

Box 5

IMPACT OF SERVICES AND NON-ENERGY INDUSTRIAL GOODS PRICES ON THE RECENT DECLINE IN HICP INFLATION

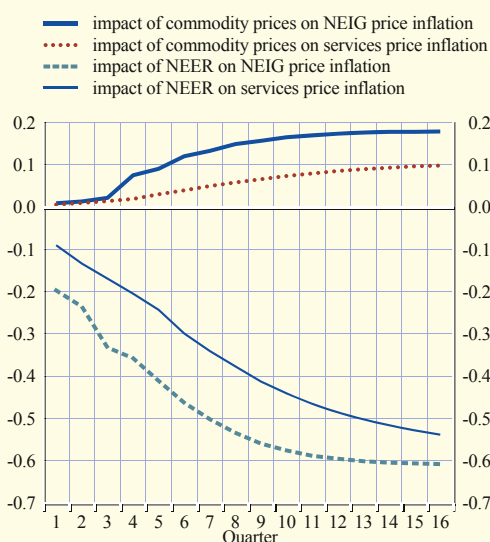
Over the past two years, HICP inflation excluding energy and food has declined from around 1.5% to an historically low level of 0.7% in December 2013, before rebounding somewhat in early 2014. This reflects declines in both the non-energy industrial goods and services price components of HICP inflation.¹ These two components tend to be affected to different extents by global and domestic factors. This box examines recent developments in services and non-energy industrial goods price inflation from different angles in order to better understand the recent decline in underlying inflation.

Global factors impacted more strongly on non-energy industrial goods inflation

Global factors tend to have a stronger impact on non-energy industrial goods price inflation than on services price inflation. A number of items in non-energy industrial goods, such as computers and some electrical appliances, are either imported or are produced domestically with a high import content. The slowing pace of inflation in emerging economies combined

Chart A Impact of a 10% increase in the euro nominal effective exchange rate (NEER) or commodity prices on non-energy industrial goods (NEIG) and services price inflation

(deviation from baseline in percentage points, x-axis quarters after shock)



Source: ECB calculations.
Note: The estimation results are based on a method outlined in Landau, B. and Skudelny, F., "Pass-through of external shocks along the pricing chain: a panel estimation approach for the euro area", *Working Paper Series*, No 1104, ECB, November 2009. Commodity prices are from the HWWI and comprise energy, food and industrial raw materials.

¹ For a discussion of factors explaining the typically different magnitudes in services price inflation and non-energy industrial goods price inflation, see the box entitled "Why is services inflation higher than goods inflation in the euro area?", *Monthly Bulletin*, ECB, January 2009.

with the appreciation of the euro since mid-2012 have thus exerted a dampening effect on non-energy industrial goods price inflation in the euro area by means of more moderate import price developments. By contrast, services prices tend to reflect a relatively greater impact from production costs in the domestic economy, notably labour costs.

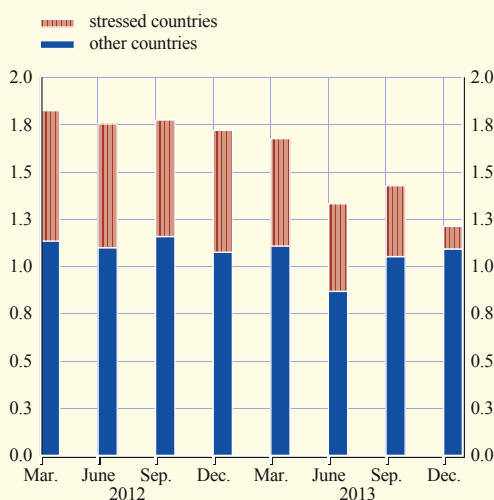
The different exposure to global factors can be captured by the respective responsiveness of non-energy industrial goods and services inflation to commodity and exchange rate shocks. Model-based analyses suggest, first, that a 10% increase in the euro nominal effective exchange rate or in commodity prices has a larger impact on non-energy industrial goods price inflation than on services price inflation (see Chart A). Second, the impact of a 10% appreciation of the nominal effective exchange rate has, in absolute terms, a larger impact on both non-energy industrial goods price inflation and services price inflation than a 10% increase in commodity prices.

Domestic demand factors more evident in services price inflation in stressed countries

Services include many items such as health care, education and recreation, which are produced domestically, and the prices of which largely reflect labour costs. In addition, some items, such as restaurants and hotels, tend to have a high demand elasticity and prices may, therefore, be very responsive to changes in the real disposable income of households. One way to gauge the role of domestic cost and demand factors in recent inflation developments is to compare services and non-energy industrial goods price inflation across euro area countries over the past two years. Countries under market stress have seen stronger downward adjustments to wages and labour costs and sharper falls in income and demand than other countries in the euro area. Depending on the degree of competition, the magnitude and lag with which the adjustment to labour costs and the fall in income affect services price inflation may differ across countries.

Chart B Service price inflation and contribution from stressed and other countries

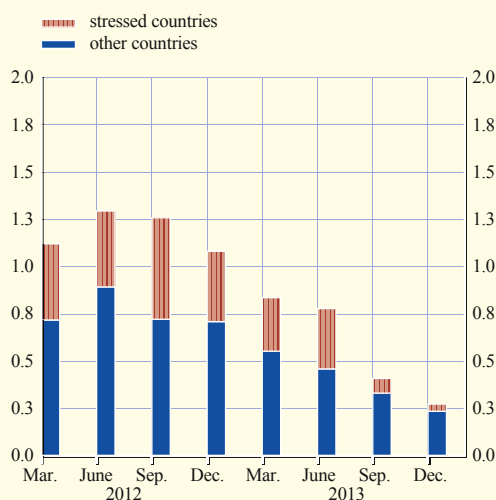
(quarterly data, annual percentage changes and contributions)



Sources: Eurostat and ECB calculations.
Note: Stressed country group includes: Ireland, Greece, Spain, Italy, Cyprus, Portugal and Slovenia.

Chart C Non-energy industrial goods price inflation and contribution from stressed and other countries

(quarterly data, annual percentage changes and contributions)



Sources: Eurostat and ECB calculations.
Note: Stressed country group includes: Ireland, Greece, Spain, Italy, Cyprus, Portugal and Slovenia.

The decline in euro area services price inflation over the past two years has been largely due to a marked decline in the contribution from the group of countries that have been under market stress (this group includes Ireland, Greece, Spain, Italy, Cyprus, Portugal and Slovenia). The contribution from other countries has remained broadly unchanged (see Chart B). By contrast, the drop in euro area non-energy industrial goods price inflation has been relatively broadly based across euro area countries (see Chart C), confirming that global factors have had a significant downward impact on inflation across countries.

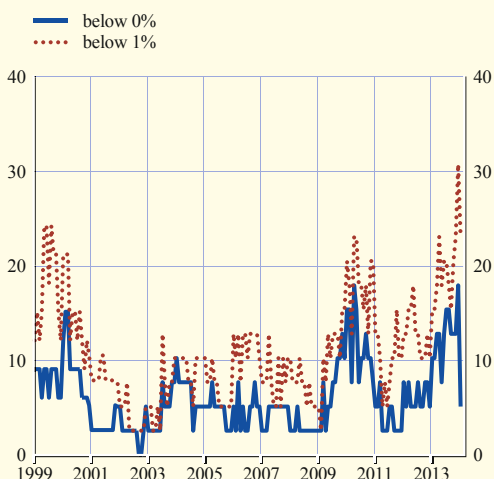
Shares of items with annual rate of change below zero per cent are not unusually high

In order to accurately assess the relative declines and the low levels of inflation for non-energy industrial goods and services prices, it is useful to examine the extent to which these developments are broadly based or related to a limited number of items only. In principle, a broad-based decline and low level of inflation may have a greater capacity to adversely affect long-term inflation expectations and thus reinforce disinflationary pressures.

The shares of items with annual rates of change below certain thresholds, such as 1.0% or 0%, suggest that the weaknesses in services and non-energy industrial goods price inflation have become more broadly based over the past two years. At the same time, the shares are not unusually high when compared with peaks in earlier periods. For services, the shares of items with negative growth rates and with growth rates of below 1.0% increased in 2013, partly reflecting some ad hoc factors, such as the elimination of certain medical fees in Germany, which contributed to lower prices, on an annual basis, for medical and dental services. Both the shares of items with either negative annual growth rates or annual growth rates of below 1% declined between December 2013 and January 2014, to stand at 5% and 23% respectively. The latest shares are either close to or lower than those seen during the peak in 2010 (see Chart D).

Chart D Shares of HICP services items with annual rate of change below 1% and 0%

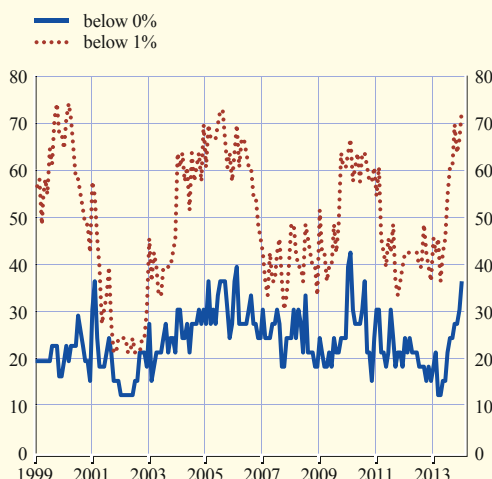
(percentages)



Sources: Eurostat and ECB calculations.

Chart E Shares of HICP non-energy industrial goods items with annual rate of change below 1% and 0%

(percentages)



Sources: Eurostat and ECB calculations.

In the case of non-energy industrial goods prices, the shares of items with annual price changes in negative territory or below 1.0% increased in 2013 and also in January 2014, to stand at 36% and 73% respectively. These magnitudes have also been observed in earlier disinflationary periods (see Chart E). Furthermore, those items to have recently experienced falling prices have, either occasionally or regularly, also witnessed falling prices in the past.

To conclude, both global supply and domestic demand factors have contributed to the decline in HICP inflation excluding energy and food over the past two years. Global factors, such as lower commodity prices, appear to have had a relatively larger downward impact on non-energy industrial goods price inflation, whereas the cyclical weakness of the euro area economy has had a relatively larger impact in terms of the lower services price inflation. The decline in euro area services price inflation mainly stemmed from lower contributions from stressed countries, whereas the decline in non-energy industrial goods price inflation has been broadly based across euro area countries. Finally, the movement towards lower underlying inflation has been broadly based across sub-items, but the shares of items with negative annual growth rates are not high compared to earlier disinflationary periods. Looking ahead, according to the March 2014 ECB staff macroeconomic projections, average underlying HICP inflation – namely services and non-energy goods prices inflation taken together – is expected to remain unchanged at 1.1% in 2014, before increasing to 1.4% in 2015 and 1.7% in 2016.