general increase of the prices in the economy. The increase of prices is prevented by market forces, i.e., the competition, whereas the lower transaction expenses and the lack of risk in currency exchange will even have a deflation effect. Nevertheless, there are factors during the conversion which can stimulate the short-term increase of the price levels. The increase of prices in the process of conversion is most often due to rounding, as prices reach a higher value which

is more attractive and easier to calculate. The conversion expenses reflect consumers which results in corporations increasing their profit by benefiting from this process. For this reason, people start to fear. The figure below discusses the eurozone citizens' perceptions regarding the inflation after the adoption of the new currency.



Source: Eurostat (Arioli, R., Bates, C., Dieden, H., 2016).

Numerous research results show that the effect of the conversion of national currencies to the Euro sometimes leads to a rise in consumer prices, but this rise is moderate and one-time. The measures taken by the governments to avoid speculations and limitations of the possible short-term effect of the conversion and rounding of the prices by merchants are effective and limit the attempts to implement bad practices. Such measures are, for instance, the obligation of double pricing display in shops, measures for encouraging fair pricing by corporations, information campaigns, etc.

Literary sources list several significant factors for increasing the prices caused by the conversion of national currency to the Euro. One of those reasons is the allocation of conversion expenses, as for instance IT expenses on consumers. Besides, it is well-known that a significant part of prices is formed at the so-called attractive level, which involves rounding of the price which will lead to a practical and easier to calculate value. An attempt is made

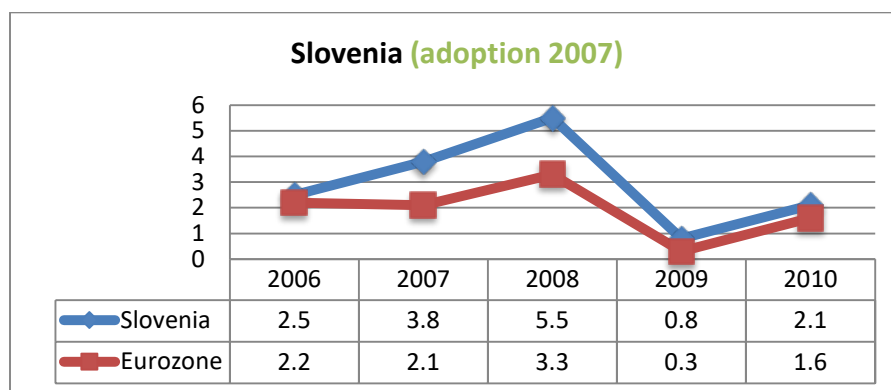
at the introduction of the so-called psychological prices (Pufnik, A., 2017), which make consumers underestimate the expenses for the purchased products. Experience shows that consumers disregard small price changes. Corporations often use the opportunity to round the prices, sometimes up, sometimes down, but research shows that this would rather lead to their increase.

## Methodology

We have set certain restrictions on the time framework in order to encompass periods close to the year and month of adoption of the Euro. The inflation in the analyzed countries is observed for the year prior to the eurozone accession and three years after that moment. The total period of observation is five years. In addition to the annual inflation, we also analyze the monthly one by observing the changes that take place five months before and after the adoption of the common currency. We have applied official statistical data by Eurostat about the inflation measured by using HICP<sup>2</sup> by years and by months. We have compared the rates of inflation with the eurozone as the data we have used is on the basis of eurozone members as of the particular moment.

### 1. Slovenia

Slovenia adopts the Euro through the “big bang” scenario with a period of dual circulation with a duration from 1 January 2007 to 14 January 2007 during which payments are made in Slovenian Tolars, Euro banknotes and coins.

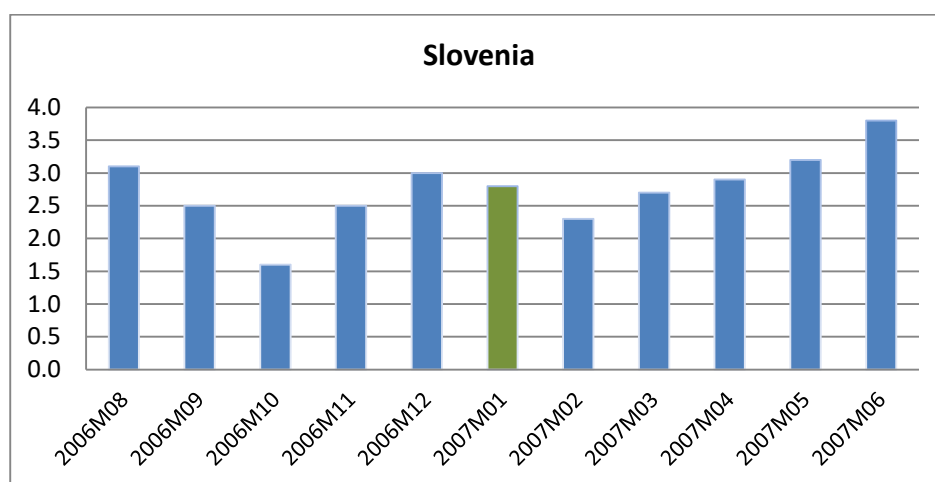


Source: Eurostat.

Figure 1. Annual inflation rate (HICP%)

<sup>2</sup> Harmonized Indices of Consumer Prices

Figure 1 shows the change in the annual inflation rate for the period 2006–2010. In the year prior to the adoption of the Euro, the inflation in Slovenia was 2.5%, whereas by the end of 2007 it was 3.8%. This indicates a change of +1.3% on an annual basis. The inflation is moderate. If we divide the data into quarters, we will notice that at the beginning of 2007 the inflation in Slovenia started to decrease compared to the last quarter before the adoption of the Euro. However, in the middle of 2007, it started to increase sharply. The increase of consumer prices, to a large extent, can be explained with the increase of the prices of raw petrol and other raw materials on the world market, as well as the increased demand by home consumers. Jemec (Jemec, N., 2010) argues that the development of perceived inflation had a favorable influence by the fact that before the adoption of the Euro, users in Slovenia were well informed about the new currency by the experience of the older member states; he also comments on the well-organized campaign through which the consumers were warned about the excessive increase of prices of individual products. In 2008 the rate compared to 2006 was +3%, but in 2009, probably due to the shrink of consumption, we observe a significant drop in consumer prices.



Source: Eurostat.

Figure 2. *Monthly inflation in Slovenia (HICP%)*

In Figure 2 we can notice the monthly inflation in Slovenia in the months before and after the adoption. In the month of the adoption – January, we can notice a fall of 0.2 percentage points from 3% to 2.8% and only in the month of April the inflation rates reach those of the end of 2006. After the middle of the year the price rates increase, but within the norms, especially bearing in mind the economic growth throughout the year in Slovenia.

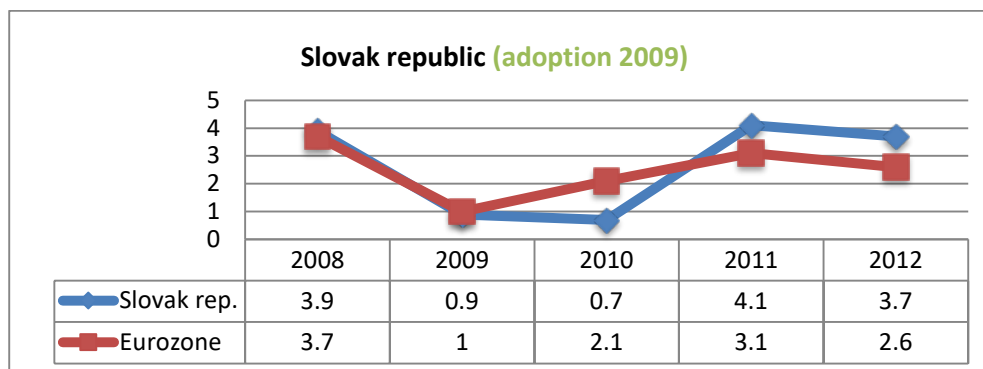
The accumulated inflation (Currency Converter, <http://fxtop.com/en>) from 1 January 2007 to 1 January 2018 is 22.62%, which nevertheless shows a significant growth for a little less than ten years after the adoption of the common currency.

## 2. Slovakia

The Slovak Koruna joins ERM II on 28 November 2005. On 8 July 2008 the European Council gives a green light for the adoption of the Euro by Slovakia on 1 January 2009. Slovakia adopts the “big bang” scenario with a period of dual use of currencies until 16 January 2009.

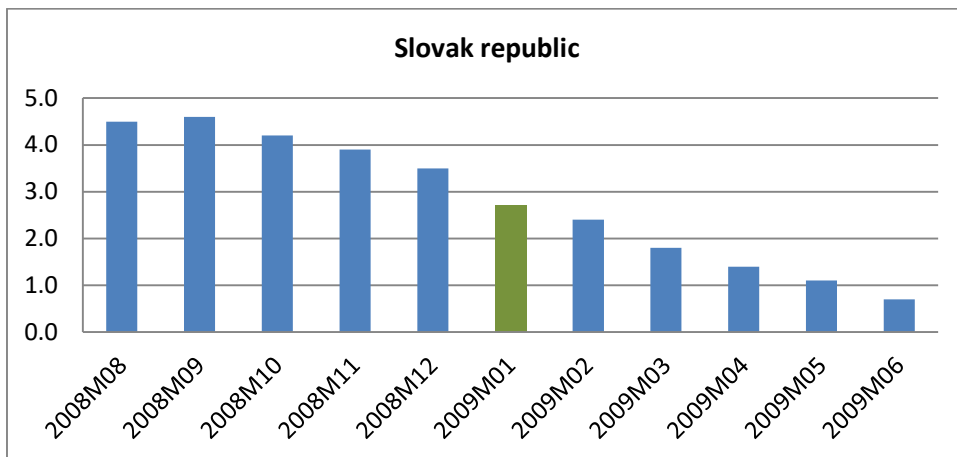
In the context of the perception of inflation and the realities, Slovakia presents an interesting case. Slovakia has two decades of experience with strict monetary policy and moderate inflation, as well as recurring price shocks caused by the changes of the administratively set prices, indirect taxes and other phenomena of the transition. Similar to the Czech Republic and unlike Hungary and Poland, Slovakia has a “German” monetary policy, but without the German experience of monetary stability. Slovakia joins the Euro at the end of a long period of economic boom, but also at a moment of world financial and economic crisis that affects all European economies. Slovakia adopts the common currency through a strong currency rate based on the assumption of a further fast growth which presents a danger of overheating after the currency change. As of the moment of adoption, it is perceived that the low price rate and the Balassa-Samuelson effect (Balassa-Samuelson Effect Investopedia) will lead to a higher inflation.

In Figure 3 we notice that in 2008 the annual inflation is 3.9 % compared to 0.9% in 2009, which reach up to 0.7 % in 2010. The fall of price rates can be explained partly with the world recession during this period, which affects the demand for goods. This can also be noticed in the eurozone. In 2011 and 2012 the rates of inflation reach their values of 2008.



Source: author, Eurostat.

Figure 3. Annual inflation (%)

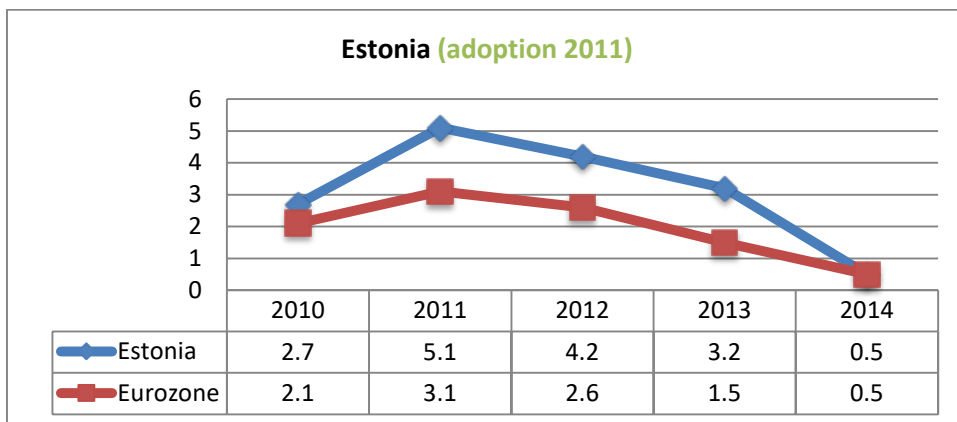


Source: author, Eurostat.

Figure 4. Monthly inflation in Slovakia (HICP%)

### 3. Estonia

The Koruna joins the ERM II on 28 June 2004. We observe a rate of 15.6466 Euro, with standard fluctuation margins of  $\pm 15\%$ . On 13 July 2010, the European Council gives green light for the adoption of the Euro by Estonia on 1 January 2011. In the next figure, we notice that on an annual basis the inflation after the accession of Estonia to the Eurozone decreases with 0.9 percentage points.



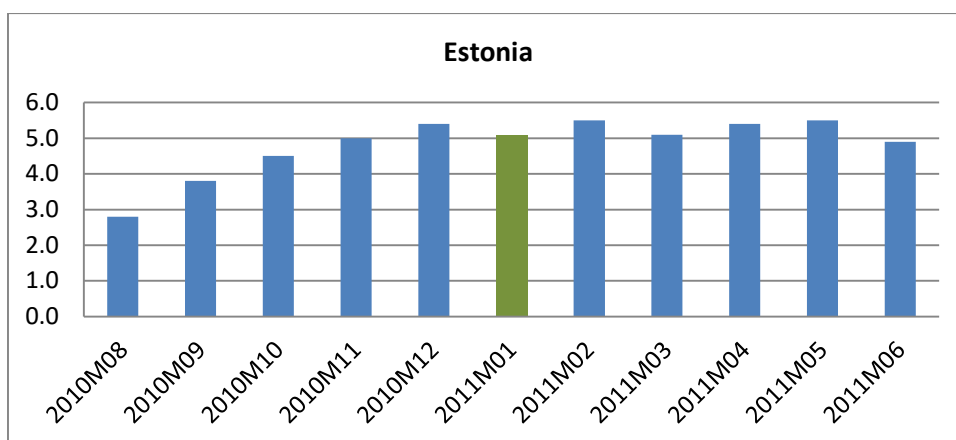
Source: author, Eurostat.

Figure 5. Annual inflation (HICP%)

In Estonia the annual percentage of HICP for January 2011 is 5.1%, compared to 2.7% in 2010. On an annual basis, we observe a rise of 2.4 percentage points. In February 2011 the HICP in Estonia rises to 5.5%, while



in March 2011 the rate is 5.1%. The rates of the indicator of the Eurozone for this period are much lower and are leveled in 2014.



**Source:** author, Eurostat.

*Figure 6. Monthly inflation before and after the adoption of the Euro*

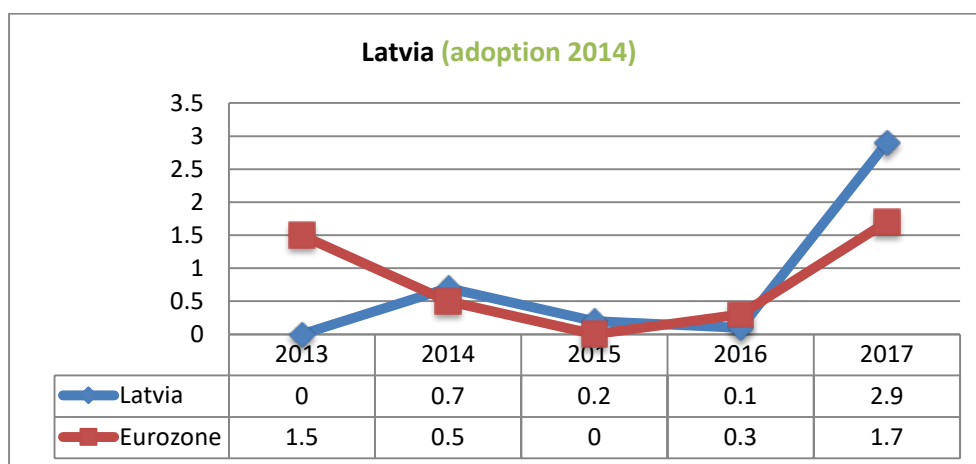
The change of inflation during the four months is 0.5% in December, 0.0% in January, 0.7% in February and 0.8% in March 2011. Calculations show that in Estonia the total one-time impact of the transition to the Euro regarding the inflation during and immediately after the transition to the Euro is between 0.2 and 0.3 percentage points. This assessment corresponds to the receding of the first wave of countries until 2002 and those of Slovenia in 2007., Cyprus and Malta in 2008 and Slovakia in 2009. For this reason, the Eurostat experts believe (Eurostat, Euro changeover and inflation in Estonia) that the effects of the transition to the Euro in Estonia seem to be conspicuous, but are not of a magnitude which can lead to a more substantial inflation, i.e., they are not significant. The accumulated inflation (<https://www.inflationtool.com>) for the period from 2011–2018 is 15.05 %.

Some of the reasons for a smooth transition to the Euro without a shock increase of the prices are related to the initiatives of Estonia’s government to guarantee the transparency of the prices after the adoption of the Euro in order to minimize the inflation consequences. All retailers are required to show prices in both currencies for a period of six months before and after the transition to the Euro. The Estonian Chamber of Commerce and Industry has started a campaign “The Euro will not increase the price” for merchants. Over 400 merchants voluntarily join in order to show that they use fair pricing. Those merchants can be differentiated through the official logo of the campaign and all large retailers (retail chains and supermarkets) join the campaign. Parallel to this, a monthly public comparison of prices starts, while

the prices of the most often purchased products and services are announced in the national press and on the web. Another measure is the distribution of calculators for determining the Koruna-Euro rate to all households prior to the adoption of the Euro in accordance with Estonia's National Changeover Plan (Estonia's National Changeover plan, 2010) for transition to the Euro.

#### 4. Latvia

Latvia adopts the Euro in January 2014 becoming the eighteenth country to join the eurozone. Figure 7 shows the annual inflation rate measured through HICP (%).



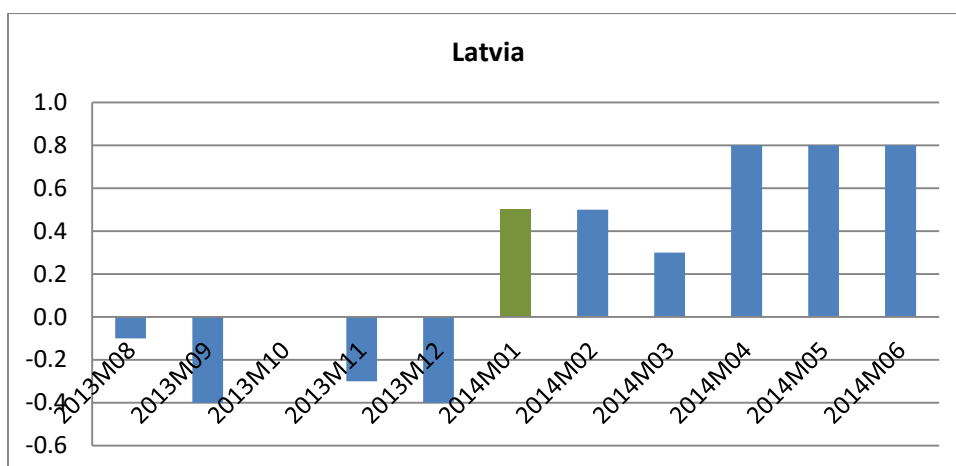
Source: author, Eurostat.

Figure 7. Annual inflation (HICP%)

On an annual basis we observe a decrease in the price rates of 0.5 percentage points; thus, the inflation reaches from 0.7% in 2014 to 0.2 in 2015. These figures are close to the data of the eurozone. Only in 2017 we observe a serious increase of this indicator, when it reaches 2.9%. Probably Latvia is already reaping the benefits of the transition to the euro in January this year. These will include: improved competition, banking brokerage and lower levels of interest rates, which secure immediate and long-term benefit for the economy. Besides this, despite the fears that merchants can take advantage of the increase in prices, the inflation of consumer prices has turned out to be lower than the expected. On the other hand, the growth of real estate prices and salaries increases faster, which can be partially accelerated by the expectations related to the Euro.

Yet, if we have a look at the monthly price rates in Figure 4, we will notice a slight rise after January 2014. After that month we observe inflation,

not deflation, as it is before this period. Nevertheless, on an annual basis, in the previous figure, we observe a decrease in inflation.



Source: author, Eurostat.

Figure 8. *Monthly inflation before and after the adoption of the Euro*

The monthly index trends are mostly negative during the second half of 2013. In January 2014 HICP increased by 0.7%, as part of this recovery can actually result in rounding and administrative costs. The fluctuations in the various price positions show that slightly over 50% of the monthly inflation is due to seasonal factors. The monthly increase is lower than the historical average for this part of the year, excluding January 2013 when a significant fall of the prices of imported energy raw materials and the prices for heating related to them dominates the seasonal effects. This fact is additionally aided by the increased tax rates of tobacco products (around 0.1 percentage points) compared to inflation. Since in February the prices remain unchanged on a monthly basis, we can conclude that all rounding and administrative effects took place in January. All these calculations, encompassing the development of prices before and after the adoption of the Euro, show that the one-time influence of the Euro on inflation is around 0.2 percentage points. A similar assessment, carried out by Eurostat (Latvia: benefiting from the euro, facing new challenges, <http://ec.europa.eu>), determines the possible one-time influence on Latvia's HICP within 0.12–0.21 percentage points in January 2014. The accumulated inflation (Value Of 2011 Euro Today <https://www.inflationtool.com>) for the period 2014–2018 in Latvia is 7.69%.

Similar to Estonia and the other countries of Central and Eastern Europe which have introduced the Euro, Latvia has undertaken a widespread information campaign. The information activities are aimed at the general

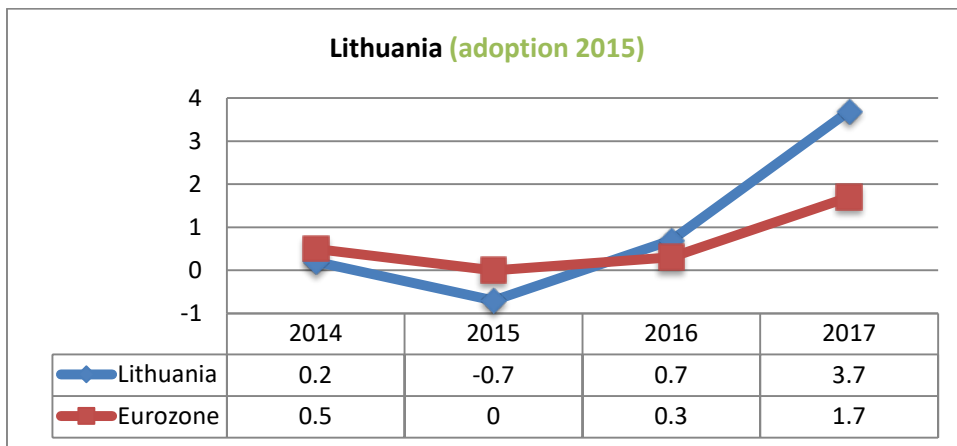
public, especially at the socially disadvantaged. Following Slovakia's example, a newspaper dedicated to the Euro is published and a currency calculator is distributed in Latvia to make the price conversion easier. The Latvian Ministry of Finance manages the so-called green line for citizens, which provides all the practical information related to the common currency. Similar to Estonia, Latvia starts a campaign "Fair introduction of the Euro" by the private sector for maintaining the transparency and setting fair prices. Unlike the enormous information campaign undertaken in Latvia before and during the currency conversion, a significant part of the citizens remains cautious about the use of the Euro due to the difficulties in Estonia and the unstable general economic situation.

Despite that, Latvia's economic indicators show a general positive experience with the introduction of the Euro. The increased competition, the banks' brokerage and the environment with low interest rates create immediate and long-term benefits for the economy. While the inflation of consumer prices is lower than the predicted one, the change in the Euro seems to have influenced some prices of assets, in particular, real estate, and to a lesser extent the indices of the stock exchanges.

## **5. Lithuania**

Lithuania adopts the Euro on 1 January 2015 at a rate of 1 Euro = 3.45280 Lithuanian Litas. Lithuania is the nineteenth country which adopts the common currency. As usual, in the first two weeks after the adoption of the Euro there is a period of dual circulation of Litas and Euro. This transition period ends on 15 January 2015. The banknotes and the coins of the former currency are replaced in post offices until 1 March 2015, in banks – until 30 June 2015 without additional commission.

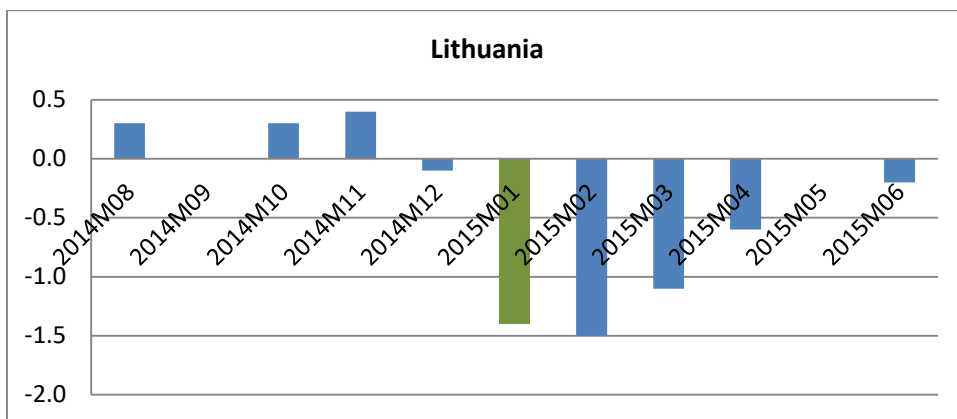
The inflation processes worry Lithuanian people, similar to the other countries which have already walked this way. Figure 9 shows that on an annual basis, during the year of adoption, there is deflation in Lithuania at a rate of -0.7 %. This percentage is lower than the average for the eurozone as of this moment, whereas we can still observe a fall compared to the base year 2014, when Lithuania still uses its national currency. In 2016 we observe a rise in the price rates, which in 2017 reaches 3.7%. In comparison, the accumulated inflation (Value Of 2011 Euro Today <https://www.inflationtool.com>) after Lithuania's accession to the eurozone as of July 2018 is 7.23%. We must, however, take into account the fact that Lithuania has been using the Euro as a payment instrument for a very short period of time.



Source: author, Eurostat.

*Figure 9. Annual inflation (HICP%)*

Eurostat (Eurostat, Euro changeover and inflation in Lithuania, <http://ec.europa.eu>) estimates that the monthly rate of change of HICP at all positions in Lithuania would probably be 0.04 and 0.11 percentage points lower in January 2015, if the Euro were not adopted. Thus, instead of -1.27%, the monthly percentage in January would probably be between -1.38% and -1.31%. This forecast effect on the monthly inflation for January 2015 seems to be the total one-time impact on the transition to the Euro during and immediately after the introduction of the Euro, since in February and March the impacts are statistically insignificant.



Source: author, Eurostat.

*Figure 10. Monthly inflation before and after the adoption of the Euro*

An information campaign is carried out in Lithuania with the purpose to restrict the possibilities of unfair pricing, similar to the one in Estonia and Latvia.

## **Conclusions**

Although the conversion has slight effects on the general inflation in the countries which introduced the Euro, the majority of them and their citizens think that the adoption of the Euro leads to a significant increase in prices. This substantial difference can be observed in the discrepancy between the rate of inflation perceived by the consumer and the actual inflation. Among the reasons for which the perceived inflation is much higher than the actual inflation in the period after the adoption of the Euro is the fact that citizens, usually, based on their perceptions of the levels of inflation, compare the prices of the less expensive products which they purchase frequently, and it is proven that the increase in prices of those less expensive products during the conversion is often more substantial. The increase of the difference between the perceived and actual inflation after the conversion stimulate a negative attitude to the Euro. Despite this, the experience of the countries which have so far adopted the Euro shows that consumers think that this increase is one-time. This does not threaten the price stability in the long run.

The experience in other countries shows that as a result of the introduction of the Euro, the prices have increased by no more than 0.2–0.3%. The analysis shows that in none of the five researched countries which have adopted the Euro, there was a significant increase of prices.

According to data of the ECB, Eurostat and the countries' central banks, the effect of the transition to the Euro within the total inflation rate is: in Slovenia – 0.3, Slovakia – 0.15, Estonia – 0.3, Latvia – 0.2, and Lithuania – 0.11 percentage points. Thus, objectively, the whole impact is minimal. Table 2 discusses the accumulated inflation in the countries; the base in once case is the date of adoption of Slovenia (2007), in another case – the date of adoption of the corresponding country, as in this case there is a discrepancy in the length of periods.

Table 2

**Accumulated inflation**

Country/year of adoption	Years passed after the adoption	Accumulated inflation 2007-2018	Accumulated inflation after the adoption until today	Average annual inflation after 2007	Average annual inflation after the adoption
Slovenia/ 2007	11	22.62%	22.62%	2.06%	2.06%
Slovakia/ 2009	9	20.78%	11.93%	2.31%	1.89%
Estonia/ 2011	7	42.35%	15.05%	6.05%	3.85%
Latvia/ 2014	4	44.82%	7.69%	11.21%	4.07%
Lithuania/ 2015	3	40.80%	7.23%	13.60%	3.71%

Source: Eurostat, <https://www.inflationtool.com/>

Nevertheless, it is evident that the average annual inflation after the adoption of the Euro is moderate and is lower than the average annual inflation in the countries from 2007 to 2018. In the cases of Slovenia, Latvia and Lithuania, on a monthly base, we even observe a fall of the price rates in the months after the adoption of the common currency.

The results we have received confirm the proof of the author's thesis that no significant increase in prices is observed in the analyzed countries after the adoption of the Euro. The main conclusion that we have reached is that it is impossible to determine precisely the actual inflation rate if those countries had not adopted the Euro, as the isolation of the effect of the realized inflation is not an easy task. There are various reasons for the changes in prices and they interact and overlap with the adoption of the Euro.

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# ***ECONOMIC ARCHIVE***

**YEAR LXXII, BOOK 1 – 2019**

---

## ***CONTENTS***

### **Yanko Ch. Hristozov**

Does the Introduction of the Euro Lead to High Inflation? Myth or Fact? / 3

### **Horatiu DANC**

Joining the Euro Zone – an Exploration of Real and  
Structural Convergence in Romania, Bulgaria and Croatia / 19

### **Elena P. Ralinska**

Modeling the Sources of Value in Banks and Valuation Through  
the Discounted Cash Flow Method / 33

### **Angel G. Angelov**

Public Expenditure on Education in the EU Member States:  
a Cluster Analysis / 52

### **Valya N. Vasileva**

Development of Consumer Lending by Non-Bank Credit Companies  
in Bulgaria / 65

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