INFLATION RATE DIFFERENTIALS AND MONETARY POLICY IN EUROZONE

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Abstract
The primary goal of the European Central Bank’s (ECB) monetary policy is to achieve price stability. Whereas during the 1980s and 1990s there was a rapid and strong convergence in terms of price differential among the Euro countries, particularly in those countries with higher inflation rates in the past, single monetary policy has proved to be quite inefficient in continuing this trend and has not achieved further reductions in inflation rate differentials within the euro zone. Since the ECB sets the official interest rate according to the average inflation of the euro area, the persistence of such price differentials within the area would mean that the “one size interest rate policy” would not fit all. This paper studies empirically the inflation rate differentials and their persistence in some currency unions with the aim to draw some conclusions for the working of the ECB monetary policy.

Keywords: eurozone; inflation targeting; monetary policy; price stability

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1. Introduction
The primary goal of the European Central Bank’s (ECB) monetary policy is to achieve price stability. Whereas during the 1980s and 1990s there was a rapid and strong convergence in terms of price differential among the Euro countries, particularly in those countries with higher inflation rates in the past, single monetary policy has proved to be quite inefficient in continuing this trend and has not achieved further reductions in inflation rate differentials within the euro zone. Since the ECB sets the official interest rate according to the average inflation of the euro area, the persistence of such price differentials within the area would mean that the “one size interest rate policy” would not fit all.

The introduction of the euro in 1999 marked an important threshold within the process of deepening of the European integration. Yet the road to adoption of the common currency
was not smooth – the countries that decided to join the common European currency system had to synchronize their fiscal and monetary policies through decisive and at times painful disinflationary and budget-balancing procedures. The euro-convergence process is undoubtedly a monumental effort, considering vast economic imbalances that existed among these countries prior to the Maastricht Treaty of 1991 that officially launched the euro inception program.

In 1998 eleven EU member-states had met the convergence criteria, and the Eurozone (also known as Euro Area, Eurosystem or Euroland) came into existence with the official launch of the euro on 1 January 1999. Greece qualified in 2000 and was admitted on 1 January 2001. Physical coins and banknotes were introduced on 1 January 2002. Slovenia qualified in 2006 and was admitted on 1 January 2007 bringing total Eurozone membership to its current level of over 316 million people and thirteen member states.

On 1 May 2004, eight Central European former communist states, together with Cyprus and Malta, joined the 15-member European Union. Estonia, Lithuania and Slovenia joined the Exchange Rate Mechanism (ERM) of the Economic and Monetary Union (EMU) in June 2004 and hope to become members of the Euro area by 1 January 2007. Latvia joined the ERM in May 2005 and targets full membership of the EMU in 2008. Slovakia also joined ERM in 2005 and hopes to join the Eurozone in 2009. The Czech Republic, Hungary and Poland have not yet joined the ERM. In this article I consider whether or not the new member states would benefit from joining the Eurozone and any potential economic grounds for excluding them.

2. Consumer Price Index and Harmonised Index of Consumer Prices

A consumer price index (CPI) is an index number measuring the average price of consumer goods and services purchased by households. It is one of several price indices calculated by national statistical agencies. The percent change in the CPI is a measure of inflation. The CPI can be used to index (i.e., adjust for the effects of inflation) wages, salaries, pensions, or regulated or contracted prices.

The Harmonised Index of Consumer Prices (HICP) is an indicator of inflation and price stability for the European Central Bank (ECB). It is a weighted average of price indices of member states in order to show what the consumer price index does for the entire Eurozone. One goal of the ECB in fighting to keep price stability is to keep the HICP below
2% for the medium term. In order to do that the ECB can control the short term interest rate, the European overnight index average, which affects market expectations.

The harmonisation process started to be forged in 1995 with a main objective: define the phases that lead to HCPI and put them together in a legal document that makes this process obligatory. Thus Council Regulation 2494/95 was approved in October 1995 in which the two phases that will make up this process are clearly defined:

- The first phase was developed during 1996 and established the calculation of Transitory Consumer Price Indices (TCPI), based on the CPI of each one of the European Union member states.
- The second contemplates the construction of Harmonised Consumer Price Indices (HCPI) as the result of homogenising the most important methodological aspects of each of the Consumer Price Indices in order to make them comparable.

During the transitory implementation period the necessary modifications and adjustments were made on national CPIs until an index with some special characteristics common to all countries is achieved. The first index in this phase is the one corresponding to January 1997 and was published on 7 March. Since then, the HCPI corresponding to the previous month has been published.

As for the geographical and population coverage, this was harmonised in all member states in the January 2000 index. From this year, the HCPI covered the expenditure of the whole population of a member state country, both rich and poor, urban and rural and individual or group households. Moreover, it includes the expenditure of foreign visitors and excludes that made by own population of this country outside our borders except business expenditure.

Since the creation of monetary union in March 1998, EUROSTAT (European Union Statistical Office) calculates Monetary Union Consumer Price Index (MUCPI) as a weighted average of all HCPI from the twelve Monetary union countries (Germany, Austria, Belgium, Finland, France, Greece, Holland, Ireland, Italy, Luxembourg and Portugal). The weightings of each country for the calculation of MUCPI is updated every year and they reflect expenditure on final private domestic consumption (in Euros).

Moreover, EUROSTAT also calculates the European Union consumer price index (EUCPI). Before the creation of monetary union, this index was calculated from the HCPI of the fifteen European Union member states. But since the calculation of MUCPI, the EUCPI is
calculated as the weighted average of MUCPI and HCPI of countries that do not form part of monetary union (Denmark, Sweden and the United Kingdom). The weightings in the Eurozone and the other three countries in the calculation of EUCPI is updated every year and reflected private national consumption expenditure (in Euros). The values of national private consumption in the national currency turn into standard purchasing parity by using the purchasing power parities from final consumption.

While HCPI provide the best statistical base to make international comparisons for inflation and represent considerable progress in the harmonisation of methodologies, we can still not speak of complete harmonisation of consumer price indices. In this sense technical agreement on different aspects will still be proposed. Among these is the treatment of quality adjustments, homogenisation in price collection and the methodological treatment of specific lots.

3. Inflation targeting

In the 1990s, several countries shifted to a new monetary policy regime: an announced quantitative inflation target. The reason for this shift was the unsatisfactory performance under previous regimes. New Zealand, Canada, Australia, and Spain all introduced inflation targets under persistently high inflation; the United Kingdom, Sweden, and Finland did so after having abandoned fixed exchange rates, which had failed to achieve low and stable inflation and had been subject to dramatic speculative attacks. Inflation targeting has received much recent attention, both among policymakers and academics. In the United States and in Europe it is debated as a possible monetary policy strategy for the Federal Reserve System and the future European Central Bank, respectively. Academic research on inflation targeting, both theoretical and empirical, has grown quickly.

Inflation targeting is a monetary-policy strategy that was introduced in New Zealand in 1990, has been very successful, and as of 2007 had been adopted by more than 20 industrialized and non-industrialized countries. The *numerical inflation target* is typically around two per cent at an annual rate for the Consumer Price Index (CPI) or a core CPI, in the form of a range; or a point target with a range; or a point target without any explicit range. The difference between these forms does not seem to matter in practice: a central bank with a target range seems to aim for the middle of the range, and the edges of the range are normally
interpreted as ‘soft edges’ in the sense that they do not trigger discrete policy changes, and
being just outside the range is not considered much different from being just inside.

Practical inflation targeting has several common characteristics:

- an announced quantitative inflation target, varying across countries between 1.5 and
  2.5 percent per year, in most countries with a tolerance band of plus/minus 1
  percentage point around the target;

- no explicit rule on how the central bank shall set its instrument;

- a floating exchange rate;

- a high degree of transparency and accountability. Commentators also often describe
  inflation targeting as a regime without an intermediate target for monetary policy
  (instead, targeting inflation “directly”).

In practice, inflation targeting is never ‘strict’ inflation targeting but always ‘flexible’
inflation targeting, in the sense that all inflation-targeting central banks (‘central bank’ is used
as the generic name for monetary authority) not only aim at stabilizing inflation around the
inflation target but also put some weight on stabilizing the real economy, for instance,
implicitly or explicitly stabilizing a measure of resource utilization such as the output gap
between actual output and ‘potential’ output. Thus, the ‘target variables’ of the central bank
include not only inflation but other variables as well, such as the output gap. The objectives
under flexible inflation targeting seem well approximated by a quadratic loss function
consisting of the sum of the square of inflation deviations from target and a weight times the
square of the output gap, and possibly also a weight times the square of instrument-rate
changes (the last part corresponding to a preference for interest-rate smoothing). (The
instrument rate is the short nominal interest rate that the central bank sets to implement
monetary policy.) However, for new inflation-targeting regimes, where the establishment of
‘credibility’ is a priority, stabilizing the real economy probably has less weight than when
credibility has been established (more on credibility below).

Because there is a lag between monetary-policy actions (such as an instrument-rate
change) and its impact on the central bank’s target variables, monetary policy is more
effective if it is guided by forecasts. The implementation of inflation targeting therefore gives
a main role to forecasts of inflation and other target variables. It can be described as forecast
targeting, that is, setting the instrument rate (more precisely, deciding on an instrument-rate
path) such that the forecasts of the target variables conditional on that instrument-rate path
‘look good’, where ‘look good’, for instance, means that the inflation forecast approaches the inflation target and the output-gap forecast approaches zero at an appropriate pace.

Inflation targeting is characterized by a high degree of transparency. Typically, an inflation-targeting central bank publishes a regular monetary-policy report which includes the bank’s forecast of inflation and other variables, a summary of its analysis behind the forecasts, and the motivation for its policy decisions. Some inflation-targeting central banks also provide some information on, or even forecasts of, its likely future policy decisions.

This high degree of transparency is exceptional in view of the history of central banking. Traditionally, central-bank objectives, deliberations, and even policy decisions have been subject to considerable secrecy. It is difficult to find any reasons for that secrecy beyond central bankers’ desire not to be subject to public scrutiny (including scrutiny and possible pressure from governments or legislative bodies). The current emphasis on transparency is based on the insight that monetary policy to a very large extent is ‘management of expectations’. Monetary policy has an impact on the economy mostly through the private-sector expectations that current monetary-policy actions and announcements give rise to. The level of the instrument rate for the next few weeks matter very little to most economic agents. What matters is the expectations of future instrument settings, which expectations affect longer interest rates that do matter for economic decisions and activity.

Furthermore, private-sector expectations of inflation affect current pricing decisions and inflation for the next few quarters. Therefore, the anchoring of private-sector inflation expectations on the inflation target is a crucial precondition for the stability of actual inflation. The proximity of private-sector inflation expectations to the inflation target is often referred to as the ‘credibility’ of the inflation-targeting regime.

Inflation-targeting central banks sometimes appear to be obsessed by such credibility, but this obsession is for good reasons. If a central bank succeeds in achieving credibility, a good part of the battle to control inflation is already won. A high degree of transparency and high-quality and convincing monetary-policy reports are often considered essential to establishing and maintaining credibility. Furthermore, a high degree of credibility gives the central bank more freedom to be ‘flexible’ and also stabilize the real economy.

Whereas many central banks in the past seem to have actively avoided accountability, for instance by not having explicit objectives and by being very secretive, inflation targeting is normally associated with a high degree of accountability. A high degree of accountability is
now considered generic to inflation targeting and an important component in strengthening the incentives faced by inflation-targeting central banks to achieve their objectives. The explicit objectives and the transparency of monetary-policy reporting contribute to increased public scrutiny of monetary policy. In several countries inflation-targeting central banks are subject to more explicit accountability.

So far, since its inception in the early 1990s, inflation targeting has been a considerable success, as measured by the stability of inflation and the stability of the real economy. There is no evidence that inflation targeting has been detrimental to growth, productivity, employment, or other measures of economic performance. The success is both absolute and relative to alternative monetary-policy strategies, such as exchange-rate targeting or money-growth targeting. No country has so far abandoned inflation targeting after adopting it, or even expressed any regrets. For both industrial and non-industrial countries, inflation targeting has proved to be a most flexible and resilient monetary policy regime, and has succeeded in surviving a number of large shocks and disturbances.

As of 2007, a long list of non-industrial countries were asking the International Monetary Fund for assistance in introducing inflation targeting. Although inflation targeting has been an unqualified success in all the small- and medium-sized industrial countries that have introduced it, the United States, the Eurozone and Japan have not yet adopted all the explicit characteristics of inflation targeting, but they are all moving in that direction.

Reservations against inflation targeting have mainly suggested that it might give too much weight on inflation stabilization to the detriment of the stability of the real economy or other possible monetary-policy objectives; the fact that real-world inflation targeting is flexible rather than strict and the empirical success of inflation targeting in the countries where it has been implemented seem to confound those reservations.

A possible alternative to inflation targeting is money-growth targeting, whereby the central bank has an explicit target for the growth of the money supply. Money-growth targeting has been tried in several countries but been abandoned, since practical experience has consistently shown that the relation between money growth and inflation is too unstable and unreliable for money-growth targeting to provide successful inflation stabilization. Although Germany’s Bundesbank paid lip service to money-growth targeting for many years, it often deliberately missed its money-growth target in order to achieve its inflation target, and is therefore arguably better described as an implicit inflation targeter. Many small and medium-sized countries have tried exchange-rate targeting in the form of a fixed exchange
rate, that is, fixing the exchange rate relative to a centre country with an independent monetary policy. For several reasons, including increased international capital flows and difficulties defending misaligned fixed exchange rates against speculative attacks, fixed exchange rates have become less viable and less successful in stabilizing inflation. This has led many countries to instead pursue inflation targeting with flexible exchange rates.

A current much-debated issue concerning the further development of inflation targeting is the appropriate assumption about the instrument-rate path that underlies the forecasts of inflation and other target variables and the information provided about future policy actions. Traditionally, inflation-targeting central banks have assumed a constant interest rate underlying its inflation forecasts, with the implication that a constant interest rate inflation forecasts that overshoots (undershoots) the inflation target at some horizon such as two years indicates that the instrument rate needs to increased (decreased). Increasingly, central banks have become aware of a number of serious problems with the assumption of constant interest rates. These problems include that the assumption may often be unrealistic and therefore imply biased forecasts, imply either explosive or indeterminate behaviour of standard models of the transmission mechanism of monetary policy, and at closer scrutiny be shown to combine inconsistent inputs in the forecasting process (such as some inputs such as asset prices that are conditional on market expectations of future interest rates rather than constant interest rates) and therefore produce inconsistent and difficult-to-interpret forecasts. Some central banks have moved to an instrument-rate assumption equal to market expectations at some recent date of future interest rates, as they can be extracted from the yield curve. This reduces the number of problems mentioned above but does not eliminate them. For instance, the central bank may have a view about the appropriate future interest-rate path that differs from the market’s view. A few central banks (notably in Norway and Sweden) have moved to deciding on and announcing an optimal instrument-rate path; this approach solves all the above problems, is the most consistent way of implementing inflation targeting, and provides the best information for the private sector. The practice of deciding on and announcing optimal instrument-rate paths is now likely to be gradually adopted by other central banks in other countries, in spite of being considered more or less impossible, or even dangerous, only a few years ago.

Another issue is whether flexible inflation targeting should eventually be transformed into flexible price-level targeting. Inflation targeting as practised implies that past deviations of inflation from target are not undone. This introduces a unit root in the price level and
makes the price level non-stationary. That is, the conditional variance of the future price level increases without bound with the horizon. In spite of this, inflation targeting with a low inflation rate is referred to as ‘price stability’. An alternative monetary-policy regime would be ‘price-level targeting’, where the objective is to stabilize the price level around a price-level target. That price-level target need not be constant but could follow a deterministic path corresponding to a steady inflation of two per cent, for instance. Stability of the price level around such a price-level target would imply that the price level becomes trend stationary, that is, the conditional variance of the price level becomes constant and independent of the horizon. One benefit of this compared with inflation targeting is that long-run uncertainty about the price level is smaller. Another benefit is that, if the price level falls below a credible price-level target, inflation expectations would rise and reduce the real interest rate even if the nominal interest rate is unchanged. The reduced real interest rate would stimulate the economy and bring the price level back to the target. Thus, price-level targeting may imply some automatic stabilization. This may be highly desirable, especially in situations when the zero lower bound on nominal interest rates is binding, the nominal interest rate cannot be further reduced, and the economy is in a liquidity trap, as has been the case for several years until recently in Japan. Whether price-level targeting would have any negative effects on the real economy remains a topic for current debate and research.

4. Conclusion

Explicit inflation targeting appears to have many advantages compared to the available alternatives. Monetary policy becomes goal-directed, incentive-compatible, and transparent. Yet, flexible inflation targeting allows some concern about stability of output, employment, and real exchange rates to influence policy-making. Inflation targeting central banks are improving their ability to control inflation. More research adds to the understanding of the strong and weak sides of this regime, and to the central bankers’ knowledge of how to best operate it.
References


