Current Issues

Germany

Deutsche Bank Research

March 15, 2011

GDP growth and inflation – perception problems

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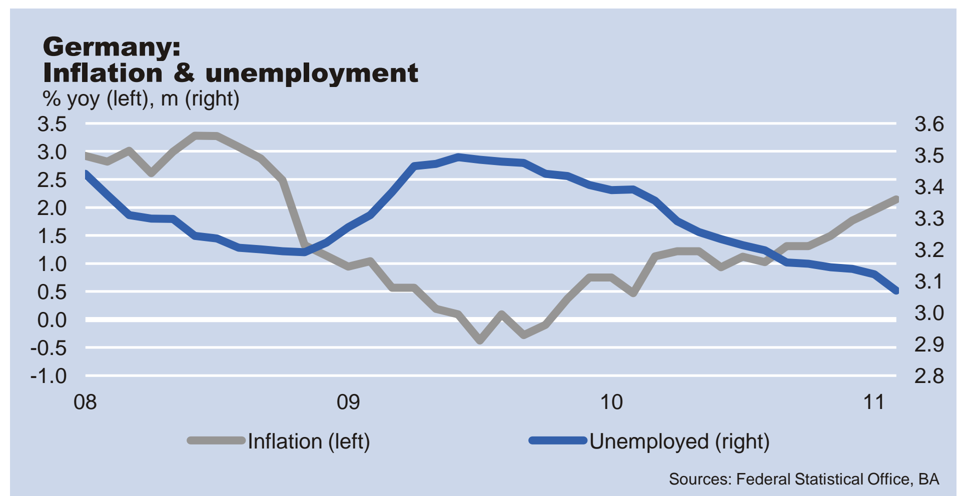
Much like the Great Depression of the 1930s, which burned itself deeply into the collective memory of Americans, the hyperinflation in Germany in the wake of the First World War has shaped the consciousness of subsequent generations of Germans. There's just no other way of explaining why the string of good numbers from Germany's labour market, the prospect of unemployment falling below the 3 million mark in summer and the good chances of GDP growth reaching 2 ½% this year barely attract the attention of the media or the public, whereas the inflation rate of 2.1% in February and the inflation outlook are regularly the subject of commentary.

Of course it is important to keep close tabs on the path of inflation going forward – especially in view of a volatile oil price – and the ECB has spoken also in this context of its "strong vigilance". Yet an inflation rate of 2% or perhaps 2 ½% in the coming months largely represents a reversion to the normal pattern following the recession-induced lows of the past two years (2009: 0.3%; 2010: 1.1%), driven mainly by oil and food prices. In any event, on the assumption that food and oil prices return to normal our DB Research inflation model forecasts no dramatic surge in inflation. We are aware, though, that some of the structural changes of the past decades may have reduced the meaningfulness of the forecasts produced by such a model.



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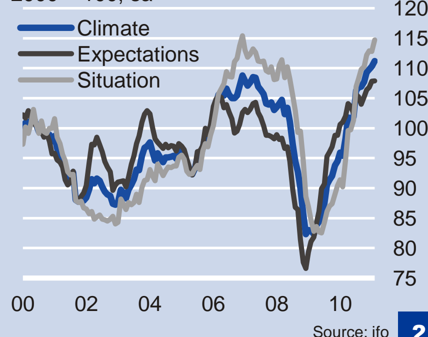
Global growth
% yoy

	2009	2010	2011	2012
USA	-2.6	2.8	3.5	3.9
Japan	-6.3	4.0	1.6	2.2
Euroland	-4.1	1.7	1.4	1.5
Germany	-4.7	3.6	2.5	1.6
France	-2.6	1.5	1.2	1.6
Italy	-5.1	1.1	0.9	1.2
Spain	-3.7	-0.2	0.6	1.1
Netherlands	-3.9	1.8	1.2	1.5
Greece	-2.3	-4.5	-3.5	0.6
Portugal	-2.6	1.6	-0.5	0.8
Ireland	-7.6	-0.5	0.5	1.5
UK	-4.9	1.4	1.8	2.0
Asia ex Japan	5.7	9.4	8.0	7.6
China	8.7	10.3	9.4	8.6
India	5.8	9.8	8.2	8.5
Eastern Europe	-5.2	4.5	4.7	5.1
Latin America	-2.4	5.9	4.3	3.9
World	-0.9	4.8	4.2	4.4

Sources: IMF, DB Research 1

ifo business climate
2000 = 100, sa



Source: ifo 2

Global export orders & German export
% yoy (left), % (right)

*Shifted forward 4 months

Sources: JPMorgan, NTC Research, Federal Statistical Office 3

German GDP forecast

Upward revision despite increasing risks

— Construction investment slump in Q4 points to catch-up effect in Q1 2011.

— Global environment has brightened lately; soft patch in world growth not as deep or as long as expected.

— This has prompted us to raise our growth forecast from 2% to 2.5% – in spite of increasing risks from higher energy and commodities prices.

Business indicators in Germany continue to show very positive performance. However, a few dark clouds have gathered on the horizon of late. One example is the pronounced increase in the price of oil. True, we expect the oil price to fall back to the USD 100/bbl level in several weeks. Even though we assume the euro will appreciate by 5% against the US dollar on average this year, the resulting 25% increase in the oil bill (in euro terms) would crimp GDP growth by roughly one-quarter of a percentage point. However, the risks for both the oil price and the exchange rate are such that repercussions might prove worse than expected. Besides, several key decisions lie ahead in the political sphere. One of the inherent risks is that the decisions to be taken by the European Council in late March – especially pertaining to governance measures for the period up to mid-2013, i.e. before the new permanent crisis mechanism comes into effect – fail to convince the markets. If at this juncture the ECB hikes its key rates, as implied at its last press conference, the uncertainty in the financial markets could grow to the point that it spills over to the real economy.

Growth forecast for 2011: 2 ½%

In spite of these risks we have raised our GDP growth forecast for the current year by half a percentage point, to 2 ½%. Our main reason for doing so is the significant improvement in the global economic climate and world trade to be observed since autumn 2010. This meant that the soft patch we had anticipated was not as deep or as long as expected.

The improvement in the international environment is also reflected in German sentiment indicators. The Ifo index scaled new heights again in February, with the expectations component improving only slightly but still posting the fourth record in a row. By contrast, export expectations rose by a full point. The assessment of the current situation was up by no less than 1.9 points. The purchasing managers' index (manufacturing) also hit a record high.

Investment in construction slumped in Q4 2010

Furthermore, the detailed statistics now available on Q4 2010 GDP (0.4% qoq and 4.0% yoy) showed a substantial – likely weather-related – slump in construction investment (-3.9% qoq). The probable catch-up effect could add more than ¼ of a point of GDP growth in Q1, so an increase of at least ¾% (qoq) is on the cards.

However, the additional ½ pp of GDP growth in 2011 will be driven primarily by an upward revision to export forecast, with an increase from 7 ½% to 9%, even though we look for a slowdown in growth after mid-year on account of a firmer euro and increasing consolidation efforts in key export markets.

Unemployment below 3 million at mid-year, moderate wage settlements

Given the dynamic developments in the labour market, the ranks of the gainfully employed are set to swell by around ¾ pp in 2011. Seasonally adjusted, the number of unemployed could slip below the 3 million threshold at mid-year. Nevertheless, we maintain that there is only a minor risk of wage settlements significantly overshooting productivity growth this year. To date, settlements have been rather moderate. Even the settlement reached at VW is in the 3 ½% range (annualised), so it will probably be less than the productivity spurt. Taken together with the settlements already hammered out over the past few years the wage increases should average roughly 2 ½%, up from 1 ½% in Q4 2010. These have to be set against higher social-security contributions and the inflation rate, which we now estimate at around 2% for 2011. As a result, our forecast of a close to 1 ½% increase in private consumption remains realistic.

Given the risks described at the outset we see no need for a significant upward revision to our GDP forecast for 2012. Economic growth is still expected to come in at 1 ½% next year. If so, the German economy would outstrip its potential for the third year running.

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Germany: Economic forecast

% yoy

	2009	2010	2011F	2012F
Real GDP	-4.7	3.6	2.5	1.6
Private consumption	-0.2	0.4	1.4	1.5
Gov't expenditure	2.9	2.3	1.2	0.7
Fixed investment	-10.1	6.0	2.8	2.7
Investment in M&E	-22.6	10.9	7.5	4.7
Construction	-1.5	2.9	1.0	0.7
Inventories, pp	-0.3	0.6	-0.6	0.0
Exports	-14.3	14.1	9.0	4.9
Imports	-9.4	12.6	7.0	5.4
Net exports, pp	-3.2	1.3	1.4	0.1
Consumer prices	0.2	1.1	2.0	1.7
Budget balance, % GDP	-3.0	-3.3	-2.8	-2.0
Unemployment rate, %	8.2	7.7	7.1	6.8
Balance on current account, % GDP	5.0	5.1	4.8	4.1

Sources: Federal Statistical Office, DB Research 6

The return of inflation?

— Headline inflation has picked up to 2% in Germany over the past few months.

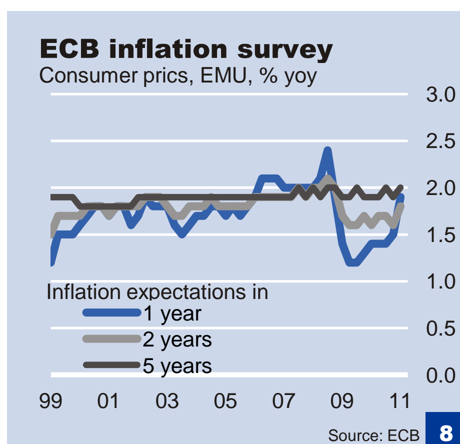
— Higher food and energy prices are almost solely responsible for the upcreep.

— However, a crucial factor for the price climate is not so much the short-term repercussions of volatile energy and food prices on the headline inflation rate, but whether they result in second-round effects.

— To investigate this aspect we have developed a model to estimate the core inflation rate, factoring in as explanatory variables wage settlements, capacity utilisation and considerably time-lagged oil and food price developments. Given the pronounced forecast uncertainties we have also worked out alternative scenarios.

— In our baseline scenario the headline inflation rate still heads towards 2 ½% in 2011, but then starts to ease again.

— In our upside scenario inflation would peak at around 3 ½% in 2012. In this case, we assumed that the oil price would climb to USD 180 per barrel, wages would increase by 5% in the coming year and food prices would jump by 6%.



Following the deepest slump in post-war history the world economy has staged a much faster recovery than expected, thanks not least to globally concerted countercyclical fiscal policies and an unprecedented scale of monetary easing. Emerging economies led the way in the process. While central banks in most industrial countries – the US Fed being a prime example – focused mainly on avoiding Japan-style deflation after bailing out the financial sector, the emerging markets started to tighten monetary policy in the face of resurgent inflationary pressures as early as H2 2009. Towards the end of 2010 a palpable increase in energy and food prices also induced upticks in the inflation rates of many of the industrial countries. However, until recently core inflation rates have remained close to or below 1%. True, inflation expectations had been trending upwards in the financial markets and in surveys for some time, but the financial markets only got a real case of the jitters after the monthly ECB press conference on January 13. At the conference, President Trichet was unexpectedly frank in emphasising the ECB's willingness to raise interest rates rapidly if necessary.

The rising inflation rates appears to be grist to the mill of those who regard a substantial acceleration of inflation as inevitable in view of skyrocketing sovereign debt and ballooning central bank balance sheets in the industrial countries. However, we believe these arguments ignore the decrease in the credit multipliers, the changed role of central banks and the absence of money illusion[1].

Oil: Smaller impact on price climate in the long term

A crucial factor for the price climate is not so much the short-term repercussions of volatile energy and food prices on the headline inflation rate – especially since a jump in the oil price to say USD 100 per barrel on a permanent basis disappears from the year-on-year rate of change after twelve months – but rather the extent to which these effects feed through to the core rate (which excludes

[1] For more on this subject see: Medium-term inflation risks – how much of a threat are they? Deutsche Bank Research. Current Issues. June 12, 2009.

energy and food). In a nutshell: whether they result in second-round effects. Over the past decade there was a roughly 50% decline in the impact of energy prices on the core rate. The food price effect decreased even more. In addition, the time needed for energy and food prices to feed through to the core rate has lengthened. This is also evident in the generally smaller correlation between headline inflation and the core rate.

Reasons

The reasons for the weaker influence of oil prices on inflation are as follows:

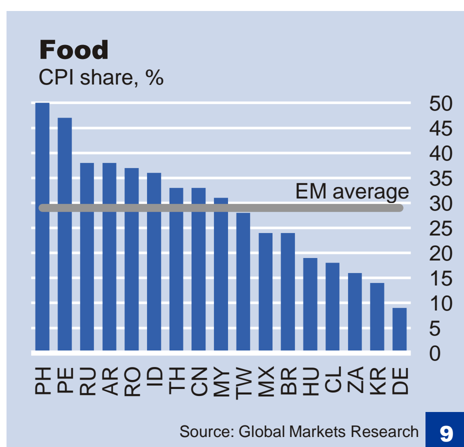
— The decline in energy intensity. The amount of primary energy used per unit of gross domestic product has fallen by nearly one-third since 1990.

— The increase in the fixed share of tax. The amount of fuel tax levied per litre, including the environmental tax, has jumped from just over 36 cents at the beginning of the 1990s to 65.5 cents now.

— The realisation on the part of employers and trade unions that a loss of real income from higher import prices for crude oil cannot be offset via "redistribution in the domestic economy".

— Besides, it is argued that the reduced effects have to be regarded in the context of the "Great Moderation", i.e. the generally smaller fluctuations in inflation, unemployment and economic growth (at least until the outbreak of the financial crisis).[2] For this reason, oil-price-induced negative growth effects might also prove smaller than before since monetary policy no longer responds as mechanistically to an oil-driven acceleration of the inflation rate. Monetary policymakers have been able to act with greater moderation since consumers' and companies' medium-term inflation expectations are better anchored, i.e. they react less abruptly to spikes in the current inflation curve.

These factors may help to explain why rising oil prices have had a much smaller effect on the inflation rate lately than the usual rules of thumb might suggest. The OECD used to estimate that a 10% increase in the price of oil, for instance, boosts inflation rates in the developed economies by roughly half a percentage point. This implies that the inflation rate should have jumped by 4 pp in 2000 (with oil prices up by 80%). In actual fact, though, Germany's annual average inflation rate stood at 1.4%, after 0.6% in 1999. More recent estimates from the German Council of Economic Experts and the ECB put the effect of a 10% higher oil price on the inflation rate at closer to 0.1-0.2%[3].



Where do we stand?

In many emerging markets, inflation rates have edged up over the past few months on account of the higher weighting of food prices and the greater utilisation of economic capacities.

Among the industrial countries the United Kingdom has recorded inflation rates over the past five years or so that, except for short intermezzos in autumn 2009, for instance, have in some cases significantly outstripped the inflation target of 2% (January: 4.0%). In the United States, the inflation rate picked up to 1.7% yoy in January. By contrast, the core rate persisted at around 1%. In the

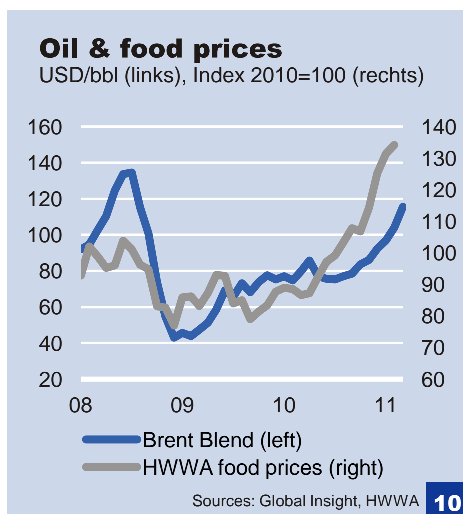
[2] See Nordhaus, William. Who's afraid of a big bad oil shock. September 2007.
[3] See Sachverständigenrat. Jahresgutachten 2006/07. ECB. Monthly Bulletin. November 2007.

eurozone, inflation accelerated in February to 2.3%, with the core rate remaining at around 1.1%. At the start of 2011, headline inflation climbed to 2% in Germany (in the national definition), while the core rate also persisted at around 1%.

A look forward – our assumptions

The significant pick-up in global inflation is mainly attributable – at least to date – to higher prices of food and energy. At the latest reading – partly because of political developments in northern Africa – Brent crude has been trading at around USD 115 per barrel. On a euro basis, this puts the price 45% higher than one year ago. The HWWI food index[4] recently came in around 50% above its year-earlier level.

The growth of food prices, which now exceed the levels reached in 2008, can largely be explained by supply shocks (droughts and flooding triggered partly by the La Niña phenomenon). These were set against a revival of global demand driven by an upturn in economic growth. Since food prices had fallen in some cases far below their long-term equilibrium levels before the economic crisis erupted, the price reaction was correspondingly abrupt. Even though we believe – like the OECD and the UN – that the general trend in food prices up to 2020 will be clearly up, food price inflation is expected to ease again towards the end of 2011 and in 2012, provided there is no repeat of the huge supply shocks seen in 2010. Usually, food price cycles last around 18 months. Within this time-span supply levels normally adjust correspondingly.



Despite the higher risk premium of late due to events in northern Africa, the main factor driving energy prices seems to be the increase in demand sparked by the recovery of the global economy. In 2010, global demand leapt by 2.6 million barrels per day (mbd), over twice as fast as forecast at the start of the year. For the current year our colleagues from Commodities research look for a further increase of 1.74 mbd. Moreover, they expect the OECD member countries to run their reserves down further, from a still relatively high level. The Commodities team predicts an oil price of USD 102 per barrel at end-2011, with the price hovering around this average in 2012.

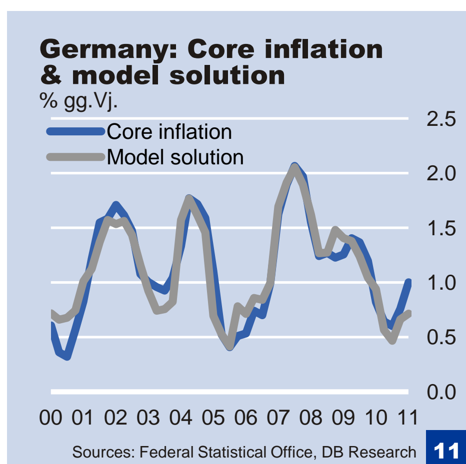
On the basis of these forecasts and on a nearly unchanged EUR/USD exchange rate the (year-on-year) increase in energy prices in Germany could peak in the current quarter and retreat by year-end – mainly for basis reasons – to just over 5%. Assuming an unchanged USD-based oil price, the firming of the US dollar to 1.25 to the euro is likely to boost energy prices by 3 ½% in 2012.

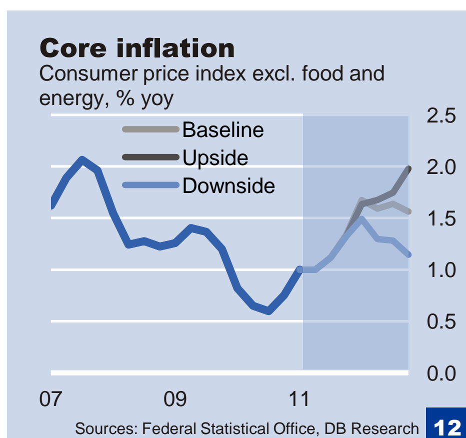
In the food sector, price levels will probably increase by roughly 5-6% in the current year. For 2012 we look for the pace to slow to about 3 ½%. In the past, a 10% increase in the HWWA food index (euro basis) led to a just under 2% increase in food prices in the CPI. If the annual average increase in the index runs to about 25% – as expected for 2011 – food prices would move up by some 5%.

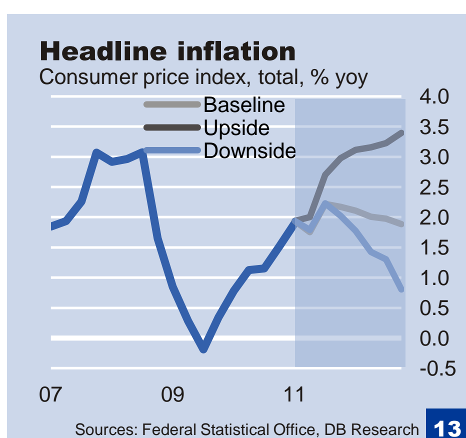
Second-round effects – an attempt to gauge them

The manner in which the increase in energy and food prices feeds through to other goods and services – apart from its scope and duration – greatly depends on the general state of the economy. As the price elasticity of food and energy is very low at least in the short

[4] HWWI Index Nahrungs- und Genussmittel. Component shares: Cereals 21.5%, oilseed, oils 48.4%, alcoholic beverages and tobacco 30.1%.







term, higher prices and thus expenditures on these items initially erode purchasing power, tending to reduce demand for other goods whose prices may increase to a lesser degree accordingly or perhaps even decline. If, for cyclical reasons, demand is robust, companies will pass on higher costs in their selling prices and employees will seek to offset their loss of real income by demanding higher wages.

A two-step inflation model

In step one, our inflation model estimates the core inflation rate. The scope for companies to push through price hikes was captured by the change in capacity utilisation (CAP UT), factoring in a time lag of two quarters. The wages component is entered directly with a time lag of three quarters. On top of this, energy and food prices are also factored in with a time lag to record their impact on other goods and services, such as the price of transport services or visits to restaurants. In addition we included dummies for past VAT hikes (VAT rate – VAT rate (-4)), the medical surcharge (health dummy) and the introduction of student fees (education dummy).

Following this step, the direct effects of changes in energy and food prices are weighted with their share in the CPI basket (energy 9 ½%, food 9%) and then added to the core inflation estimate.

Our model replicates past performance relatively well. As there is considerable uncertainty over the forecasts for energy and food prices, we have worked out further scenarios besides our baseline forecasts, adjusting for the other exogenous variables accordingly.

The findings

In our baseline forecast the inflation rate would climb to about 2 ½% by mid-year and subsequently ease slightly. The annual average would equal just over 2%. In 2012, the rate is likely to drop back to just under 2% again despite higher wage settlements as energy and food prices return to normal. In the upside scenario inflation would peak at around 3 ½% in Q4 2012. The average reading for 2011 should be close to 2 ½%, and over 3% in 2012.

Regression results: Core inflation

Dependent Variable: **CPI CORE % YOY**
Method: Least Squares
Date: 03/03/11, Time: 11:12
Sample: 2000Q1 2011Q1
Included observations: 45
HAC standard errors & covariance (Bartlett kernel, Newey-West fixed bandwidth = 4,0000)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.45	0.09	5.02	0.000
WAGES % YOY (-3)	0.16	0.05	3.33	0.002
CAP UT (-2) - CAP UT (-6)	0.01	0.01	1.89	0.066
CPI FOOD % YOY (-2)	0.07	0.01	5.67	0.000
CPI ENERGY % YOY (-6)	0.03	0.01	4.90	0.000
VAT RATE - VAT RATE (-4)	0.08	0.03	2.37	0.023
HEALTH DUMMY	0.75	0.09	8.79	0.000
EDUCATION DUMMY	0.45	0.06	8.16	0.000

R-squared	0.88	Mean dependent var.	1.12
Adjusted R-squared	0.86	S.D. dependent var.	0.47
S.E. of regression	0.18	Akaike info criterion	-0.46
Sum squared resid.	1.17	Schwarz criterion	-0.13
Log likelihood	18.25	Hannan-Quinn criter.	-0.34
F-statistic	38.27	Durbin-Watson stat.	1.05
Prob(F-statistic)	0.00		

Figures in brackets denote the time lag in quarters .

Source: DB Research 14

Inflation scenarios

Annual averages

	Model assumptions					Model results	
	Oil price Brent Blend USD/bbl	USD/EUR	Wages % yoy	Capacity utilisation %	Food prices % yoy	Core inflation % yoy	Inflation total % yoy
2009	62.5	1.39	2.1	73.3	-1.4	1.3	0.3
2010	80.2	1.33	1.6	80.3	1.7	0.7	1.1
Basis scenario							
2011	102.9	1.36	2.9	86.4	5.2	1.0	2.0
2012	102.0	1.28	4.1	86.5	3.4	1.6	2.0
Upside							
2011	123.9	1.36	3.1	83.9	5.5	1.0	2.4
2012	165.0	1.28	5.1	78.5	6.0	1.8	3.2
Downside							
2011	103.2	1.36	2.0	84.9	4.9	1.0	2.0
2012	82.5	1.28	2.0	85.0	2.3	1.3	1.3

Source: DB Research 15

Uncertainties – reversal of the "Great Moderation"?

The Bank of England's inaccurate forecasts of the past few years highlight almost tragically how uncertain forecast methods can be even if they are highly sophisticated and based on differing models. For this reason it is imperative to challenge not only the assumptions for the exogenous variables such as oil prices, exchange rates and wage developments, but also the structure of the model and/or potential structural changes in the underlying economic relationships. In this context, monetary policy and the anchoring of inflation expectations will play a key role. As regards monetary policy there is a substantial level of uncertainty as to the medium and long-term impact of record-low key rates and generous liquidity provided in the framework of unconventional measures. As a consequence of the extremely low key rates in nearly all the major industrial countries, many emerging markets seeking to avoid any further appreciation of their currencies are compelled to gear their own monetary policy to that of the industrial countries, thus increasing the inflationary pressures in their own countries. Since these countries now account for a major share of global exports, this can lead to higher inflation in the industrial countries via rising import prices. Cheap imports from the emerging markets have played a major part in maintaining the moderate, stable course of price development in the industrial countries (Great Moderation) over the past decade[5.] Combined with the structural adjustments in the German economy (in the labour market in particular), this effect may have temporarily led to an unusually low and stable core inflation rate. If the assumptions pertaining to the exogenous variables remain unchanged, the expiry of these effects or even their reversal could subsequently result in higher inflation rates than our model forecasts. Under such circumstances, this would presumably add roughly one percentage point to the inflation rate in the different scenarios.

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[5] However, German import prices for categories of goods such as merchandise or consumer goods that have a close correlation with Chinese export prices are not of significance in our model.

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