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How significant are the deflation risks in the eurozone?

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## HOW SIGNIFICANT ARE THE DEFLATION RISKS IN THE EURO-ZONE?

Ever since the inflation rate in the euro area fell below the 1% mark there has been a heated debate about the deflation risks. In a whole host of EMU countries such as Spain, Portugal and Ireland the inflation rate is only a few tenths off the zero line, and in some countries such as Greece and Cyprus the overall price level is actually dropping. There is concern not only because the inflation rate of the overall index is so low, but also because the core rate (overall index stripping out energy, food, drink and tobacco) has recently sunk to 0.8%.

For the European Central Bank, this constitutes a clear departure from its hoped-for price norm of an inflation rate of below, but close to, 2%. Nevertheless, at the most recent ECB press conference in particular, ECB President Draghi vehemently denied the deflationary trends in the euro area and pointed out that inflation expectations are well anchored in the euro area, and that there are very few similarities with the situation seen in Japan in the 1990s.

We agree with the ECB's view that the marked decline in the inflation rate is not the start of a deflationary process. It is largely the result of unavoidable cost and price adjustments in the peripheral EMU countries, which are inevitable in order to restore competitiveness. As this process is associated with stable or falling savings rates, and as consumer sentiment has also improved significantly in the meantime, there is no indication of a deflationary spiral.

In our base scenario we assume that the economic recovery in the euro area will continue, that the situation in the labor market will generally improve and that, consequently, wages and income will once again pick up more strongly. A revival in momentum in the global economy should also mean that commodity prices will pick up moderately and that we will consequently not face declining import prices. Overall, such an environment should mean that the general inflation rate in the euro area will already exceed 1% in the second half of 2014 and will continue to gradually creep up in 2015.

Of course, the fact that upswing forces are still uncertain poses risks for this base scenario. Could a weaker global economy put a stop to the economic recovery in the euro area? How strongly does the EMU inflation rate respond to alternative economic scenarios? These questions, which we consider to be very important, will be addressed below.

In order to do this, we will use the explanatory and forecast model for price developments in the euro area (Working Paper 153, July 6, 2012), which we developed and updated in 2012. In mid-2012, when the inflation rate in the euro area was fluctuating around 2.5%, we used this econometric approach to forecast a sharp decline in inflation to just below 1% by the end of 2013. The forecast approach explains consumer prices (the CPI) by means of the trade-weighted nominal external value of the euro (NEER), the oil price (OIL) as an indicator of commodity prices, and wage costs per hour. In addition, the CPI, delayed by one period, is included, as the price level usually exhibits a lagged response to changes in the determinants. The forecast period stretches from the first quarter of 2000 to the third quarter of 2013 and uses quarterly figures. Both the explained variables, and those requiring explanation, are logarithmic to enable us to directly conclude the elasticities.

$$CPI_t = b_0 + b_1 NEER_t + b_2 OIL_t + b_3 W_t + b_4 CPI_{t-1} + e_t$$

The forecast approach explains 99.96% of the diversification of the logarithmic consumer price index. If the forecast and actual values are transformed into the price index annual rate of change, the approach can explain 83% of the diversification, which is a good result for rates of change.

Dependent variable: CPI  
 Estimate period: 2000Q1 2013Q3

Variable	Coefficient	Std. error	t-statistic
C	0.427	0.040	10.746
NEER	-0.023	0.005	-4.787
OIL	0.011	0.001	9.942
W	0.287	0.048	5.916
CPI (t(-1))	0.635	0.052	12.169
Coefficient of determination	0.9996		
Standard error	0.0017		
Durbin-Watson statistic	1.6015		

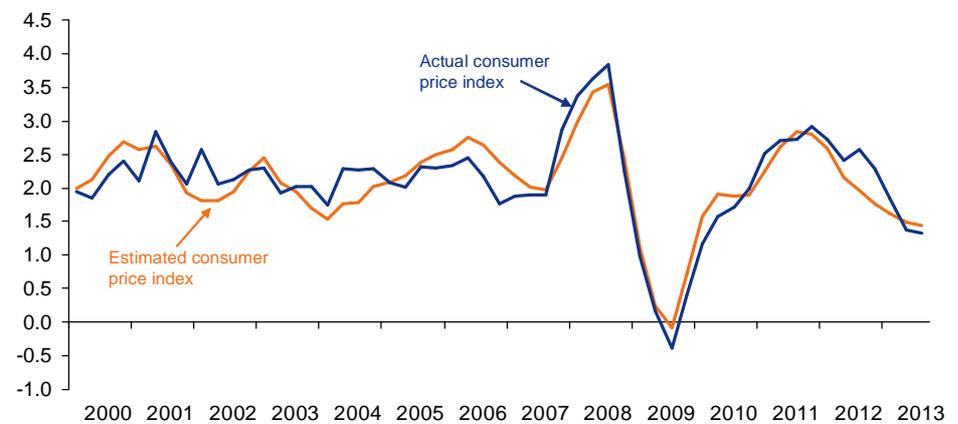
**Abbreviations:**

CPI = consumer price index; logarithmic values  
 CPI (t(-1)) = consumer price index of previous quarter; logarithmic values  
 NEER = Nominal effective exchange rate of the euro; logarithmic values;  
 moving average of previous six quarters

OIL = Oil price (Brent); logarithmic values  
 W = Index of hourly wage costs;  
 logarithmic values

### Actual and estimated consumer price inflation

#### % change on previous year



### The scenarios

With the help of this price model, we endeavor to identify what path inflation development is likely to take in 2014, 2015 and 2016, depending on very different macroeconomic scenarios.

In our base scenario, we assume that the economic recovery in the euro area will continue, leading into a fairly prolonged moderate upswing. Stabilization on the labor market should mean that the rise in wage costs, which most recently amounted to just 1.5% per hour, will gradually creep up again. The rise in wage costs should reach 2.0% at the end of 2104, 2.4% at the end of 2015 and 2.8% at the end of 2016. As for the euro's external value, which has increased strongly in the past 18 months, we think it likely that it will again lose a little ground over the course of this year, as a result of the economic situation in the US being more dynamic than that in the euro area. In 2015 and 2016 we see

the external value remaining largely constant. We expect the oil price to show only a slight upward trend – the price for Brent is likely to rise only to USD 115 per barrel by the end of 2016.

In a second scenario – the inflation scenario – we assume a very powerful acceleration of the global economy, and the US economy in particular, which would also be reflected in increased economic momentum in the euro area. In this scenario, the oil price would increase to USD 130 per barrel by the end of 2015, and to USD 140 by the end of 2016. The US dollar would gain significantly in value vis-à-vis the euro in 2014 and 2015. Overall, the euro would lose around 5% of its current external value by the end of 2015. The external inflationary impetus and improvements in the labor market would lead to very significant wage increases in the euro area. Wage costs per hour would increase by 2.8% during the course of 2014, by 3.6% in 2015 and by 4% in 2016.

The third scenario portrays a macroeconomic environment with deflationary trends. Assuming crises in a number of emerging markets, and a slowdown in the US economy, the economic recovery in the euro area would also stall. The depreciation of the currencies of emerging markets, and a weaker dollar, would cause the euro's trade-weighted external value to increase again by around 5% by the end of 2015. Commodity prices would drop across the board – the oil price (Brent) would be just USD 90 per barrel at the end of 2015, and USD 80 at the end of 2016. As the situation in the labor market in the euro area would also deteriorate due to the stagnating economy, the rise in wage costs would also slow further. During the course of 2014, wage costs per hour would increase by another 1%, but would stagnate entirely in 2015 and 2016.

		Nominal effective exchange rate of the euro; annual rate of change in the course of the year	Oil price (Brent), per barrel; value at the end of the year	Wage index (per hour); annual rate of change in the course of the year	Consumer price index (harmonized); annual average rate of change
2014	Baseline scenario	-1.2%	110\$	2.0%	1.2%
	Inflation scenario	-2.2%	118\$	2.8%	1.6%
	Deflation scenario	1.8%	100\$	1.0%	0.8%
2015	Baseline scenario	0.0%	113\$	2.4%	1.6%
	Inflation scenario	-3.1%	130\$	3.6%	2.6%
	Deflation scenario	2.9%	90\$	0.0%	0.1%
2016	Baseline scenario	0.0%	115\$	2.8%	2.0%
	Inflation scenario	0.0%	140\$	4.0%	3.3%
	Deflation scenario	0.0%	80\$	0.0%	-0.4%

### Inflation effects of the scenarios

In the base scenario of a moderate economic upswing, which we have assigned an 80% probability, our model-based forecast shows a gradual further increase in the inflation rate. This would amount to around 1.2% in 2014, around 1.6% in 2015 and around 2.0% in 2016. In this environment, inflation in the euro area would soon be again heading towards the price norm of almost 2% aimed for by the ECB. We anticipate that this would firmly anchor longer-term inflation expectations. The current debate about deflation would simply remain an episode.

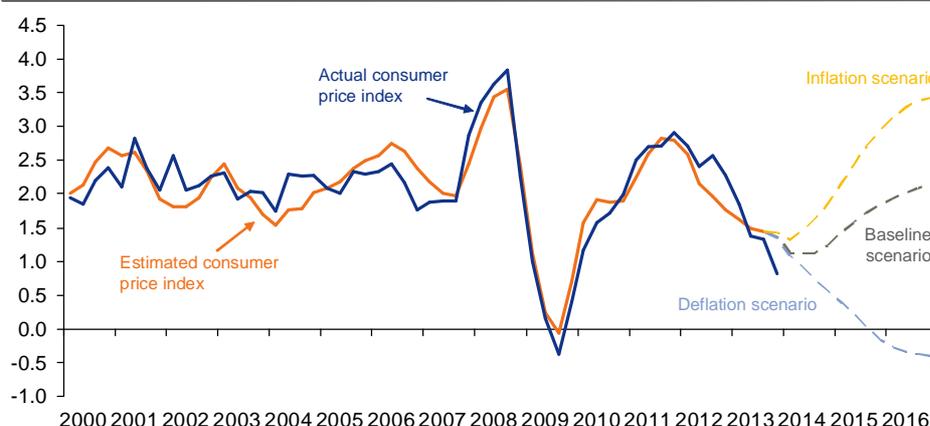
In an inflation scenario with strong global economic growth, rising commodity prices and a depreciation of the euro, we would see a rapid increase in inflation. While the inflation rate in 2014 would be around just 1.5%, it would jump to 2.6% in 2015 and would be as high as 3.3% in 2016. The ECB would have to react to this significant breach of its price

norms. Even though we have assigned such a scenario only a 10% probability at most, we must not entirely lose sight of inflationary risks, given the very expansionary monetary policy.

In a scenario with deflationary trends, a return to a weak economy in the euro area would increase pressure on wages. External deflationary impulses would add to this. Average inflation would be 0.8% in 2014, but just 0.1% in 2015. Finally, in 2016, the price level would drop by 0.4%. There is no doubt that this kind of steady slide in the inflation rate into negative values as the result of economic deterioration would exhibit deflationary tendencies. However, as with the inflation scenario, we have also only assigned such a deflationary scenario a probability of 10% at most.

### Inflation scenarios for the period 2014 to 2016

% change on previous year



### The bottom line

The three scenarios show a wide range of variation regarding medium-term price developments. They cover an inflation rate in 2016 of between -0.4% and 3.3%. This should be in significant contrast to the ECB's inflation projections for 2016, which will be published for the first time during the press conference following the Governing Council's meeting on March 6. Recently, during the corresponding press conference of December 2013, the margins for the inflation forecasts were not even mentioned, but the dominant topic was the anticipated annual average inflation rate. (The ECB's tabular projections of early December 2013, however, show inflation margins around the expected value of 1.0 or 1.6 percentage points.)

In this context, it is important to bear in mind that the ECB projections have a signal function and are not designed as risk scenarios. This alone would lead us to expect that the ECB will not be publishing too wide a margin, as this would suggest considerable uncertainty about the inflation outlook and could threaten the anchoring of inflation expectations.

But the financial market investor needs to be aware of these uncertainties. Inflation has a major impact on the financial market trends and most important implications for investment decisions. It can be assumed that both our inflation scenario as well as the deflation scenario would jolt the markets. The deflation scenario would probably lead to a significant setback for the stock markets. In the inflation scenario, we would still expect to see a positive development, which is based on a significant economic recovery, ini-

tially. Bonds would lose quite dramatically. In both scenarios, however, there are self-correcting mechanisms and policy reactions to be taken into account. In the inflation scenario the ECB would react by significantly raising interest rates. In the deflation scenario far-reaching unconventional monetary policy measures would be on the cards, and fiscal policy would attempt to stimulate the economy. In both cases, these measures could lead to a turning point on the stock markets. This means that both risk scenarios present financial market investors with the very significant challenge of timing things correctly. It goes without saying that deflationary trends would put a stop to any normalization of both short-term and long-term interest rates. Due to the ongoing investment plight, and the difficulties faced by economic policy in combating it, the deflation scenario would probably have more serious consequences than the inflation scenario.

In conclusion, however, we wish to stress that, even though the uncertainties surrounding future price developments should not be underestimated, the most likely scenario is that we will see a medium-term inflation rate which is once again close to that aimed for by the ECB.

As always, the evaluations are subject to the following cautionary notes.

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