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A fundamental interest rate explanation and forecast

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A FUNDAMENTAL INTEREST RATE EXPLANATION AND FORECAST

Notwithstanding the recent bond market recovery, the lows marked by US and European government bond yields at the end of 2008/beginning of 2009 are a thing of the past. Yields on 10yr US Treasuries are over 100 basis points, and German bunds 40 basis points higher than at the end of 2008. At first sight this does not appear to be in tune with the real economy. After all, in the first quarter of 2009 most of the major industrialized countries suffered the sharpest drop in overall output since the Second World War, and in the second quarter only some of the production losses were offset, despite growing glimmers of hope. So why this marked rise in yields? Several theories are currently being put forward:

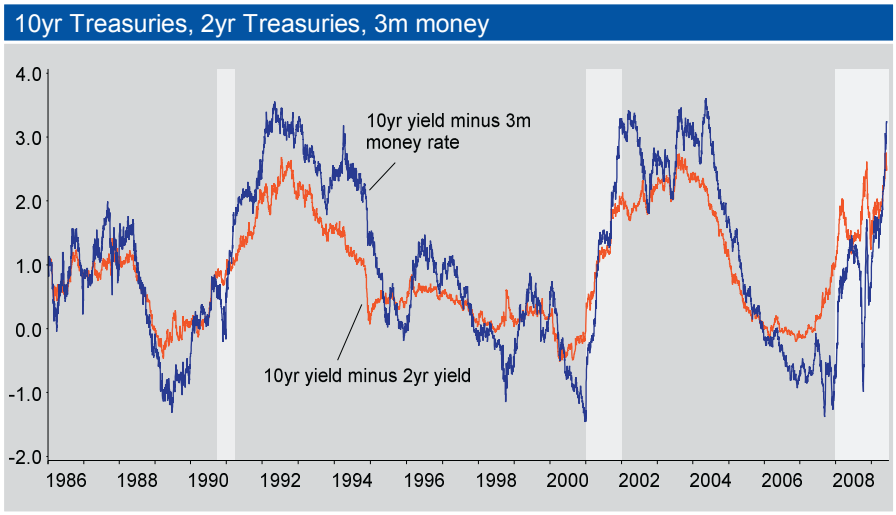
- The sharp rise in public debt on the back of expansionary fiscal policy is being funded by the issue of government bonds. An oversupply of government bonds is pushing interest rates up.

- At some point, the flooding of banks with liquidity and the Keynesian fiscal policy are going to stoke up inflation. Markets are anticipating this and are demanding a higher inflation component in interest rates.

- Rising interest rates are merely a reflection that things are returning to normal. The financial market crisis had bloated demand for government bonds; as risk aversion fades, so too demand for government bonds. Yields return to normal levels again.

- The rise in long-term interest rates accompanied by still very low short-term interest rates causes the yield curve to steepen. A steep yield curve serves as a good leading indicator for the economy, as it frequently precedes a robust economic upswing. Rising long-term interest rates are an expression of more upbeat earnings expectations among investors. Provided short-term interest rates remain low, this creates good refinancing conditions.

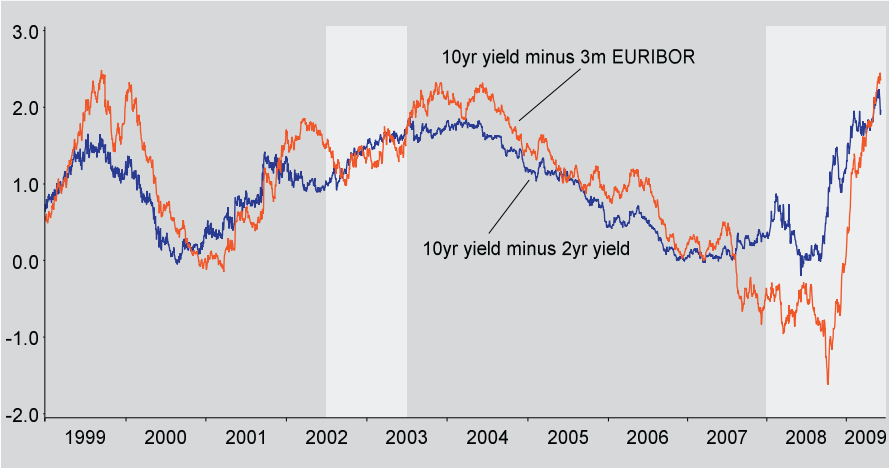
USA: Interest rate structure (long-term minus short-term)



Recession phases according to the Business Cycles Dating Committee of the National Bureau of Economic Research.

EMU: Interest rate structure (long-term minus short-term)

10yr government bonds, 2yr government bonds, 3m EURIBOR



Recession phases in Germany.

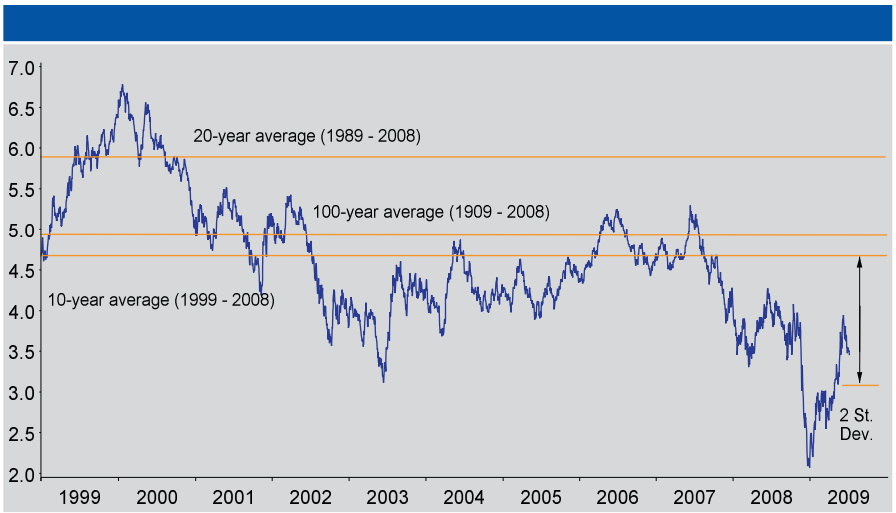
A heated debate has flared up among American economists on this subject. Paul Krugman finds the inflation discussion surprising, particularly given that the liquidity being provided by the Fed is not entering circulation: "Banks aren't lending out their extra reserves. They're just sitting on them – in effect, they're sending the money right back to the Fed. So the Fed isn't really printing money after all." Niall Ferguson, in contrast, sees good reasons for rising interest rates. "The policy mistake has already been made – to adopt the fiscal policy of a world war to fight a recession. In the absence of credible commitments to end the chronic US structural deficit, there will be further upward pressure on interest rates, despite the glut of global savings." In the meantime there are even economists like Arnold Kling who maintain that the short-term effect of the US fiscal package is negative: "As we know, most of the stimulus spending does not take place until next year and beyond, so the short-run gains are puny. On the other hand, the big increase in the projected deficit creates the expectation of higher interest rates now. These higher interest rates serve to weaken the economy."

In assessing the rise in rates over recent months and the interest rate outlook, we believe that a number of aspects play a role:

- Measured against the longer-term average, long-term interest rates were at a very low level at the beginning of this year and are still low. In the USA, the average yield on 10yr government bonds in the last 10 years was 4.7%, in the last 20 years 5.8% and in the last 100 years 4.9%. For German 10yr bunds, the average yield of the last 10 years panned out at 4.3%, the last 20 years at 5.6% and the last 100 years at 4.9%. Yields have not fluctuated all that much, at least not in the last ten years. The standard deviation of yields as 10-year average for the period 1999-2008 stood at 60 basis points in the euro area and at 75 basis points in the USA. A yield level of 3% and below thus deviates from the average by more than two standard deviations in both the USA and the euro area. The situation on the bond market was thus exceptional and, in purely statistical terms, should only occur in less than 5% of all cases, at any rate assuming yields are not subject to a longer-term downward trend.

Yield on 10yr German government bonds

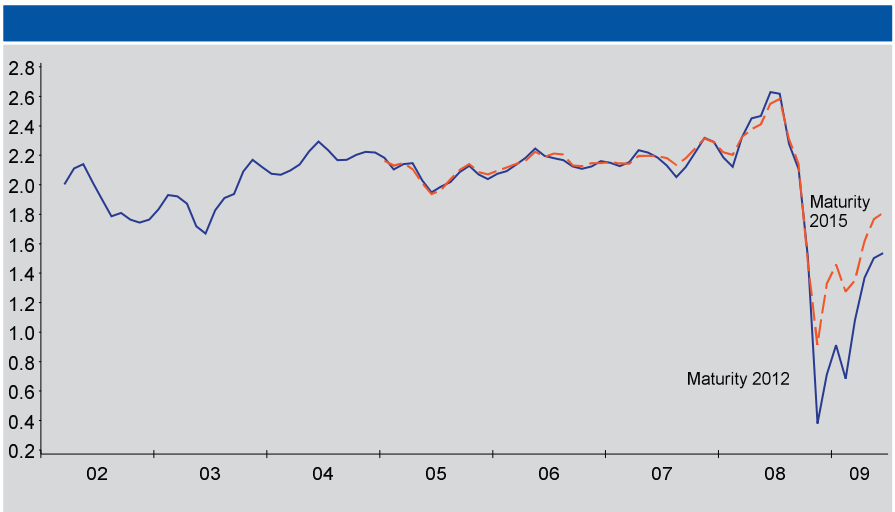
Yield on US government bonds: mean reversion?



- Arguing for relatively stable yields over the longer term is the fact that a key element of modern central bank strategy is the anchoring of inflation expectations. On the basis of its definition of price stability, for the ECB this means confining inflation expectations to close to but below 2%. From what we have seen in recent years there is good cause to expect that the ECB will nearly achieve this in the medium term. There is also general consensus that the growth potential for real GDP in the euro area lies at around 2%. According to growth theory, the medium-term growth trend and medium-term inflation rate are the decisive components determining interest rates in the medium term. With an inflation component of close to two and a growth component of two, an appropriate level of interest rates can be put at around 4%. Although inflation expectations calculated on the basis of inflation-indexed bonds have recently fluctuated sharply after years of stability – uphill climb in the first half of 2008, downhill plunge in the second half of 2008 –this is most likely to be attributable to the dramatic economic events of 2008. In the meantime, inflation expectations in EMU are now back at

around 1½%, leaving notions of deflation behind. We think it likely that they will return to levels of around or slightly above 2% as the economy rebounds.

EMU: Inflation expectations on the basis of indexed French government bonds (break-even inflation rates %)



- Various commentators have pointed out that it is unusual to see an interest rate increase at the beginning of a cyclical recovery. This prompted us to carry out an examination of yield developments directly after recessions in the USA. According to the Business Cycles Dating Committee, there have been a total of nine completed recessions in the USA since the Second World War. It transpires that it is not uncommon to see yields already rising in the immediate aftermath of a recession. In 5 out of 9 cases, yields on 10yr bonds were higher in the first quarter after the end of a recession than in the final quarter of the recession, and in the second quarter this was even the case in 6 out of 9 instances. But, generally speaking, it can also be said that that there is no systematic pattern to the behavior of long-term interest rates at the cyclical turning point or at the beginning of an upswing.

US-Recessions according to the Business Cycles Dating Committee	10yr US-government yields compared with their level in last quarter of recession	
	first quarter after recession end	second quarter after recession end
Q2 53 - Q2 54	flat	higher
Q3 57 - Q2 58	higher	higher
Q2 60 - Q1 61	flat	higher
Q4 69 - Q4 70	lower	lower
Q4 73 - Q1 75	higher	higher
Q1 80 - Q3 80	higher	higher
Q3 81 - Q4 82	lower	lower
Q3 90 - Q1 91	higher	lower
Q1 01 - Q4 01	higher	higher

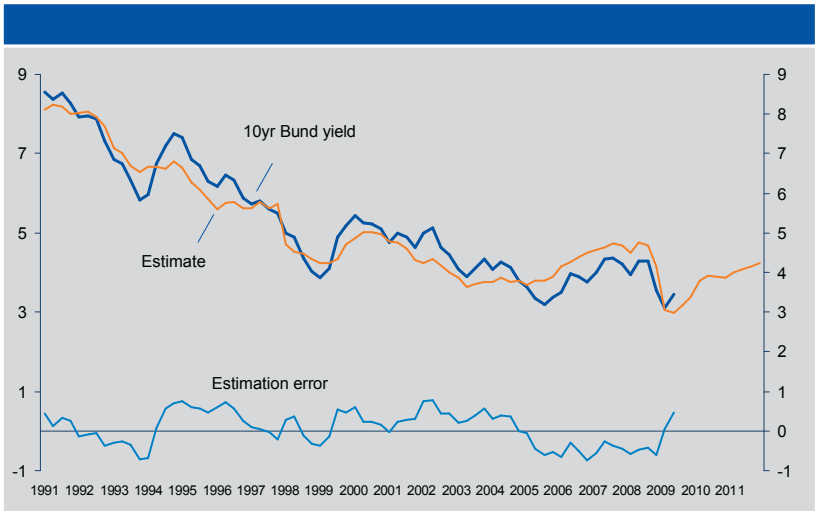
Summary: There exists no standard reaction pattern of yields in an economic turning point.

- The fact that yields are moving up although inflation rates are tumbling is also causing much scratching of heads. At a current inflation rate of -1.3 % in the USA and -0.1% in EMU, real interest rates have risen in the USA in purely arithmetical terms to almost 5% and in EMU to around 3½%. However, a different picture already emerges if the core inflation rate adjusted for energy and food is put in relation to current yields. With a current core inflation rate of 1.8% in the USA and 1.5% in EMU, the real interest rates calculated on this basis pan out at around only 2% in both economic areas. Not exactly high.

Overall, therefore, it emerges that there is nothing exceptional about the upward correction of yields and on the scale seen to date gives no cause for concern. After all, the yield curve has thus become even steeper, providing a positive economic backdrop. A large positive gap between long and short-term interest rates can frequently be noted at cyclical turning points. Positive for the economy is the fact that refinancing is still cheap at the short end of the market while more positive earnings expectations are already finding expression in long-term interest rates.

Using an econometric analysis, we have also attempted to gauge whether current yields are fundamentally appropriate. In our opinion, the most important fundamental factors influencing long-term EMU benchmark bonds, i.e. 10yr German bunds, are inflation expectations, economic growth, monetary policy and US interest rates. As an indicator of inflation expectations, we use a smoothed average of the German inflation rate over three years. As a specification for monetary policy, the rate of three-month money which is closely linked with the key interest rates of the central bank, flows into our econometric approach. Our model extends over a relatively long period of between 1981 and 2008 in order to identify relatively stable correlations. In the course of this, it proved necessary to add a dummy variable from the beginning of monetary union owing to the fact that monetary union, contrary to original expectations, is evidently having a sizeable interest-rate lowering effect on German interest rates. This is indeed plausible given that German long-term interest rates had become the benchmark for a large currency area with the introduction of the euro.

Fundamental interest rate explanation using econometric methods



In our econometric approach, we have consciously refrained from including factors that reflect market sentiment and market conditions – such as volatility parameters,

for example. If special developments trigger a flight to the "safe haven" of government bonds, this pushes the market rate below its fundamentally appropriate level. A difference arises between our econometric approach and actual yields. The same applies in reverse, i.e. if an excessive risk appetite renders government bonds unattractive. Nonetheless, our model serves to explain around 94% of the fluctuations in long-term interest rates in the period 1981 to 2008, with the standard error amounting to only 44 basis points.

It is striking that the fundamental approach has slightly overstated the actual yield level in recent years (from 2005). The assumption is that the high savings surpluses of a number of emerging markets have also been flowing more strongly into the European bond market and that this influx of capital has served to push interest rates down. The yield level at the beginning of 2009 of 3% is, by contrast, entirely commensurate with the reading produced by the econometric model. According to the forecast using the model, yields in the second and third quarter 2009 are likely to remain mired at around 3%. In the fourth quarter 2009 and in 2010, however, yields will then edge towards the 4% mark and will slightly exceed 4% in 2011. The assumption here is that the economy will pick up noticeably in the second half of 2009 but will not gain further momentum in the course of 2010. The further assumption is that the ECB will start to unwind its very expansionary policy from the end of 2009.

The model thus underestimates yields in the second quarter of this year by around ½ a percentage point. However, the yield increase currently evident does not represent a fundamentally implausible development when viewed in connection with the model results. The model itself points to a rise in interest rates towards 4%. All that appears to have happened is that markets have evidently anticipated the expected economic upswing extremely early. It is probably also the case that markets already see the expected public debt as a problem for the bond market. All told, the probable economic scenario will probably see a further slight to moderate rise in yields. However, a surge in interest rates is currently not on the cards.

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