Sustainability of inflation

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The Slovak Republic has applied for euro area accession as the first country of the Visegrád countries. In this process, it is important to fulfill the Maastricht criteria, which relate to the inflation rate as measured by the harmonized index of consumer prices (HICP), the interest rates, the ratio of the government deficit to gross domestic product, the level of government debt, as well as the stability of the Slovak koruna to euro exchange rate. In discussions before the publication of the assessment of the fulfillment of the convergence criteria on the part of the European Commission (ECOM) and the European Central Bank (ECB), information emerged that not only the nominal fulfillment of the criteria is important, but also their long-term sustainability. The problem of sustainability of inflation has thus become the key factor in deciding on the date of the adoption of the euro. Therefore we are going to attempt to answer the question: Is the fulfillment of the inflation criterion on the part of the Slovak Republic sustainable in the long run?

To begin with, we have to look at the legal framework and at what the provisions of the Treaty provide for in connection with the price development (Box 1). According to Article 1 of the Protocol on the convergence criteria, the price stability criterion means that a member state maintains **long-term price stability**. However, long-term price stability is not more closely defined in any other legal documents.

Chapter 2 of the ECB Convergence Report of May 2008, which describes the framework for analysis, says that "to allow a more detailed examination of the sustainability of price developments, the average rate of HICP inflation over the 12-month reference period from April 2007 to March 2008 is reviewed in the light of the Member States' economic performance over the last ten years in terms of price stability. In this connection, attention is drawn to the orientation of monetary policy, in particular to whether the focus of the monetary authorities has been primarily on achieving and maintaining price stability, as well as to the contribution of other areas of economic policy to this objective. Moreover, the implications of the macroeconomic environment for the achievement of price stability are taken into account. Price developments are examined in the light of demand and supply conditions, focusing on, inter alia, factors influencing unit labor costs and import prices. Finally, trends in other relevant price indices (such as the HICP excluding unprocessed food and energy, the national CPI, the CPI excluding changes in net indirect taxation, the private consumption deflator, the GDP deflator and producer prices) are considered. From a forward-looking perspective, a view is provided of prospective inflationary developments in the coming years, including forecasts by major international organizations and market participants. Moreover, structural aspects which are relevant for maintaining an environment conducive to price stability after adoption of the euro are discussed."

There is no precise specification of the criterion of the sustainability of inflation and for the assess-

Box 1

Provisions of the Treaty regarding the price criterion

The first indent of Article 121(1) requires "the achievement of a high degree of price stability; this will be apparent from a rate of inflation which is close to that of, at most, the three best performing Member States in terms of price stability".

Article 1 of the Protocol on the convergence criteria referred to in the first indent of Article 121 (1) of the Treaty stipulates that „the criterion on price stability referred to in the first indent of Article 121(1) of this Treaty shall mean that a Member State has a price performance that is sustainable and an average rate of inflation, observed over a period of one year before the examination, that does not exceed by more than 1 ½ percentage points that of, at most, the three best performing Member States in terms of price stability. Inflation shall be measured by means of the consumer price index on a comparable basis, taking into account differences in national definitions."

ment of long-term sustainability; the specification thus depends on the institution's view on the issue. When assessing the sustainability of the development of inflation, whether in the short run or in the long run, it is thus necessary to take into account the initial state of Slovakia's economy, the process of liberalization and transformation of the economy, including important structural changes, the current development, also in connection with the high openness of the economy and interconnection with the external economic environment, as well as the expected future development of the individual macroeconomic fundamentals, which can influence the future development of consumer prices and thereby also the inflation rate as measured by the HICP compared to the countries of the euro area.

Hence, from the point of view of the Národná banka Slovenska, the price development over the last 10 years, the monetary policy, the impact of the exchange rate, of regulated prices and the so-called Ballassa-Samuelson effect should be taken into account in assessing the long-term sustainability of inflation.

The price development over the last ten years

When looking at inflation over the last ten years, one can see (Chart 1) that the development was very volatile and that Slovakia started to fulfill the criterion only in the last period (from August 2007). The development of inflation in the Slovak Republic as a transformation country was primarily influenced by a gradual liberalization and deregulation of energy prices and their adjustments to a level covering justified costs and an adequate profit, by changes in excise duties (to the minimum level required by EU regulations), as well as by the introduction of a single VAT rate. Such factors as exchange rate depreciation and an insufficiently developed competitive environment influenced the price development in 1998 through 2004.

The recent fulfillment of the criteria, however, is not the result of one-time measures, but of the influence of several long-term factors, such as prudential monetary policy (introduction of inflation targeting – influence on inflationary expectations), fiscal consolidation, and the completion of increases in regulated prices for households as a result of achieving the justified costs in 2005. Their regulation from 2006 onwards is only the result of the growth of justified costs (commodity, distribution costs etc.), which implies smaller secondary effects on other consumer prices. From 2003 onwards, appreciation of the exchange rate started to become visible in the prices. Structural changes in the retail market and a gradual intensification of competition, driven by the gradual arrival of retail chains and the trend towards a change in the orientation of the end consumer to larger stores with a wider range of products and sales area, had an impact on the slowdown of the growth rate of consumer prices.

Chart 1 Comparison of development in 12-month average HICP inflation and Maastricht convergence criterion

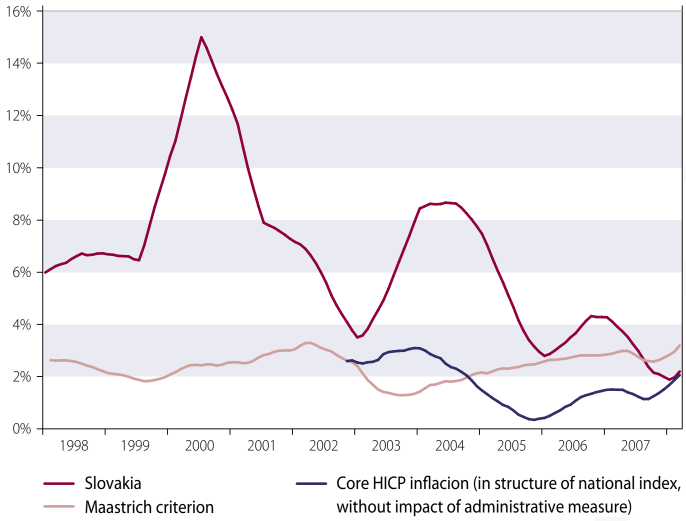
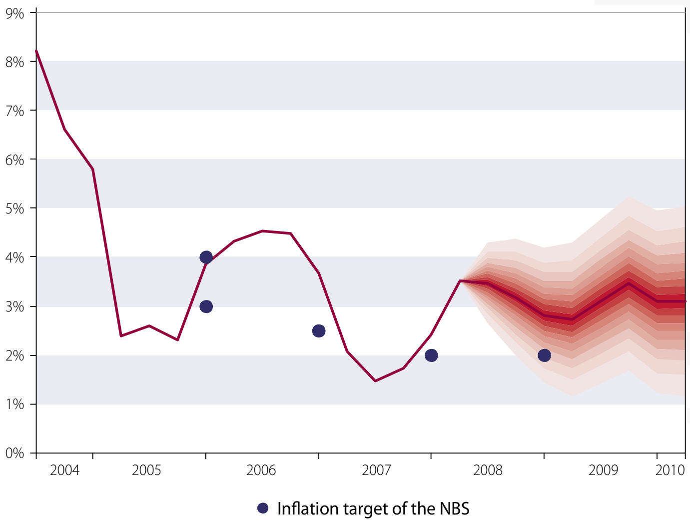


Chart 2 HICP inflation forecast



Source: NBS.

Monetary policy of the NBS

In December 2004, the Bank Board of the Národná banka Slovenska adopted the Monetary Program until 2008, in which it defined the performance of monetary policy as inflation targeting under the conditions of the ERM II with the setting of inflation targets for 2005 to 2008. The inflation targets were set at the level of less than 2.5% in December 2006 and less than 2.0% in December 2007 and 2008, so that the Maastricht criterion based on the average 12-month inflation is fulfilled. At the end of November 2005, the Slovak koruna joined the ERM II exchange rate mechanism (central parity set at 38.4550 SKK/EUR with a standard fluctuation band of ± 15 %), the central parity having been revalued by 8.5 % in March 2007 as a result of a favorable development of basic macroeconomic values.

The orientation of the monetary policy of the central bank towards the effort to form inflationary expectations in the medium run (by means of the Communication Strategy of the National Bank

A comparison of the average prices for households

	Natural gas (D3) EUR/GJ		Electricity (Dc) EUR/kWh	
	1 January 2007	1 July 2007	1 January 2007	1 July 2007
EÚ15	12.17	11.32	0.121	:
EA	12.52	11.99	0.120	:
CZ	7.94	8.04	0.089	0.088
HU	5.97	8.92	0.102	0.110
PL	8.76	9.02	0.095	0.097
SK	9.64	9.84	0.129	0.135

Source: Eurostat.
Note: Appreciation over the course of 2007 and the current development in 2008 brought about a further increase in energy prices as expressed in euros and the difference compared to the EU average is thus even lower, or the prices exceed the EU average.

of Slovakia and the formation of expectations of forward-looking economic agents) was due to a time lag of the monetary policy settings to inflation (more than 1 year). The National Bank of Slovakia performs the setting of monetary policy (interest rate movement) based on deviations of the current inflation forecast from the preset desired path and from the expected development of the real product as compared to the potential product (the production gap) by means of the core econometric model QPM (Quarterly Projection Model), which also contains forward-looking inflationary expectations.

In terms of monetary policy and considering the main objective (the fulfillment of the Maastricht criteria and adoption of the euro), the introduction of inflation targeting has been successful despite the fact that compliance with the inflation target failed in 2006 and 2007. The set inflation levels were exceeded due to factors lying outside the monetary policy, such as administrative actions, the development of the prices of energy commodities and agricultural commodities in the world markets, which were defined in the Monetary Program of the National Bank of Slovakia until 2008 as exceptions from the fulfillment of the inflation target.

Other factors important for sustainability

The main argument in discussions on further sustainability of inflation in the future was the fear that the development in the last period was influenced by two main factors, the **exchange rate and regulated prices**. As for the exchange rate, the claim occurred that the considerable exchange rate appreciation has helped Slovakia to keep inflation at low levels and that the reason for high and unsustainable inflation could be the fixation of the exchange rate, which causes the loss of nominal appreciation to be fully reflected in the growth of inflation. In the case of the regulated prices, there has been the fear that they are set below the costs and have helped Slovakia to fulfill the convergence criteria and that they will grow considerably again after the adoption of the euro.

The professional public, but also international institutions, discussed the impact of the exchange rate on consumer prices or the impact of the pass-through effect on the development of inflation mainly in 2005 to 2007, when the average year-on-year appreciation of the Slovak koruna exchange rate against the euro reached 5.5 % in that period. Estimates of the level of the pass-through effect in Slovakia range from 0.15 to 0.35, but the analyses of the National Bank of Slovakia show rather lower level ranging from 0.1 to 0.2[1]. Especially the development in 2007 was beyond any possible scenario of the impact of the exchange rate on the development of inflation, because despite a considerable (more than 9 %) average year-on-year appreciation the growth of consumer prices did not slow down, particularly the growth of tradable goods, which are exposed to price competition from abroad (it is no problem for retailers to import cheaper goods from abroad). Possible explanations include the assumption that the development of inflation could be influenced by the inertia of exchange rate appreciation present in Slovakia in the previous period (around 3-4% on an average) and the sellers based their price setting on this exchange rate appreciation. Another possibility for price setting is to set prices based on the central parity, which is also demonstrated by the price-tags in stores (the customer can easily convert the exchange rate, of the price is stated both in Slovak korunas and in euros on the price-tag). Following exchange rate fixation, the prices of industrial goods should gradually converge to the levels in the euro area. In its current medium-term forecast, the National Bank of Slovakia does not expect that the said considerable appreciation could be reflected in the prices of industrial goods with a delay by the end of 2008. We estimate the impact of the exchange rate, which was reflected in inflation in 2007, to be approximately at the level of 0.5 percentage points.

In terms of regulated prices and their possible sustainability, it is important whether energy prices are below/above the average of the countries of the euro area or EU or at the level of that average, and whether all regulated prices for the households are at a level covering the cost and a reasonable profit. With the evaluation of the future sustainability of inflation, it is also necessary to abstract from the past development of regulat-

1 BIATEC No. 11/2007 provides more details on the impact of the exchange rate on consumer prices from the point of view of the NBS.

ed prices, which were influenced by the deregulation process. Variables that will have an impact also in the medium and long run are a quite high proportion of energy within the structure of consumer spending of the population, high energy intensity of the production of Slovakia's economy and finally the structure and competitive environment of the energy market in Slovakia and Europe. The first factor means that, in comparison with the countries of the euro area, Slovakia would reach a higher growth rate of inflation under the same oil price growth (assuming a homogenous commodity source) expressed in euros (if there is no domestic currency) due to a higher percentage of the energy prices in the HICP basket of consumer goods as compared to euro area countries. The second factor exercises influence by means of indirect effects on the growth of prices of the remaining components of inflation and, simultaneously, it conditions the proneness of Slovakia's inflation to offer shocks of supply shocks in the prices of energy commodities. A positive effect of the considerable deregulation of prices until the beginning of 2005 is the high and comparable level of energy prices for the end consumers as compared to euro area countries, which could, to a considerable extent, contribute to the sustainability of inflation in the future in the long run.

In connection with the current development of oil prices and energy commodities, the growth of energy prices in Slovakia is likely to be reflected in a higher HICP inflation in comparison with euro area countries as a result of higher weights. If the said development occurs, it will bring about an approach to the reference limit if the inflation criterion.

Slovakia is a country with a converging economy under transformation and one can expect that the inflation rate will be slightly higher than the average inflation rate of the euro area. The degree of convergence (as measured by purchasing power parity), however, can be lower or higher than the real inflation rate (which was the case, for example, with Greece, Spain and Portugal). Consequently, convergence cannot be compared to the inflation rate as measured by the HICP. In the case of Slovakia, it is more than probable that based on the current, as well as expected, structure of the basket of consumer goods (a high percentage of energy, a low percentage of market services compared to euro area countries) and based on the fact that qualitative changes with the growth of real income will not be reflected in a considerably higher inflation of industrial goods excluding fuels. The growth rate of the inflation of industrial goods should approach the average weighted growth rate of the prices of euro area countries. In the prices of market services, on the other hand, the price growth will be reflected as a result of the increase in real income and of the Ballasa-Samuelson effect[2].

For this reason, inflation should reach lower growth rates than the rate of real convergence.

Conclusion

In the case of Slovakia, no artificial interventions in the development of inflation have been made with the direct objective to decrease its level (e.g. reduction of indirect taxes, freeze of the growth of regulated prices), which should not be reflected in a higher growth rate following the adoption of the euro.

Apart from the above mentioned facts, such as exchange rate fixation, the impact of the Ballassa-Samuelson effect, the structure of the basket of HICP consumer goods and consumer spending, the future development of the market is important in the medium run and in the long run. In this connection, flexibility of the labor market, the solution of the problem of long-term unemployment, the future development of the wage discipline, labor productivity in relation to the wage growth especially in the tradable sector, and a consistent fiscal discipline not producing additional inflationary pressures will be of importance.

The adoption or introduction of the euro as the only means of payment in the Slovak Republic thus does not represent an unambiguous threat for the growth of inflation to unsustainable values. The euro will only accentuate the intensity and responsibility of a complex economic policy of the Slovak Republic, particularly the fiscal one. At the same time, it will represent a positive challenge for the further development of economic activities, which should constitute the basic stimulating factor of convergence towards more advanced economies.

2 The higher growth rate of labor productivity in the converging economies than in the euro area creates space for a considerable wage growth in the tradable sector of converging economies, which will pass-through to a wage growth in the non-tradable sector, which exercises pressure on a faster growth of prices in services and a faster growth rate of inflation in the converging economies as compared to the euro area.