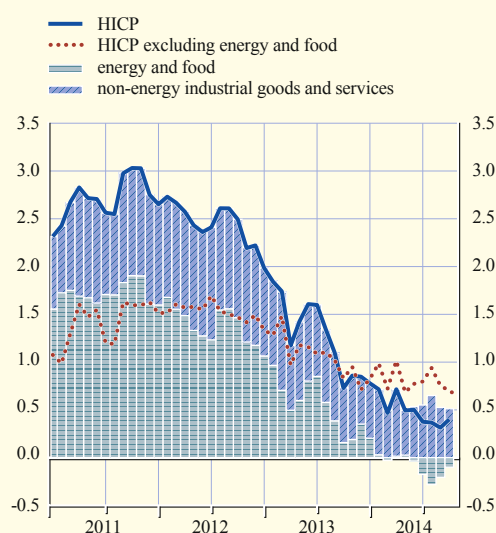


RECENT REVISIONS TO PROJECTIONS OF EURO AREA HICP INFLATION

This box provides an overview of recent revisions to projections of euro area HICP inflation and of the accuracy of the ECB/Eurosystem's projections in this regard. When assessing revisions to inflation projections, it is useful to bear in mind the factors that have been driving actual inflation developments. In this respect, the decline in headline HICP inflation in the euro area that began in late 2011 reflects mainly the decline in the contributions from the energy and food components (see Chart A). In the case of the energy component, the decline has been due primarily to developments in commodity prices and exchange rates. HICP inflation excluding energy and food also declined from mid-2012, in an environment of weak demand and strong pressure to regain competitiveness, but has remained broadly stable since the last quarter of 2013, supported by the gradual economic recovery that began in 2013.

Chart A HICP inflation and HICP inflation excluding energy and food

(annual percentage changes; percentage point contributions)



Sources: Eurostat and ECB calculations.

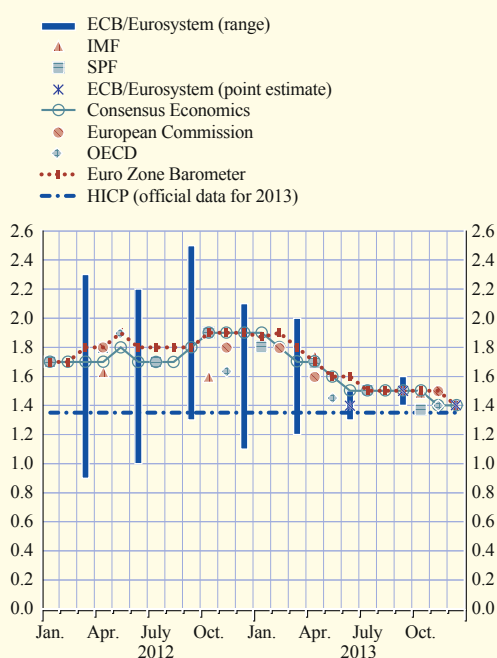
While contained price pressures were foreseen to some extent, the decline in euro area HICP inflation has led various international organisations and private institutions to repeatedly revise their projections downward.¹ The evolution of projections of HICP inflation for 2013 (see Chart B) by the IMF, ECB Survey of Professional Forecasters (SPF), Consensus Economics, Euro Zone Barometer, OECD and European Commission, as well as the ECB/Eurosystem, shows that the inflation outcome of 1.4% was consistently over-predicted by all institutions, but was nevertheless within the ECB/Eurosystem staff projection ranges². Chart C shows that the projections of inflation for 2014 have been subject to even more significant downward revisions.

1 By contrast, during the recovery period that followed the financial crisis, projections of euro area HICP inflation were predominantly lower than actual inflation. See, for example, the box entitled "The forecast bias for euro area HICP inflation", *Monthly Bulletin*, ECB, Frankfurt am Main, June 2012.

2 Unlike the other institutions under review, the ECB/Eurosystem publishes projection ranges to account for the uncertainty associated with the projections. For a detailed description of how the ranges are calculated, see *A guide to Eurosystem staff macroeconomic projection exercises*, ECB, Frankfurt am Main, June 2001, p.15; *New procedure for constructing ECB staff projection ranges*, ECB, Frankfurt am Main, September 2008; and *New procedure for constructing Eurosystem and ECB staff projection ranges*, ECB, Frankfurt am Main, December 2009.

Chart B Evolution of projections of average annual euro area HICP inflation for 2013

(annual percentage changes)

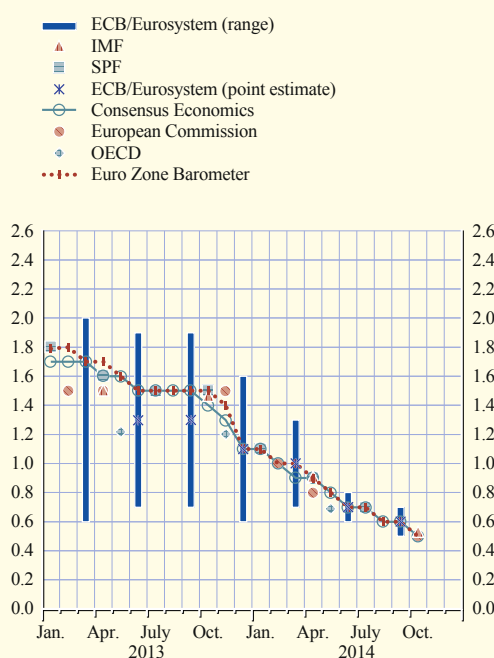


Sources: ECB, European Commission, IMF, OECD, Euro Zone Barometer and Consensus Economics.

Notes: The dates on the x-axis correspond to the publication dates of the various projections. The time span between the cut-off date for the information used and the actual publication date varies across projections.

Chart C Evolution of projections of average annual euro area HICP inflation for 2014

(annual percentage changes)



Sources: ECB, European Commission, IMF, OECD, Euro Zone Barometer and Consensus Economics.

Notes: The dates on the x-axis correspond to the publication dates of the various projections. The time span between the cut-off date for the information used and the actual publication date varies across projections.

Main factors driving revisions to projections of euro area HICP inflation for 2013 and 2014

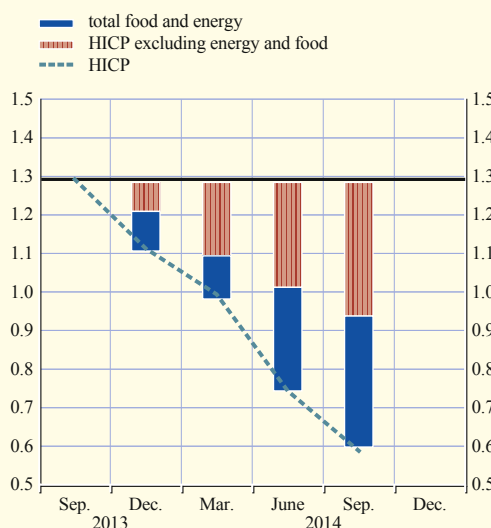
The ECB/Eurosystem staff macroeconomic projections of HICP inflation for 2013 were gradually revised downward, mainly on account of downward revisions to projections of HICP inflation excluding food and energy, with the contribution from downward revisions to the energy component being relatively limited. Relatively adverse weather conditions implied upward revisions to projections of food price inflation in 2013, partly offsetting downward revisions to other components. For 2014, the revisions have been more broadly based, including revisions to HICP inflation excluding food and energy, and revisions to the volatile components of food and energy themselves (see Chart D).³ In the case of the energy component, the revisions mainly reflect lower than anticipated oil prices in euro, while in the case of the food component, they reflect unexpectedly favourable weather conditions that have driven down food prices compared with the previous year.

When assessing the factors behind the revisions to HICP inflation for 2013 and 2014, it is important to note that projections are made on the basis of specific technical assumptions, in particular, for commodity prices and exchange rates. Chart E, for example, shows that by assuming constant exchange rates in the Eurosystem staff projections, a major factor behind the overestimation of HICP inflation projections for 2013 and 2014 has been the appreciation of the euro up to May 2014.

³ Since the ECB/Eurosystem staff macroeconomic projections only provided ranges before the autumn 2013 round, the analysis is based on the mid-point of the projection range prior to that round.

Chart D Breakdown of revisions by the ECB/Eurosystem to HICP inflation projections by component

(percentage points)



Source: ECB calculations.

Note: The chart shows the contribution of HICP components to the revisions to projections of HICP inflation for 2014, taking the September 2013 ECB staff macroeconomic projections as the benchmark.

Chart E Assumed and actual USD/EUR exchange rate



Source: ECB calculations.

Note: "Assumed value" is defined as the futures-based oil price projections assumed in the Eurosystem staff macroeconomic projections.

This had a direct downward impact on energy inflation through oil prices in euro terms, but also dampened HICP inflation excluding energy and food via its impact on import prices for both final consumer goods and intermediate inputs. The depreciation of the euro since May 2014 implies an assumption error in the June 2014 Eurosystem staff projections, but the upward revision to inflation that this would normally imply has been offset by the fact that oil prices in US dollar terms have declined much more sharply than assumed in that exercise.

Revisions to projections of HICP inflation excluding food and energy can also reflect a stronger than expected impact of economic slack, as slack is an important determinant of price pressures. This may reflect the considerable uncertainty associated with the measurement of slack itself, but also a greater responsiveness of inflation to slack if the structural reforms that have been implemented in several countries in recent years have reduced rigidities in product and labour markets. Linked to this, there are also other possible reasons for revisions, such as the effects related to the unexpected depth and duration of the crisis, and the lower than expected pass-through of increases in indirect taxes in some countries.

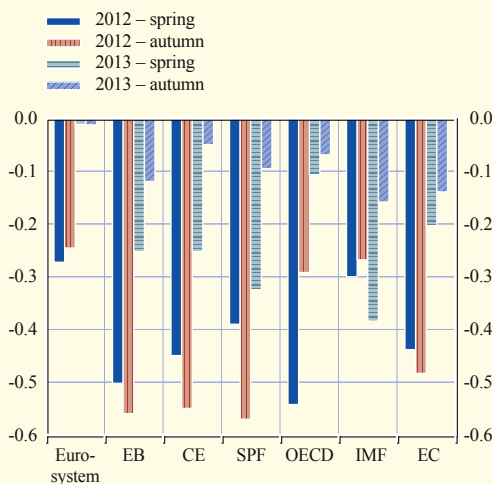
Comparing the forecast errors across institutions

An analysis of the errors in the forecasts of euro area HICP inflation for 2013 across institutions shows that the Eurosystem's forecasts compare favourably (see Chart F).⁴ Chart G shows the projections of headline inflation by the various institutions and compares them with the average outcome up to October 2014. The Eurosystem's projections of euro area inflation in 2014 have

⁴ For a longer-term assessment of the projection performance among various institutions covering 2000-12, see also the article entitled "An assessment of Eurosystem staff macroeconomic projections", *Monthly Bulletin*, ECB, Frankfurt am Main, May 2013.

Chart F Forecast errors by various institutions for 2013 euro area HICP inflation

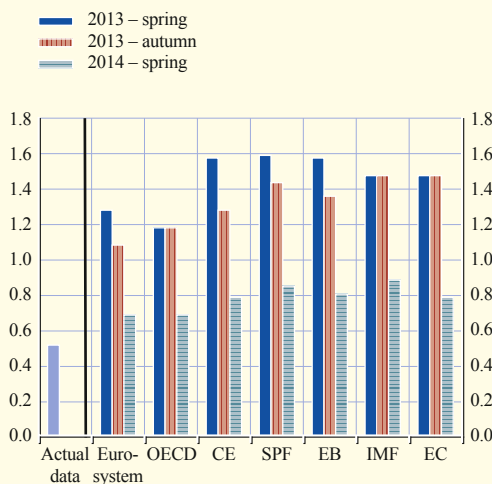
(percentage points)



Sources: ECB, European Commission (EC), IMF, OECD, Euro Zone Barometer (EB) and Consensus Economics (CE).
Note: Forecast error is defined as the inflation outcome minus the projection.

Chart G Forecasts by various institutions for 2014 euro area HICP inflation

(annual percentage changes)



Sources: ECB, European Commission (EC), IMF, OECD, Euro Zone Barometer (EB) and Consensus Economics (CE).
Note: "Actual data" is the average HICP inflation outcome up to October 2014.

so far been closer to the actual outcome, suggesting a higher level of accuracy, the only exception being in the case of the 2013 spring exercise, in which the OECD's errors were marginally smaller.⁵

Conclusion

Overall, throughout 2013 and 2014 international organisations and private institutions have revised their forecasts of headline HICP inflation downward. All components of the HICP contributed to the ECB/Eurosystem's revisions to their forecasts. Clearly, correctly anticipated developments in the exchange rate, as well as in oil and food prices, would have significantly reduced the need for revisions. However, the revisions to forecasts of HICP inflation excluding food and energy suggest that other factors, including uncertainties associated with the measurement and impact of economic slack, may also have played a role. In this context, structural reforms and increased competition may have exerted downward pressure on prices through a greater responsiveness to economic slack.

⁵ One drawback when comparing the forecasts of various institutions is that they are prepared at slightly different points in time, which, in practice, implies that institutions have different information when producing their forecasts. This may have an impact on the relative accuracy of the forecasts.