What Kind Of Inflation Targeting Is Considered The Most Accepted In The Eu Economies?

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ABSTRACT

This study aims to identify the optimal inflation target for the European Central Bank (ECB). It will argue that the current definition of price stability and thus, the target of 2% yearly increase in HICP is not relevant according to our macroeconomic projection in Eurozone. This study argues that very low inflation rates for the last years may signify a threat of deflation. Specifically, the study argues for asymmetric inflation targeting and recommend the ECB to reformulate its inflation target as "close to 2.5% from below and above". This has to be done in order to counter possible deflation, lower unemployment, avoid the liquidity trap, and give more room for the ECB to conduct its macroeconomic policy under the threat of recession. It is also briefly illuminated some other benefits of higher inflation, such as the option of negative interest rates, seigniorage and money illusion, and the corresponding of the costs associated with higher inflation of 2.5%, such as shoe leather costs, menu costs, tax distortions and uncertainty due to price variability. It is assumed that the outcome of Cost-Benefit analysis for a 2.5% inflation target is not very different from that for a 2% level, while a greater increase in inflation target would produce unclear results.

KEYWORDS

Inflation targeting, central banks, the ECB, euro, optimal inflation rate, money illusion, negative interest rates, liquidity trap, deflation, monetary policy, inflation-targeting regimes.

INTRODUCTION

Inflation target rate in most industrialized countries ranges from 1% to 3% (i.e. annual growth rate of inflation). This reflects a coherent interpretation of long-term inflation rate, not hindering achievement of price stability in those countries. That is why for the Central Banks of these countries it would be difficult to set a higher target for inflation, as this would undermine their credibility. Thus, even if the target is set only by Central Banks in practice in industrialized countries freedom of the Central Bank in establishing an operational definition of price stability is extremely limited.

Given such limitations, what should the right level of inflation target be? Theories suggest different optimal inflation rates ranging from zero to any positive values like 2-4%, or even negative rates (known as Friedman rule) (Hammond, 2012, p.8). Zero inflation rate seems to have reasonable grounds: constant prices mean people are able to make rational consumption, spending or investment decisions without being hindered by uncertainty. In fact, zero inflation is the best to correspond to the definition of "price stability", so strived by all Central Banks, rather than 2% inflation by which it is usually defined. Proponents of zero inflation target often argue that inflation creates so-called "money illusion", which makes economic agents make wrong decisions thereby negatively affecting the economy (we will come back to the issue of "money illusion" later in the study). Negative inflation (i.e. deflation) characterized by falling prices seems to be even more attractive. However, it is so only at first sight. In fact, the economy would be seriously threatened in the presence of deflation (it will be discussed in detail later). Consumers would postpone consumption expecting the prices to decrease. Investments would fall as the real of cost of borrowing increases when inflation is negative. The widely cited example of an adverse effect of deflation on economy is Japan, which for many years could not escape the fate of falling prices.

In practice targeted inflation of all central banks is always positive, ranging from very low rates (1-2%) to comparatively high values (6-8%). How to explain this discrepancy between theory and practice? In Hammond's words (2012, p.6): "low inflation is a social good". One reason to have a positive target could be simply due to difficulty of measuring inflation and the errors associated with it. As it will be discussed later, predicted inflation rates (and the targeted one) usually exceed the actual realized inflation rates. Thus, it may be that when the target is set slightly above zero, the Central bank actually targets a zero level of inflation, taking into account measurement error. Most importantly, positive inflation seems to be more desirable, as it does not hinder economy activity as much as negative inflation rates do. As long as the rate of inflation is predictable, as announced and eventually met by the Central Bank, it should not have large economic costs due to money illusion. As stated by Hammond (ibid., p.8), having a positive inflation target, the probability of achieving low zero bound decreases, as it was the case during the period of the global economic crises in 2008-2009 years. Moreover, if there is a risk of falling into deflation, setting a positive inflation target can be a solution, as the costs of deflation on the economy are higher than those of inflation (ibid.). Another argument for a positive inflation is related to the structural labor rigidities common in many developed countries, especially in Europe. The common view was that a positive inflation target is desirable when there is resistance to reduce nominal wages.

Having understood the reasons most central banks set positive inflation targets, the question of what the optimal inflation target is still remains to be answered. In the real world, we see that targeted inflation rates are quite variable: for example, in many developed

countries the Central bank (e.g. The European Central Bank, the Bank of England, or Fed) set its target at 2% inflation per year, while some developing countries aim for 6-8% (e.g. Kazakhstan). These differences could mean that there is no optimal inflation target suitable for every economy in the world and that the optimality is dependent on such factors as the country's economic development, its culture, legal basis, etc. Thus, this study will specifically look at the case of inflation target of the European Central Bank, and the argued rate of inflation will be considered optimal particularly for the Eurozone.

What is Inflation targeting. Inflation targeting is a monetary policy framework currently used by many central banks. It has developed as a viable alternative and a response to the failures of money growth targeting in many advanced economies such as the United States, which was used at that time. Namely, money growth targeting characterized by setting the target for nominal money growth (measured using different money aggregates) in the medium run persistently failed to correctly predict and control the corresponding inflation (Blanchard, Johnson, 2012, pp.522-523). As opposed to money growth, inflation targeting as its name suggest controls inflation rates directly. According to Hammond (2012, p.5), inflation targeting can be defined as a general framework of monetary policy, with some of the essential features rather than as strict set of rules. He (ibid., p.5) defines them as follows:

1. "Price stability is explicitly recognized as the main goal of monetary policy.
2. There is a public announcement of a quantitative target for inflation.
3. Monetary policy is based on a wide set of information, including an inflation forecast.
4. Transparency.
5. Accountability mechanisms."

Although they seem to be quite general, the major characteristic distinguishing inflation targeting is the announcement of a certain qualitative target for a yearly inflation. This is exactly what this study aims to identify: what should this optimal target be? As Blanchard and Johnson (2012, p.526) point out countries which adopt inflation targeting define as their primary objective: "the achievement of a low inflation rate both in the short run and in the medium run". Thus, from the period of financial crises many countries have given up the outdated money growth targeting and started announcing inflation targeting, and by 2009 as much as 27 countries already targeted inflation directly, among which were Canada, New Zealand, the United Kingdom, etc. (Hammond, 2012).

So, inflation targeting has been around for over 20 years. During this period, this mode, as well as economic theory and the generally accepted views on the objectives of monetary policy have changed. The introduction of inflation targeting in many countries has coincided with "greater stability", a period of moderate inflation in consumer prices and reduced volatility of inflation and output (Geraats, 2009 cited in Hammond, 2012). Another advantage of moving to inflation targeting can be a greater transparency: as Dincer and Eichengreen (2007) found out the central banks of inflation targeting countries, such as the Reserve Bank of New Zealand, the Bank of England, and the European Central Bank, were most transparent in a sample of 100 countries (Hammond, 2012).

Current inflation policy of the European Central Bank. Since the creation of the common currency area in 1999, the European Central Bank3 (the ECB) has been striving to fight inflation, which is commonly regarded as a major "evil" of the economy to be feared. Indeed, constantly increasing prices usually have economic costs, as they affect income distribution through less secured social groups (e.g. the retired or government workers), distort price expectations and, consequently, influence decision-making (e.g. consumption, investment, price and wage setting). Since zero inflation seems unrealistic and sometimes

undesirable, as many other central banks do, the ECB aims to achieve a relatively low level of 2% increase in general price index. In euro area, inflation is defined as

"… a general increase in consumer prices and is measured by an index which has been harmonized across all EU Member States: Harmonized Index of Consumer Prices (HICP). The HICP is the measure of inflation which the Governing Council uses to define and assess price stability in the euro area as a whole in quantitative terms" (ECB, n.d)."

According to the ECB official reports (website):

"The primary objective of the ECB's monetary policy is to maintain price stability. The ECB aims at inflation rates of below, but close to, 2% over the medium term."

Review of the ECB monetary policy. The interest rate adjustment is the main method of modern concept of the monetary policy. A good example of its application is the European Central Bank. This control sets two different levels of interest rates: the marginal lending rate, at which additional liquidity to the banking sector is provided, and the deposit rate, at which commercial banks may place excess funds with the central bank. Consequently, the market interest rate of the interbank market fluctuates in the corridor between the two above-mentioned rates. In the European Union it is calculated as one-day money market rate (euro overnight index average - EONIA). This reformulation of the ECB's monetary strategy from 2003 made a clear emphasis that 2% inflation rate is a maximum and should be targeted from below. However, the question remains why similar fluctuations form upper bound are not acceptable for the ECB. Another issue with this definition of price stability concerns the ambiguity of "medium run": for how long can inflation rates different from the target to be ignored? The strategy of monetary policy of the European Central Bank relied on the experience of the national central banks as the

member states of the euro area, especially Germany and other industrialized countries. The ECB tried to take into account the conditions of the transition period in the formation of a unified financial and economic space of the European Union. The first feature of the ECB's strategy is a quantitative definition of "price stability": "Price stability is defined as the increase in annual terms of the harmonized index of consumer prices in the euro area to below 2%" (Pishik, 2002). Hence the second feature of the strategy of anti-inflationary policy of the ECB - the use of a specific harmonized index of consumer prices. The concept of a new aggregate index is that it tried to harmonize national CPIS for all countries of the euro zone, covering the widest list of consumer spending. (Nessen, 1999).

In conducting monetary policy, the ECB uses three main instruments: open market operations; providing daily credits; regulation of standard minimum reserve. According to the data of IMF in 2005, 21 countries used the inflation targeting as a method of conducting monetary policy, 8 of which - industrialized, and 13 - emerging market economy countries. We can assume that in 2005 the European Central Bank has also transferred to the orientation of monetary aggregate M3 growth control to pure inflation targeting regime (Pishik, 2002).

Increasing inflation target in the period of deflation. In order to justify the need to increase inflation target in the period of deflation, let us look at a simple formulation of the Phillips Curve, which refers to a trade-off between inflation and unemployment, presented by Blanchard, Johnson (2012, p.163):

$$\pi_t = \pi^e_t + (m+z) - \alpha u_t \quad (1)$$

where π_t refers to inflation rate, π^e_t - to expected inflation, and u_t– unemployment rate in period **t,** (**m** is a mark up over wages, **z** – other factors influencing wages, in our analysis we can ignore **m, z**).

According to the equation **(1)**, actual inflation rate is positively correlated with expected inflation rate. Thus, holding everything else constant, a decrease in expected inflation will actually realize in a lower inflation. Since both rational and adaptive expectations theories suggest that in forming their expectations people rely on past or present inflation rates, having very low or negative inflation rates for a long time will result in low expected inflation, and then in low actual inflation rate. This is exactly what is happening in the Eurozone: first, people may have expected inflation close to 2% target. However, after years of lower inflation rates, people revise downwardly their expectations, thereby influencing real inflation. Once inflation becomes negative, it will be very difficult to break this circle (i.e. Japan's long-lasting deflation). Thus, in order to avoid the possible deflation, the ECB should influence inflation expectations by raising the target above 2%. Moreover, the Central bank should try better to achieve its target by being closer to the 2% from below as well as above (we will return to this argument when discussing symmetric target and accountability), so that people believe that the EBC is determined to such a reformulation.

Inflation and Zero lower bound. In order to discuss the relationship between optimal inflation target and interest rates, we will refer to a Fisher Identity, which defines real vs. nominal interest rates (Romer, 2006, p.499):

$$i = r + \pi^e \quad (2)$$

where **i** – nominal interest rate, **r** – real interest rate, π^e – expected inflation

The essence of this equation is that what matters for people is the real cost of their borrowing **(r)** adjusted for inflation, not the one determined by the ECB.

Seigniorage. Revenue from seigniorage is the profit obtained in the process of issuing new money basis. Circulation of the Euro and US dollar as a reserve currency in many countries and its use in international trade brings considerable profit. By the way the information on the income from seigniorage strictly classified in different countries figures vary from 0.4 to 18% of GDP (Moiseev, 2000). Seigniorage is the profit, down from inflationary tax equal to the rate of inflation, which pays population. The formula of inflation tax is following:

$$IT = C\pi + D (\pi - i)$$

which is **C** – Cash in circulation; **π** - the inflation rate; **D** - cash deposits; **I** - nominal interest rate on deposits.

For example, the money in circulation –1000 Euro, money on deposit - 3000 Euro, the nominal rate of interest on deposits - 12%, and the inflation rate is 10%. Then there will be a tax:

$$IT= 1000 \text{ Euro x } 0,1+ 3000 \text{ Euro } (0,1-0,12)$$
$$= 100 \text{ Euro - } 60 \text{ Euro } = 40 \text{ Euro}$$

Can seigniorage and the inflation tax does not match? Whether the inflation tax can be greater than seigniorage? Yes, for example, in conditions of galloping and hyperinflation when inflation trends develop faster than the increase of the money supply by increasing the velocity of money.

Focus on revenues from seigniorage is simple and clear evidence of fiscal dominance. When the government is unable to increase its revenues in the traditional way, it refers to the seigniorage. In developing countries, the use of seigniorage as one of the major sources of budget revenues often happens due to structural deformation in the tax system. These distortions include unstable sources of tax revenues, weak tax procedures, imbalances in the distribution of the tax burden, etc. Often, there is nothing to restrict government use of seigniorage, especially the temptation to resort to it in times of crisis (Moiseev, 2000).

Costs of Higher Inflation target. The quantitative analysis of the expected rate of inflation implies consideration of the major factors influencing a consumer capability and consumer readiness of citizens and subjects of the market. Conditionally speaking, each percent of inflation has the price and it is possible to determine its quantitative influence on the pockets of (i.e. purchasing power) citizens and subjects of the market.

Shoe-leather Costs. Shoe-leather cost of inflation results in the decrease of a consumer capability of citizens owing to loss of an active money on the commission of bank servicing. The Storage of money on savings accounts in banks increases with an increase in inflation, as people cannot allow money to be idle and would prefer to have them on accounts.

Let's say that each percent of inflation increases quantity of money which an object carries out through bank for 5%, then in case of 3% of the average commission of bank of **3% * 5% = 0,15**% there will be a price of one percent of inflation.

Although the value of shoe-leather costs is undetermined, we argue that a slight increase in inflation target from 2 to 2.5% will not exacerbate them, as long as the stability is achieved.

Tax Distortions. Tax distortions imply an increase in the value added tax owing to inflation availability, respectively in direct ratio depends on the implemented expectation from an inflation indicator.

> **X** – initial cost of good
> α – inflation rate
>
> **T** - taxes index by financial institution
> **N** – number of complete annual periods

$$Taxes = (T) * \frac{X(1+\alpha)^N - X}{X(1+\alpha)^N};$$

For **α'=α+0,01**, we have:

$$Taxes\ increase\ (with\ 1\%\ inflation\ increase)$$
$$= (T)(X) * \left[\frac{1}{(1+\alpha)^N} - \frac{1}{(1+\alpha')^N}\right]$$

A higher inflation target can be associated with greater distortions in taxing system. However, it can be argued that any non-zero rate of inflation creates tax distortions and a slight increase of an optimal target from **2%** to **2.5%** will not have a significant effect on the existing fallacies of taxation. That is to say, the cost of inflation in terms of greater tax distortions is a result of a bad tax system rather than internal nature of inflation.

Money illusion. As discussed before, an increase in inflation creates more money illusion. Inflation implies loss of value of a money, and the bigger quantity of money after inflation can have smaller specific weight. The illusion of money when the quantity of money at the consumer or the subject of the market increases, but specific weight of this money in

the market is so created, and owing to a consumer capability decreases. In other words, on big money it is possible to expect to purchase smaller quantity of goods. However, as presented before, money illusion is also beneficial for the economy when the markets (e.g. labor market in Europe) are downwardly rigid. Thus, having increased an optimal target from above 2% will create positive and negative effects of money illusion.

Variability of inflation. The main problem due to variability of an indicator of inflation is impossibility to foresee dynamics of growth or fall of specific weight of a money. This is basically reason for Central Banks to announce a specific quantitative target for inflation and look at the corresponding expectations. With the increase in inflation target, the variability of inflation, i.e. the range of values it may take, may increase. However, it could be argued that even with the existing 2% the actual values of inflation are quite invariable, fluctuating around zero (this is presented in section: Projection for Macroeconomic development in Eurozone). In fact, as we presented before, the EBC has been consistently failing to meet its inflation target. Thus, the simple reformulation of the monetary policy in Eurozone will not increase the variability of actual inflation year by year.

Recommendation Revisited and Concluding Remarks

Stability of economy of the Eurozone, its sustainable development implies relevance of questions of existence of fixed indicators of a solvency. Bases of creation of the competent budget for subjects of business and an entrepreneurship, transparent indexation of the taxation and a number of questions of the euro-carrying bank institutes concerning maintenance of competitiveness have a direct connection and directly depend on financial policy of the regulator concerning inflation and interest rate.

The free biddings of European currency, abundance of trading floors imply fluctuations of financial performance, but at the same time the monetary policy shall count everything. Variations will always work as quasi-elastic force of objectively established around the "balance point" - in our case, the inflation for financial institutions, subjects of small, medium, large business, as well as ordinary citizens. In this research study the argued that given an Optimal Inflation Target should be slightly raised from a yearly **2% to 2.5%** in HICP index. We recommend the European Central Bank to reformulate its monetary policy as:

"The primary objective of the ECB's monetary policy is to maintain price stability. The ECB aims at inflation rate of 2.5% over the medium term. The fluctuations above and below the optimal 2.5% are equally undesirable".

Having analyzed the current situation of too low inflation rates in the Eurozone, we argue that the ECB is running a threat of falling into deflation, unless the current macroeconomic policy is revised. Thus, in the face of the possible deflation it is necessary to influence inflation expectations by slightly increasing an optimal inflation target. The need to increase inflation target in the period of deflation is justified by our analysis of Phillips Curve. The main arguments for an increase in inflation target are 1. Increasing inflation will reduce unemployment at least in the Short-Run, which we derived by looking at the Phillips relationship. Another positive effect of a higher inflation target on employment was due to money illusion and labor market rigidity. 2.

Increasing inflation target would save the economy from falling into liquidity trap, since very low levels of inflation close to zero signify that Eurozone is approaching Zero-Lower Bound. Thus, we see that the main reason for the ECB to increase its target is to respond to the upcoming deflation, and 2% level is too low to be optimal. Therefore, we conclude that a slight change in the inflation target will not change the outcome of Cost-Benefit analysis dramatically: i.e., with the current 2% inflation target the Eurozone is already facing the above-mentioned costs and enjoying the benefits, and a small necessary change have roughly same consequences. It is specifically for this reason we do not argue for a larger increase in inflation target, as the results in terms of costs and benefits are unclear. Our reformulation of the ECB monetary policy also stresses out the symmetry of targeting (a good example of symmetric target is the Bank of England), as inflation above and below target should be equally undesirable. This should also make the ECB more accountable by restricting the range and requiring it to respond in more cases.

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