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2012 Global Outlook

Global Fixed Income & Economic Research

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Piecing Together or Falling to Pieces?

- In 2011, the puzzle fell into European laps, and investors are contemplating the possibility of a policy failure with monumental implications for the European project and the stability of the global economic and financial system.
- We expect that Europe's politicians will accede to the pressures from markets and their colleagues in the international community and take steps to restore the coherence of the Continent's finances.
- Thereafter, we expect a continuation of what has already become an epic struggle against credit stress as the world's leading central banks – including the ECB – deploy their unique powers to seek to preserve the option of prosperity, employment, and progress.
- We present forecasts for fundamental economic performance and a variety of financial opportunities, with specific trade suggestions to help our clients and customers navigate the year ahead. We thank you for the business relationships we have enjoyed in the year past and look forward to continued productive interaction in 2012.

ANALYST CERTIFICATIONS AND IMPORTANT DISCLOSURES ARE IN THE DISCLOSURE APPENDIX. FOR OTHER IMPORTANT DISCLOSURES, PLEASE REFER TO https://firesearchdisclosure.credit-suisse.com.

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Preserving Prosperity

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In 2011, the global recovery was disrupted but not quite derailed by a seemingly endless string of supply and demand shocks: to food and energy (Arab spring, droughts, Chinese pork prices), to the auto and technology supply chain (Japan's devastating earthquake, Thailand's destructive floods), and to faith in policy and politicians (the US debt ceiling stand-off, the euro zone).

Almost none of this was, or could have been, predicted a year ago.

For the year as whole, the shrinking stock of "safe" assets has dominated returns, putting portfolios under stress and challenging virtually all styles and strategies of investment management.

This reflects, in part, the fact that global industrial production growth came in like a lion and went out like a lamb, bumping down from a high of nearly 10% per annum in February to virtually zero at year-end. Global GDP is barely crawling along but is also increasingly divergent, with Asia subsiding from its recent boom, the US surprising positively, but Europe plunging back into recession.

For the developed world, growth pessimism has become structural, and even for China, faith in the future has hit its lowest level in a decade or more.

Even so, energy prices remain much higher than a year ago, and Asian food prices are just starting to recede. In Europe, deflationary risks are escalating fast.

Risk appetite, on our measures, fared even worse than global growth. It is now struggling to climb out of the deepest panic recorded in 30 years, beyond even the dire straits of late 2008. It has also undershot actual growth by a larger margin than ever before, beating previous extremes in 1987, 1997/1998, 2002, and last summer.

As we approach 2012, these themes continue to stand out: divergence, financial fragility, growth, and policy pessimism

As we approach 2012, these themes continue to stand out: divergence, financial fragility, growth, and policy pessimism.

And one dominant risk feels almost beyond rational analysis.

Whether you think that the euro is a doomed concept or a great work in progress, we can think of no safe break-up scenario in the short run. Failure to counter the deflationary tide starting to rip though the euro zone's defenses would likely have devastating consequences for systemic stability and global growth, perhaps for globalization itself.

Might we be on the verge of a once-in-a-century policy failure that sweeps aside normal assumptions, mean reversion, and investment guidelines? Are we about to suffer wealth destruction on a scale not seen in peace time since the 1930s?

These are not computable risks, leaving the world awash with cash and short of confidence about where, how, and when to put it to work.

In these circumstances, it seems foolish to offer the normal slate of confident predictions for the year ahead but equally bland to venture no opinions.

We explore our few key themes from various angles in the body of the document, but our conclusions rest on two judgments:

- In the end, Europe's politicians, under intense pressure from markets and their colleagues abroad, will pull back from the abyss of deflationary collapse in a region producing close to one quarter of the world's GDP.
- To do so, they will need to forge – within weeks, not months – what one might call a pre-nuptial agreement on fiscal union linked to transitional funding for Italy, Spain, and Greece that will dispel the most immediate doubts about the euro zone's future.

Beyond that, however, lies an epic struggle between the forces of money and credit, as the world's leading central banks – including the ECB – deploy their unique powers to contain credit stress and make possible the wrenching adjustments to payment imbalances, sovereign debt burdens, and new financial regulations that lie ahead.

We don't expect it to be pretty or easy, but if they are ultimately successful in 2012, they will be preserving the option of prosperity, employment, and progress for a whole generation, in the developed and emerging markets alike.

Executive Summary

Our thinking

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We expect recession in Europe, but not globally. The risks are to the downside, and unlike our central forecast of de-synchronization, those risks are globally correlated. We expect massive policy intervention (The Economic Outlook for 2012).

At the heart of our view is the conflict between eruptions of credit stress that since 2008 have become both regular and violent and the increasingly unconventional and aggressive efforts used by central banks to combat them. The effect is to suppress volatility until the next credit shock arises (Chasm: Monetary Policy versus Credit Stress).

The euro area stands out for the enormity of its credit stress *and* for the ECB's resistance to the vigorous response successfully employed by the Fed and BoE to alleviate its effect on the real economy. This route is leading to disaster. (EUR: Integration or Disintegration).

To avert collapse, we expect the ECB to initiate a program similar to the Fed's and BoE's early in 2012. Even in that best case, as investors, companies, and households take precautionary action, we expect a euro area recession and believe that basic financial market functioning is threatened. We think that the loss of trust in political institutions will leave deep traces in the financial markets and ensure that the next leg in redefining the post-crisis global financial architecture occurs with a greatly diminished role for euro area financial institutions (Right-sizing Euro Financials).

We also see in the euro area a microcosm of a broader and powerful set of forces affecting all parts of the global economy, which we detail through this outlook:

- **Challenges to our attitudes about debt**: how far should individuals and countries go to honor promises made by earlier generations for provision in old age or ill health (Demographics: in Sickness and in Old Age), to what extent does the accumulation of debt dictate future growth outturns (Questioning Reinhart & Rogoff on Long-term Growth), and how do portfolio managers reconsider their approach to risk management when what were the "safest" assets within an investment portfolio become risk assets?
- **Wholesale changes to the structure of global finance**: in the US, this was made obvious when foreigners sold private credit post-subprime, which was immediately "nationalized" against the sale of Treasuries, which were in turn then largely purchased by the Fed. Our US mortgage team sets out how these actions (Absorbing the Excess in US Housing), even though they stabilized the mortgage market, left excess supply in housing itself that requires further ambitious private-public partnerships to correct.
- **European deleveraging**: it is, for us, part of the same basic process, with the excessive growth of the EUR banking system a counterpart to Asian reserve accumulation and dollar diversification. Without ECB purchases of distressed sovereign assets, we see a merging of sovereign and banking sector risk at the ECB, but ultimately, we expect greater convergence with the US to market-driven corporate finance. The most efficient route is through EUR depreciation, but widespread defaults remain an undesirable alternative (Right-sizing Euro Financials).
- **Changes in the terms of trade**: we also explore the ongoing ramifications of changes in the terms of trade between the core and periphery of the global economy, with increased influence for non-OECD countries in resource allocation (Defining the Risks from Food and Energy Commodities) and a sustained change in the way in which the market prices debt risk (Eroding Barriers Between EM and DM).
- **Low nominal interest rates**: finally, we highlight the growing realization in the US that although the differences with Japan are many, the challenges of approaching investment businesses amid persistently low nominal interest rates are the same (The Double-edged Sword of Zero Rates).

Our recommendations

At a portfolio level, we see the conflict between monetary policy and credit stresses as one whereby market liquidity, volatility, and correlation are inherently prone to regime shifts (Macro Trade Risk/Reward). In 2011, it was the de-correlation of EUR sovereign interest rates that caused the most pain as they became credit assets – as a result, looking ahead, we see the approach of benchmarking to a sovereign bond index as irretrievably broken.

For US fixed income portfolios, the challenges are different, but no easier as the Fed purchases the liquid assets typically held by these investors. Within the less liquid, credit-intensive sectors, our US strategists favor up-in-quality trades (Securitized Products).

Following are detailed recommendations that express our macro and policy views:

- In **FX**, historically very low dispersion in short-dated G10 rates means that the risk/reward associated with carry strategies is very poor. With valuations unattractive for pro-risk currencies, we expect USD and JPY to outperform. We favor dual digitals and worst-of options that benefit from safe haven flows. Within EM, we recommend a SGD outperformance trade against a basket of USD and AUD (FX Strategy).
- In **rates**, we see the US market as providing the best vehicle to express the view that rates will remain low for long. We recommend receiving USD 3y, 2yr given our view about the likely path of short rates, while in EUR, we view the roll in 5s as attractive on the curve. In general, successful policy stimulus would be a steepener, but we see scope to offset this in JPY rates. Finally, as a structural trade of the view that the volatility surface will converge toward Japan, we recommend being long implied volatility on 30yr tails versus 10yr tails (Global Interest Rate Strategy).
- In selected **EM** rates markets, we believe that increased monetary policy independence offers value and note the increased correlation of EM rates with USD rates along with evidence of the change in the drivers of EM risk premiums (EM Sovereign Debt and Local Currency Rates).
- In **credit**, we favor being short EUR AAA risk. We also recommend using the currently wide dislocation in German sovereign CDS-bond basis (European Credit Strategy).
- **Across asset classes**, investors seeking downside portfolio protection should consider USD 3s1s basis wideners, Euribor puts, and generic equity downside rather than via direct exposure to distressed sectors, in our view (Macro Trade Risk/Reward).

Looking further ahead, if European policy does migrate in the direction we envision, we would expect a rebound in distressed assets but think that risk/reward is best outside the euro area and that the euro itself will underperform:

- We like calls on WTI, where we see tight underlying supply conditions and a risk/reversal in XAUEUR (Commodities).
- For investors sharing our view of pain before some relief, we recommend buying a 6m 10s30s CMS curve cap with a knock-in ATMF-25 bp (US Rates).
- More structurally, for investors expecting a further lengthy period of sluggish activity before an ultimate rebound, we favor buying long-dated high-rate protection with the proceeds from selling short-dated high-rate protection on 10yr swaps (US Rates).

From a cross-asset perspective, reviewing the combination of implied volatility across the major asset classes in tandem with the macro scenarios we judge to be most likely for 2012, our preferred combination is to sell EURUSD calls versus buying calls on SPX (Macro Trade Risk/Reward).

Chasm: Monetary Policy versus Credit Stress

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Monetary policy response

The financial system is in a fragile state. Some institution, market, or instrument seems always at the edge of breaking down – or just over that edge. Very low interest rates throughout the developed world pose a significant challenge to the profitability of traditional financial business models by reducing the rewards of maturity transformation. New regulatory initiatives, including especially higher capital-to-asset ratio requirements on ever more strictly construed asset classifications, inhibit the volume and profitability of credit transformation. (No surprise there – that's what deleveraging the developed economies is all about.)

Ultra-low interest rates tend to be more persistent than ultra-high ones

Ultra-low interest rates tend to be more persistent than ultra-high ones. This partly reflects the asymmetry in the efficiency of monetary policy in stimulating versus restraining economic activity. It also partly reflects the arithmetic of fiscal sustainability: low interest rates suppress the debt service cost entry for debtor governments, while high interest rates contribute to explosive debt-to-GDP dynamics. Finally, the exit from ultra-low interest rates is higher interest rates – that is, a bear market in bonds. Bear markets tend to expose and magnify financial fragilities; therefore, human nature tends to incline the monetary authorities to a more cautious pace of raising interest rates. (Most central bankers most of the time are more analogous to Neville Chamberlin; only rarely does society empower a Paul Volker to play the Winston Churchill role.)

Although ultra-low interest rates are still performing their corrosive role on the profitability of the financial sector business model, the sector is also trying to accommodate an emergent regulatory environment.

This is an edited version of the lead essay from our report, *Global Economy: Monthly Review: De-synchronizing the global economy*, published 16 November 2011

One dimension of that regime is clear enough in outline. Banks and other financial intermediaries will be required to hold more capital per unit of assets – that is, to deleverage. There are two ways to raise a capital-asset ratio: add capital or subtract assets. Raising capital has the potentially undesirable feature of diluting existing shareholders. So banks will seek to accomplish at least some of their deleveraging by shedding assets. But when all (or a large subset of all) financial intermediaries are seeking to disgorge assets, market prices will tend to weaken, bid-ask spreads to widen, liquidity to evaporate, perceived counter-party risk to rise, term funding to run for the hills – in sum, the syndrome that has manifested repeatedly since the summer of 2007. **When this syndrome of financial fragility presents, the only balance sheet adequate to absorb the orphaned assets is the central bank's – hence QE.**

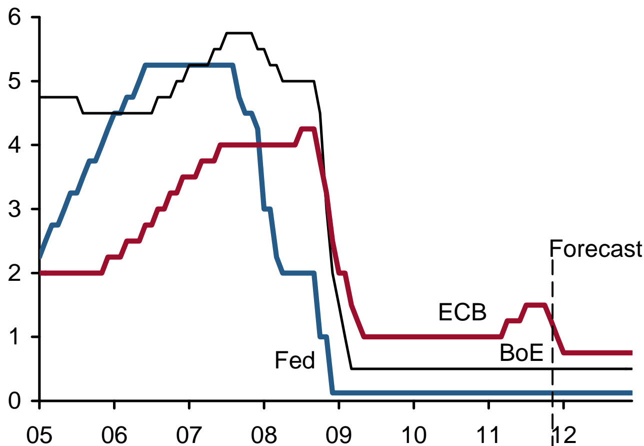
The Bank of Japan has been at this longest and has gone furthest – to the point of buying ETFs on its own stock market. The Bank of England and the US Fed have undertaken significant QE, arguably with more of a focus on a portfolio balance effect to encourage holding of riskier assets. The ECB has so far dipped its toe tentatively into these waters, but we expect considerable expansion of its efforts, at least selectively, toward Europe's troubled sovereigns.

The bottom line is that QE is probably a necessary component of managing the ongoing restructuring of the global financial system. As the old saying goes, "You ain't seen nothing yet."

That's the First World central bank response. For the rest of the world, more conventional monetary policy responses are still available (because policy rates are still well above zero). Central banks in Australia and Brazil have already begun to cut rates to counter the risks to global economic growth and financial stability. We expect more of the same from them and expect others, such as India and Thailand, to join the easing policy posture soon enough (Exhibit 2).

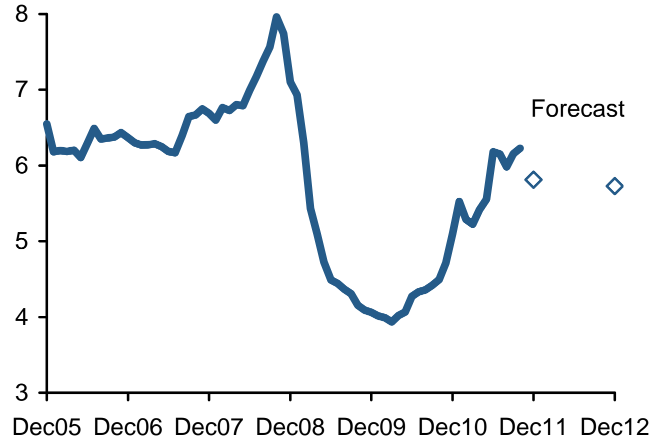
Exhibit 1: Developed market policy rate forecasts

Fed funds rate; ECB repo rate; BoE bank rate



Source: Thomson Reuters DataStream, Credit Suisse

Exhibit 2: Emerging market nominal interest rates



Source: Thomson Reuters DataStream, Credit Suisse Emerging Market Economics Team

Monetary conditions vs. credit conditions

Financial life is now buffeted by two powerful, but diametrically opposite, forces. On the one side, we have the short-term interest rate postures of the major central banks. Let's call that monetary conditions. On the other side, we have the terms and standards of access to credit in open markets. Let's call that credit conditions.

Financial life is now buffeted by two powerful, but diametrically opposite, forces

The major central banks have signaled that the interest rate on cash can be thought of as fixed for an extended period into the future (Exhibit 1). The Bank of Japan has been near zero for over a decade already, with no particular end in sight. The Federal Reserve has been near zero for several years and "promises" to stay there until mid-2013 at least. The Bank of England has just commenced a new round of QE, which is hardly consistent with any expectation that the base rate for sterling cash will move away from 50 basis points for a reasonable stretch into the future. The Swiss National Bank is resisting a natural market tendency to push up the foreign exchange value of the franc, suggesting that it too will stay with extraordinarily low rates for Swiss franc cash for a long time.

At the same time, the ECB under President Draghi has proved to be more active than expected, cutting rates by 25 bp to 1.25%. We expect another cut soon. In our view, this greater activism may augur well for more forceful interventions from the ECB in government bond markets. The ECB must be viewed as being in an asymmetrical posture whereby the cash rate for euros could come down but cannot be expected to rise while the public finances of much of the Continent are in tatters and the growth outlook ranges from anemic to something worse.

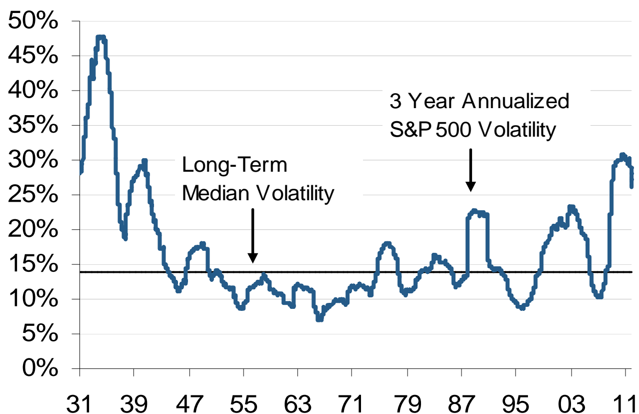
The familiar workings of the Capital Asset Pricing Model imply that the variance (or volatility) of capital asset prices includes the expected variance of the rate of interest on cash over the expected holding period of the asset plus twice the covariance of that cash rate with the remaining market risks. **When the central bank effectively puts the variance and the covariance to zero, the volatility of all capital asset prices should be suppressed, putting a bullish underpinning to risk asset markets of all kinds – whether longer-dated bonds or credit instruments or equities. That's the monetary conditions contribution.**

Credit stress is a force for increasing the volatility – and correlation – of capital asset prices

Credit conditions are different. The quarter-century from 1982 to 2007 featured ever-easier access to credit, whether for US homeowners or Greek citizens. That credit boom allowed for more consumption-smoothing than would otherwise have occurred, suppressing the volatility of real economic performance in what came to be called the Great Moderation. It is patently clear that the terms and standards of access to credit are no longer in a secular easing – just ask American homeowners or Greek public-sector workers or, if reports are to be believed, certain euro zone banks seeking term funding. Credit underwriting standards now fluctuate around a tighter mean than prevailed in 2007, with little sense that Basel 3 and other regulatory innovations will allow for, let alone encourage, a renewed secular easing.

That implies less consumption-smoothing by households or investment-smoothing by businesses or even counter-cyclical fiscal operations by (many) governments than was possible during the Great Moderation. And that, in turn, implies a more volatile fundamental economic backdrop for risk assets (Exhibit 3). That volatility has perhaps already begun to manifest itself in the inadequate recovery from the last recession experienced by nearly all First World countries and by the repeated pattern of alternating speed-up and slowdown scares in the last few years. **This is a force for increasing the volatility – and correlation – of capital asset prices**, whether manifested in yield curve shapes, credit spreads, or equities prices. In the context of an efficient-frontier tradeoff between risk and return, this should be a force suppressing risk asset prices.

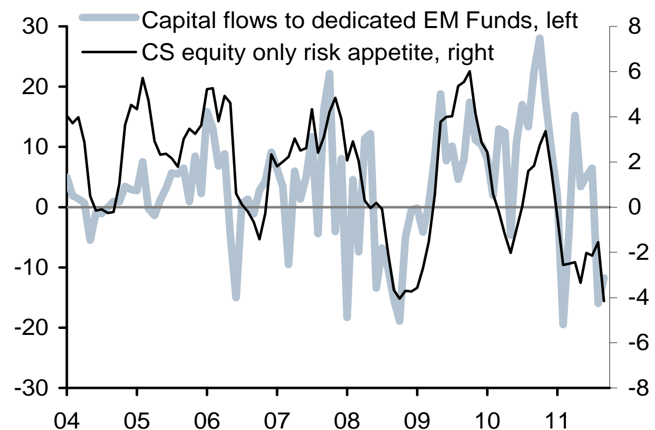
Exhibit 3: S&P 500 volatility



Source: Credit Suisse, Quantitative Equity Research

Exhibit 4: Capital flows to dedicated EM funds vs. risk appetite

EM funds (equities + bonds), US$bn



Source: EPFR Global, Credit Suisse Global Fixed Income Strategy Team

Meanwhile, the low level of interest rates anchoring the North Atlantic region has episodically pushed more capital flows to emerging equity and bond markets. Juxtaposing with the rising capital flow is the increased volatility. We observed heavier outflow from the emerging markets this year, at times when risk aversion was driven by slowdown scares in the emerging economy or fears of European debt contagion (Exhibit 4). The more volatile capital flows pose a significant threat to both financial market and economic stability of the emerging markets.

2012 is likely to be buffeted by these two conflicting forces, just as 2011 has been. The most likely outcome, in our view, is that the monetary conditions force will predominate most of the time, with occasional volatility outbursts as the underlying fundamental/credit conditions force becomes visible. Longer-term averages for volatility should be forced down by the monetary conditions force, while episodic surges in volatility should be expected while the credit conditions force is still evolving toward its new equilibrium.

Global Market Outlook and Themes

Themes Synopsis

Macro Theme	2012 Core Views
The Economic Outlook for 2012 [N. Soss, H. Mo]	• The year 2011 ends with a pattern of diverging growth among major economies, and we expect this de-synchronization to persist in 2012. • We expect the global economy to expand at a 3.4% rate in 2012. Developed-market economies are expected to grow slowly on a consolidated basis, while growth in the emerging markets remains relatively resilient. • The global economy seems capable of withstanding a mild euro area recession. A more severe and disorderly outcome in Europe could still overwhelm the rest of the world, and the risks to our global forecast are still to the downside.
EUR: Integration or Disintegration? [N. Hill]	• The euro area economy is in recession, and GDP is likely to fall in 2012. The risk is that a weak economy feeds back into ever-worsening financial conditions. • Recovery will depend on an effective policy response. We think that the political will is there to solve the crisis and keep the euro intact. • In effect, that requires the ECB to embark on a program of large-scale asset purchases and euro area governments to move to closer fiscal union.
Right-sizing Euro Financials [W. Porter, S. Shepley]	• We believe that the excessive growth of the EUR banking system was, in part, a counterpart to the massive accumulation of Asian reserves and diversification away from the dollar. • In the US, the sale by foreigners of private credit was immediately “nationalized” against the sale of Treasuries, in part then purchased by the Fed. In the euro area, the ECB is playing a similar role in deleveraging but so far with a much more opaque transfer of risk. • Combined with political obfuscation, this has created a loss of trust and, even ignoring the worst outturns, will force a deep discount for new capital to conduct the increased market financing of corporate lending that a deleveraged system will require, in our view. The most efficient route to this is through EUR depreciation, but heavy defaults and the undermining of the euro itself are alternatives we find too close for comfort.
Absorbing the Excess in US Housing [D. Westhoff, C. Bhattacharya]	• We believe that establishing a home price floor is the key to setting in motion the mechanics of a nascent housing recovery. • More than two-thirds of the distressed supply is held by government agencies. • A buy-to-rent program to purchase and subsequently rent out GSE-owned distressed properties by institutional investors, where the government provides limited financing, has the best chance to stabilize home prices, in our opinion.
Eroding Barriers Between EM and DM [K. Bartholdy]	• Until a few years ago, the correlation between countries’ GDP per capita and their sovereign risk spreads was strong, but that correlation has weakened. • The two macro-variables that currently best explain sovereign spread differences across a large pool of EM/DM countries are inflation and external debt. • Fiscal performance plays less of a role but seems likely to become a more significant influence on risk spreads in the long run. This generally is likely to benefit the EM countries.
Defining the Risks from Food and Energy Commodities [R. Deverell]	• The spike in oil prices in early 2011 was, in our view, a major factor in the slowdown in the G7 economies over 1H. • Similarly, rising food prices have been a key factor pushing inflation higher in China, ceteris paribus, resulting in tighter monetary policy. • While both oil and food prices are likely to remain high, the drag on the global recovery and impact on inflation are likely to have peaked, although risks remain.

Themes Synopsis

Macro Theme	2012 Core Views
Questioning Reinhart & Rogoff on Long-term Growth [J. Wilmot, J. Sweeney]	• Europe's crisis is the result of a deflationary shock and the lack of a robust institutional framework to deal with it, not high government debt levels per se. • We do not expect the European experience to be repeated elsewhere. Contrary to popular belief, there is no clear relationship between future growth and government debt ratios. • There are considerable holes in readings of economic history claiming to show that high debt levels cause weak growth.
Life After Debt: A Back-loaded US Recovery [J. Wilmot, J. Sweeney]	• The legacy of the US housing boom continues to shape the recovery, which is likely to be back-loaded. • Services consumption and residential investment are likely to drive strong growth eventually. • Household formation rates and house price stabilization are key ingredients to a lasting recovery.
The Double-edged Sword of Zero Rates [H. Shirakawa, N. Soss]	• The Fed's move to a zero-interest-rate policy (ZIRP) in 2008 was understandable, but ultra-low interest rates introduced a new set of problems. • Japan's 12 ½-year experience suggests that once ZIRP is adopted, it is very difficult to reverse; normalizing policy and market rates become frustratingly elusive goals. • Already in the US, there is evidence that ZIRP is posing a significant challenge to the profitability of traditional financial business models, much like we saw in Japan.
Demographics: In Sickness and in Old Age… [A. Roy]	• Fiscal sustainability in rich countries requires the renegotiation of pensions, health care, and long-term care promises. This may begin as part of current austerity programs. • The old, in terms of their characteristics and behavior, vary across countries; this, along with differences in levels of promises made to them, leads to different fiscal strains. • Renegotiations of benefits should be part of a rethinking of holistic policy reforms covering labor markets, education and retraining, pensions, health care, and taxes.

The Economic Outlook for 2012

De-synchronizing the global economy

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2012 Core Views

- The year 2011 ends with a pattern of diverging growth among major economies, and we expect this de-synchronization to persist in 2012.
- We expect the global economy to expand at a 3.4% rate in 2012. Developed-market economies are expected to grow slowly on a consolidated basis, while growth in the emerging markets remains relatively resilient.
- The global economy seems capable of withstanding a mild euro area recession. A more severe and disorderly outcome in Europe could still overwhelm the rest of the world, and the risks to our global forecast are still to the downside.

This is an edited version of the lead essay from our report, *Global Economy: Monthly Review: De-synchronizing the global economy*, published 16 November 2011

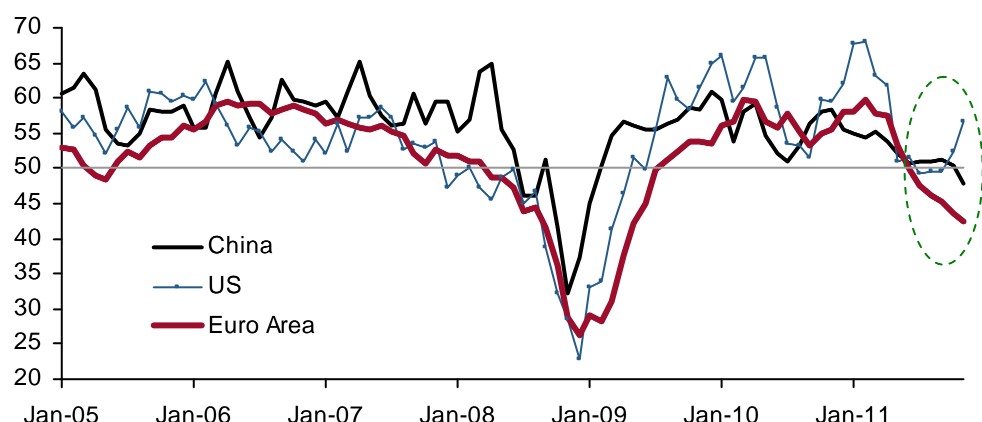
The year 2011 ends with a pattern of diverging growth among major economies, and we expect this de-synchronization to persist in 2012. Specifically, risks of a synchronized global recession continue to diminish, and signs of divergence among major economies are emerging. Summertime fears of a global recession are now being replaced with a more nuanced speed-up scare for the US, an increasingly realized "soft landing" for China, and a more intense slowdown scare for Europe.

The euro area continues to lurch unsteadily toward fiscal union. However, measures taken so far are not enough to bring the euro area financial crisis to a close. Business surveys are now at levels consistent with outright declines in euro area GDP and look likely to weaken further. In our view, Europe is experiencing a large upward shock to the demand for liquid cash balances, manifested in the urge to shed noncash assets, including sovereign bonds. The duration and intensity of the euro recession probably rests in the willingness of the ECB to satisfy that heightened money demand.

We expect the pattern of diverging growth among major economies to persist in 2012

The global economy so far seems capable of withstanding a mild euro area recession. A more severe and disorderly outcome in Europe could still overwhelm the rest of the world. The risks to our global forecast are still to the downside.

Exhibit 5: Manufacturing PMI new orders



Source: ISM, Markit Economics, NBS, Credit Suisse

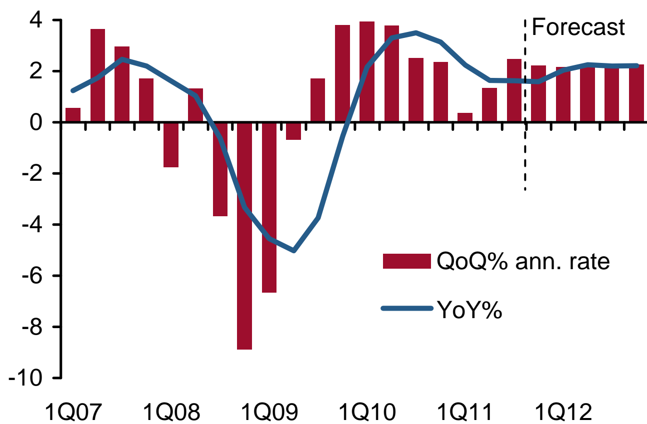
In the US, data continue to strike a resilient tone, and the economy seems more at the edge of a new speed-up scare with each passing data report. On a short-term cyclical view, we are encouraged by the strong rebound of the ISM manufacturing new orders index, car sales moving above replacement rates for two straight months, steady (although

mediocre) gains in payroll employment, new cycle lows in initial jobless claims, and solid momentum in hours worked and payroll income to start 4Q. A more favorable demand/inventory balance also adds upside risk to 4Q growth. That the economy could muster any speed-up at all in the face of intensifying financial market headwinds is a reassuring sign – consistent with our view that recession risk never rose to the status of a most likely outcome. **In our view, the most likely scenario for the US economy is continued moderate, if uninspiring, growth and a sideways trajectory in the unemployment rate. We expect 2.1% growth next year on an annual average basis and, much more tentatively, a similar outlook for 2013** (Exhibit 6). As 2012 unfolds, the US fiscal outlook for 2013 is likely to be a source of considerable uncertainty for economic forecasters and market participants alike.

China's economy is slowing but to a more desired pace

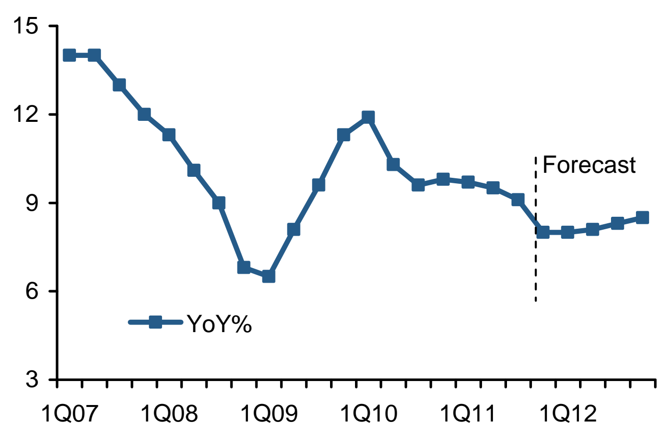
Meanwhile, recent Chinese data show more signs of a "soft landing," as sought by the authorities. The resilient 3Q GDP growth suggests that the economy is slowing but more to a desired than a disturbing extent. Moreover, October macro data remained healthy and further assuaged hard-landing fears. Of note, the official NBS PMI manufacturing index fell to 49.0 in November but did not collapse to the below-40 level seen in 2008, consistent with our view that the economy is slowing but not collapsing. The most recent macro data also show that inflation is slowing, while growth in fixed asset investment and retail sales remains resilient. Importantly, the policy environment also has become more growth-friendly. Our China economists believe that China has entered a period in which macro conditions will be closely observed by policymakers, who have had a selective and measured policy response, including a cut in the reserve requirement ratio this past week. Stronger-than-expected new loans in October suggest that the government has been discreetly providing measured credit easing to selective pockets of the economy, such as the SMEs, public housing construction, ongoing infrastructure investments and other focused projects of the government. **We expect China's economy to grow at about 8% in both 2012 and 2013** (Exhibit 7).

Exhibit 6: US growth outlook



Source: BEA, Credit Suisse

Exhibit 7: China growth outlook



Source: NBS, Credit Suisse

We expect a mild recession in the euro area

Developments in Europe are, needless to say, concerning. The confidence of households and business leadership about the long-run coherence of Europe on the fiscal and monetary fronts has been dented by the prolonged political wrangling and uncertainties about the European debt crisis. **Although it remains to be seen if the contagion will spread to the rest of the world, the weakened sentiment has found its way into the real economy in the euro area.**

Specifically, the euro area manufacturing PMI continued its descent and fell further below the 50 mark (Exhibit 5). The German PMI dipped below 50 for the first time since September 2009 (49.1), while the Italian PMI posted the sharpest fall on record (43.3). Consistent with the soft data, hard data from Germany, one of the strongest economies in the euro area, confirm the sharp slowdown in economic activity. Industrial production in Germany fell again in September, leaving it more than 3% below its July peak. Moreover, sharply contracting manufacturing orders suggest further weakness for production in the near term (Exhibit 8).

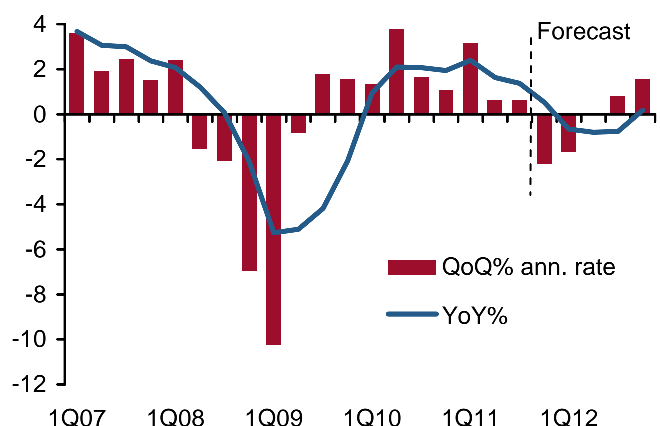
We now expect the euro area economy to contract in the next couple of quarters, with a peak-to-trough decline of around 1% (Exhibit 9). That loss in output will be most acute in Italy and other peripherals. That said, we expect the economy to recover by the second half of 2012 and think that the risk of a more severe recession is limited by a resilient global economy and pockets of strength within the euro area – in the corporate sector and domestic German economy. **On an annual basis, we look for euro area GDP to contract by 0.5% in 2012 and rise by 1.7% in 2013. The UK is likely to skirt recession and see growth of just 0.7% next year.**

Exhibit 8: German industrial production and manufacturing orders

SA, 2005=100

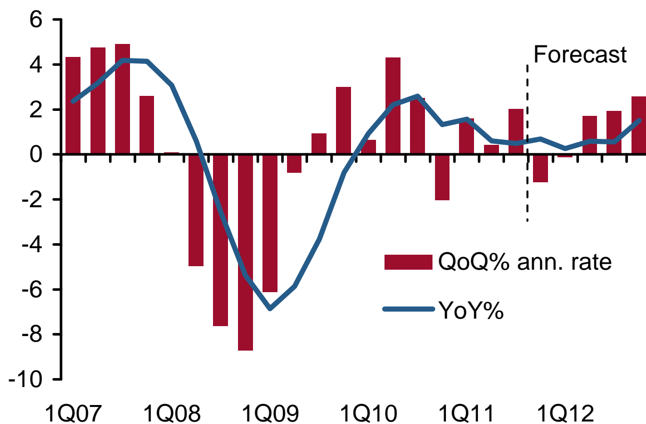
Source: Haver Analytics®, Credit Suisse

Exhibit 9: Euro area growth outlook



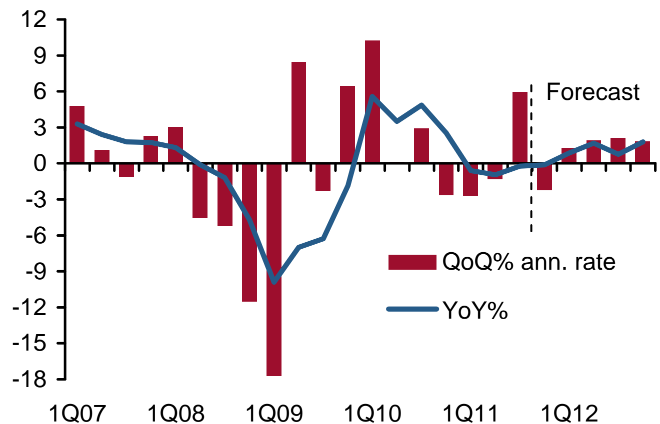
Source: Thomson Reuters DataStream, Credit Suisse

Exhibit 10: UK growth outlook



Source: Thomson Reuters DataStream, Credit Suisse

Exhibit 11: Japan growth outlook



Source: Cabinet Office, Credit Suisse

Global growth outlook

At a global level, we stand by our long-held view of persistent (albeit inadequate) global growth.

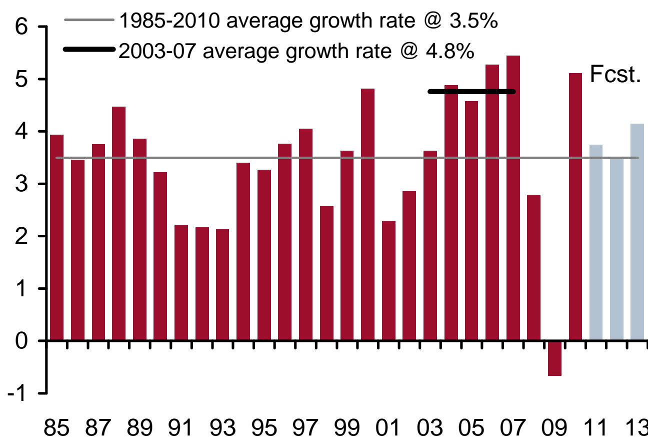
We expect the global economy to expand at a 3.4% rate in 2012

Global GDP growth is expected to finish 2011 at 3.7%, unchanged from our September estimate. In addition, **we expect the global economy to expand at a 3.4% rate in 2012**, two-tenths lower than our September estimate. The lower growth estimate is mainly due to downward revisions in the euro area. Although our current 2012 global growth forecast is in line with the long-term average growth rate, it is over a full percentage point lower than the 4.8% growth average in the five years before the global recession (Exhibit 12). For reference, current consensus expectations call for global growth of 3.8% in 2012. On a quarterly basis, we expect a faster expansion in the second half of next year, supported by a forecasted recovery in the euro area (Exhibit 13). Regarding the 2013 growth outlook, our first cut is for a rebound to 4.1% real GDP growth.

Developed market economies are expected to grow slowly on a consolidated basis, with Europe's recession balanced by continued slow expansion in the US and Japan. Developed market GDP growth is expected to finish 2011 at 1.4%, followed by 1.2% growth in 2012.

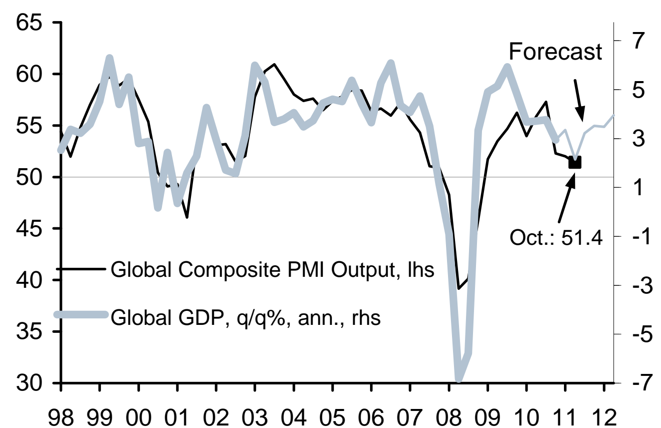
Growth in the emerging markets remains relatively resilient. As a group, emerging economies are expected to conclude 2011 with 6.1% GDP growth, followed by 5.6% in 2012. Even here, the outlook is mixed. China has accomplished a desired slowdown, but Brazil and India have yet to find their sea legs. **We believe that emerging markets' higher alpha (trend growth rates) – coupled with their willingness and capacity to provide stimulus – would provide a floor for global economic activity** amid the heightened global financial market and economic uncertainty.

Exhibit 12: Global GDP growth



Source: IMF, Credit Suisse

Exhibit 13: Global GDP growth vs. composite PMI output index



Source: Credit Suisse, Markit Economics, Thomson Reuters Datastream

Will a mild recession in the euro area drag the rest of the world into a renewed downturn?

The impact to the rest of the world from weaker exports to the euro area has been getting smaller

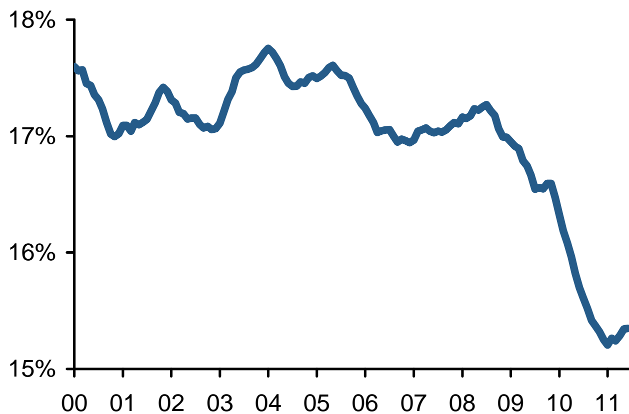
The drag from the euro area to the rest of the world comes through two main channels. The first is trade linkages. Although the euro area as a whole remains the world's top export destination, its share has declined sharply since 2008, long before the recently intensified European debt crisis (Exhibit 14). China and US export shares to the euro area peaked sequentially in 2008 and 2009 (Exhibit 15). Although weaker exports to the euro area are unavoidable, the impact to the rest of the world has been getting smaller.

More generally, the euro area has not been a major contributor to global growth in recent years. Calculated with market exchange rates, the euro area on average contributed about 12% of global growth in the five years before the Great Recession (2003-07) and about 9% in 2010, the first full year into the recovery. These contributions are considerably lower than those from the US (23% between 2003 and 2007 and 17% in 2010) and China (15% and 18%, respectively) over the same time periods. For more detail on our euro area outlook, please see EUR: Integration or Disintegration.

A mild recession in the euro area, as we expect, will not drag the rest of the world into a renewed downturn, in our view. Recent divergence between the euro area and US/China data seems to point in this direction. This outcome perhaps parallels the experience of the early 1990s, when Japan's growth stalled without large adverse effects on the world economy as a whole.

Exhibit 14: Euro area shares of world imports

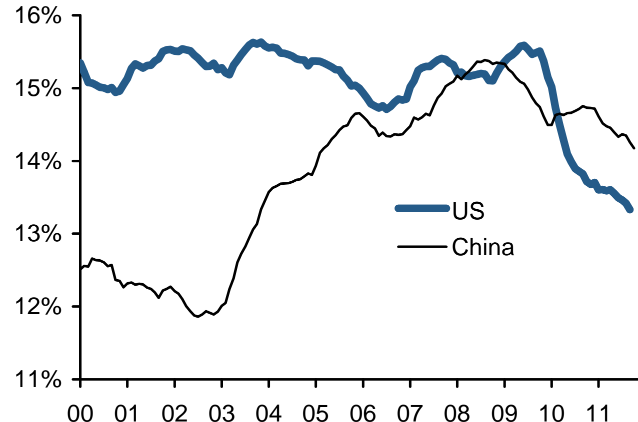
12m ma; excludes intra euro zone trade



Source: Haver Analytics®, IMF, Credit Suisse

Exhibit 15: US and China export shares to euro zone

12m ma



Source: Bureau of Census, China Customs, IMF, Credit Suisse

The potential drag through financial linkage is more concerning

However, the potential drag through the second channel of transmission – financial linkage – is more concerning. In our view, European debt contagion remains the shock of the hour, which carries the threat – although still not the likelihood – of becoming the recessionary tipping point for the global economy.

European debt contagion, if disorderly, could lead to sharply tighter credit conditions globally, which in turn could cause a severe contraction in global economic activity. Notably, the sudden freeze of international trade credit during the last global recession in 2008 and 2009 dramatically amplified the negative impact through the trade linkage and fueled the sharp contraction in global trade.

To be sure, the ongoing European debt crisis has affected lending conditions for European banks and, to a lesser extent, for nonfinancial firms with significant exposures to European economies. According to the Federal Reserve's latest Senior Loan Officer Survey, a large

number of domestic and foreign responding banks indicated that they had tightened standards on loans to European banks over the third quarter. Many domestic banks also indicated that the tightening was considerable. The survey finds that the tightening to nonfinancial firms with significant exposure to European economies has been moderate so far. Meanwhile, the latest ECB bank lending surveys point to more aggressive tightening of credit standards to corporates. Signs of stress in bank funding markets are also building (Exhibit 16).

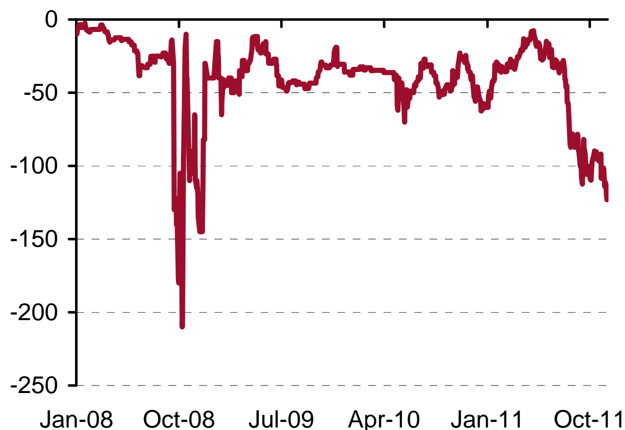
Euro area banks maintain a substantial presence in the global credit market

Tightening lending standards to European banks, coupled with the deleveraging of these financial institutions, may introduce another source of volatility to the global credit market, especially given the scale of lending by European banks. Illustratively, euro area banks maintain a substantial presence in the global credit market, especially in Emerging Europe and Latin America. Based on BIS data, as of the end of March, banks that are headquartered in the euro zone accounted for over 80% of the outstanding foreign claims on Emerging Europe, over 50% on Latin America, around 20% on Emerging Asia, and over 30% on the US, respectively (Exhibit 17). Notably, claims by these banks are, in some cases, equivalent to large shares of the GDP of the borrowing regions – over 31% of GDP in the case of Emerging Europe and 13% in the case of Latin America. Thus, a retrenchment of euro area banks from foreign markets may lead to a sharp drop in bank credit and add further unease to the global growth outlook.

Of course, the transmission of crisis from Europe to the rest of the world through the financial linkage is broader than a possible drop in bank lending. As our head of Emerging Markets Strategy and Economics, Kasper Bartholdy, points out, other possible avenues include a protracted shutdown of the securities issuance market across the world and the wealth decline of creditors in the rest of the world that results from the fall in the prices of assets they hold in Europe.

Exhibit 16: Funding stress – high cost of swapping euros for dollars

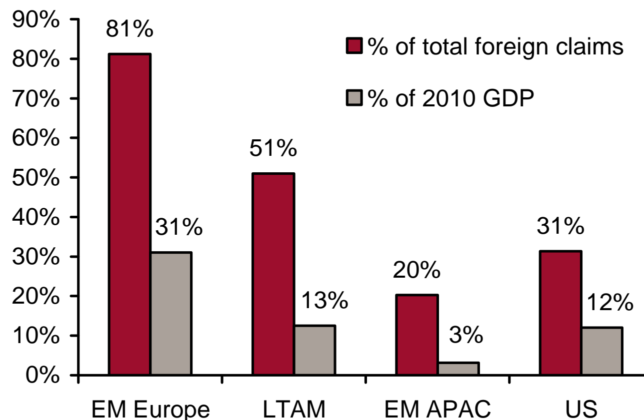
Euro basis swap rate (3 months), basis points



Source: Credit Suisse, the BLOOMBERG PROFESSIONAL™ service

Exhibit 17: Foreign claims of euro area banks on emerging markets and the US

%, ultimate risk basis, End-March 2011



Source: BIS, IMF, Credit Suisse

EUR: Integration or Disintegration

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2012 Core Views

- The euro area economy is in recession, and GDP is likely to fall in 2012. The risk is that a weak economy feeds back into ever-worsening financial conditions.
- Recovery will depend on an effective policy response. We think that the political will is there to solve the crisis and keep the euro intact.
- In effect, that requires the ECB to embark on a program of large-scale asset purchases and euro area governments to move to closer fiscal union.

The European situation deteriorated steadily and seriously through the course of 2011. The failure of policymakers to stem contagion effectively from haircuts on Greek government debt, as well as the possibility that a country could leave the euro, has put the euro area in a grave situation as we go into 2012.

Government bond markets are increasingly illiquid. Bank funding markets are closed. And the euro area is in recession. In the absence of effective and decisive action, the continued existence of the euro looks increasingly finite.

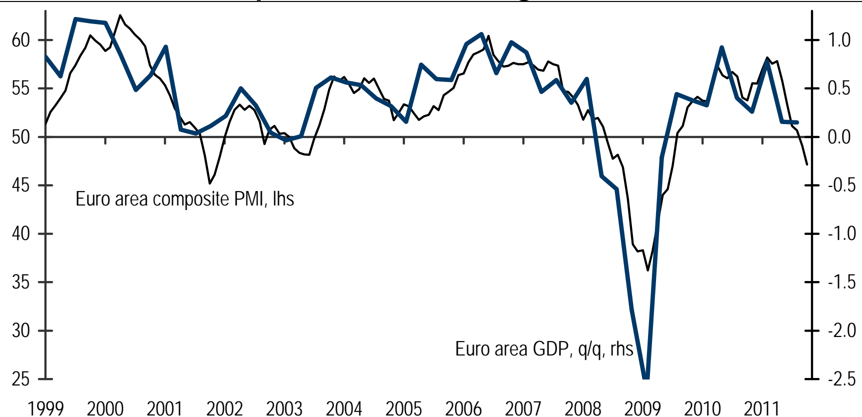
Our view remains that the political will is there. Several times this year, European politicians were faced with the option of choosing either closer fiscal integration or financial disintegration. Each time, they chose the former. Their failure has largely been one of effective, competent, and timely implementation. But it has also reflected political disagreements that, at the time of writing, are not yet resolved.

The growing – but imperfect – willingness to share financial risk at the sovereign level has been matched by much greater enforcement of fiscal restraint and a transfer of national sovereignty over fiscal policy.

We think that political will shall be severely tested in early 2012. The circumstances are likely to require a significant innovation in policy if the euro is to survive. Those political disagreements over the methods to solve the crisis will need to be resolved.

At present, the euro area is tipping into a self-reinforcing downturn. The shocks to confidence and the financial sector have been severe and persistent enough to push the euro area into a recession that is likely to be exacerbated by further pro-cyclical fiscal tightening, as governments attempt to maintain their 2012 deficit targets. Cyclical indicators are already consistent with falling output, and we expect them to weaken further.

Exhibit 18: Euro area composite PMI and GDP growth



Source: Credit Suisse, Markit

Although fiscal policy is being tightened further, the risk is that euro area recession will lead to fiscal slippage, in turn provoking a further loss of market confidence in euro area sovereigns. With financing needs still extremely high in many euro area countries, especially Italy, such an additional loss of confidence could be extremely disruptive.

Exhibit 19: 2012 financing needs for various euro area sovereigns

€bn

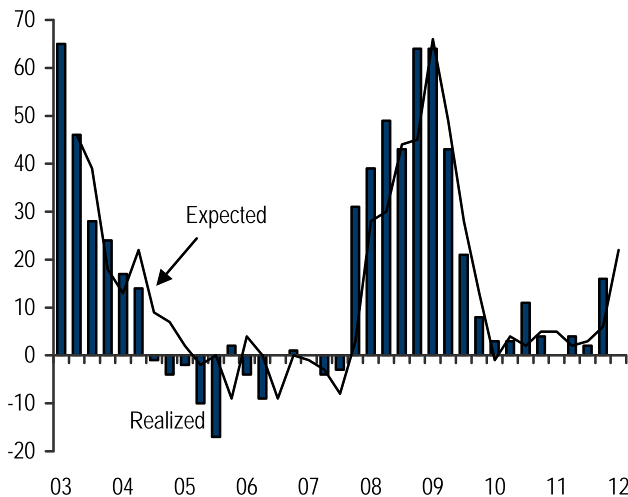
	Net Financing 2012	Bond Redemptions	Total Financing Need
Austria	8	14	22
Belgium	13	28	41
Finland	7	6	13
France	83	99	182
Germany	25	157	182
Italy	32	193	225
Netherlands	12	34	46
Spain	40	50	90
Total	220	581	801

NOTE: These funding needs exclude those of Ireland, Portugal, and Greece, for which some financing will come from EFSF issuance.
Source: Credit Suisse

The banking sector also has considerable funding needs in early 2012. The ECB's provision of liquidity to the banking sector should prevent a full-scale crisis, but continued liquidity flight out toward the core euro area countries is likely to mean that banks' marginal funding costs will remain prohibitively high and that credit availability will continue to tighten.

Exhibit 20: ECB bank lending survey – lending standards to corporates

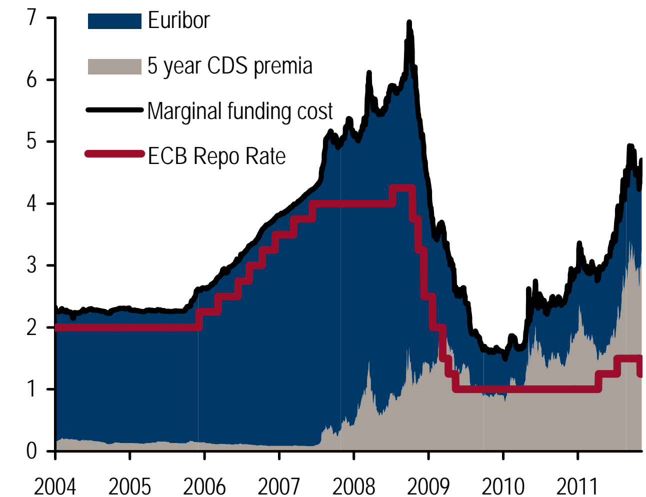
Net percentage of banks reporting tighter lending standards



Source: ECB, Credit Suisse

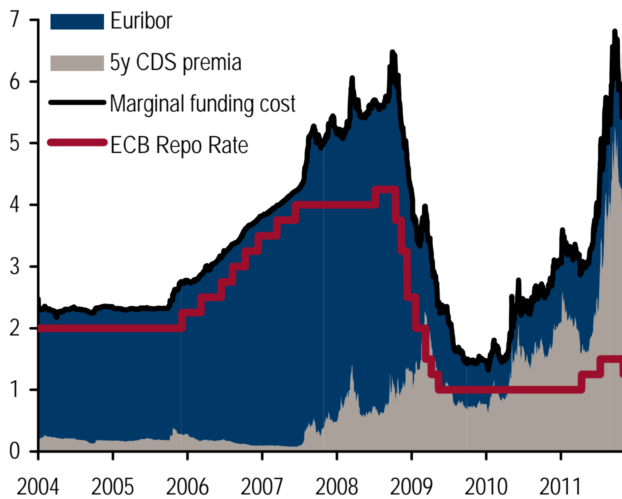
Exhibit 21: Euro area banks' marginal funding cost

%



Source: ECB, Thomson Reuters Datastream, Credit Suisse

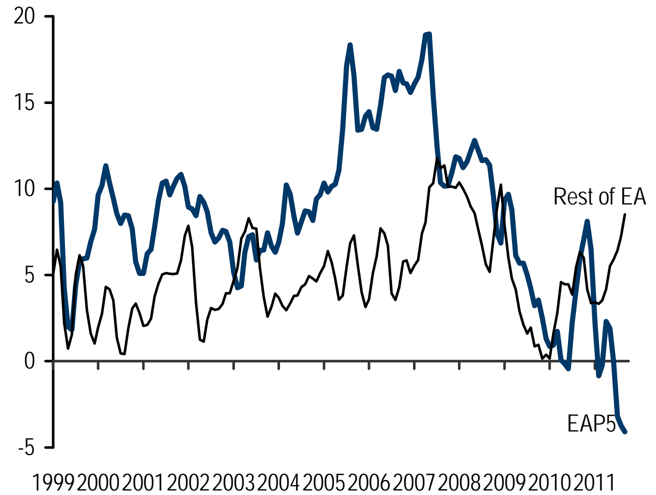
Exhibit 22: Italian banks' marginal funding cost



Source: ECB, Thomson Reuters Datastream, Credit Suisse

Exhibit 23: Deposit flight from periphery to core

Bank deposit (ex-MFIs), 3m/3m saar%



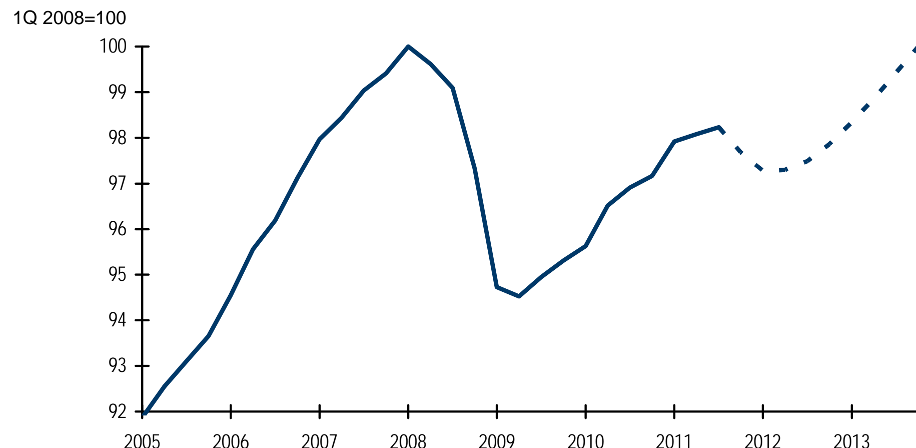
Source: ECB, Credit Suisse

There are areas of potential resilience, which would support a euro area recovery if financial conditions were to stabilize and confidence improve. For example, the global economy has remained surprisingly firm in the face of the euro area crisis, so a solid external backdrop could support recovery. Also, the euro area has many strong fundamentals – healthy corporate cash flows, a nascent consumer spending recovery in Germany, and in aggregate, better fiscal metrics than the US or UK. And on a consolidated basis, the euro area has a balanced international trade position, which means that the region does not rely on external capital flows from the rest of the world. Relying on the uncertain kindness of strangers is demonstrably a problem for some of the constituent countries but not for the region as a whole.

But the euro area will only be able to benefit from those if policymakers to take bold, rapid, and decisive action to address its financial problems. Otherwise, this self-reinforcing downturn is only likely to lead to a further intensification of the crisis and, quite possibly, bring about a disintegration of the euro area. A policy framework that creates and exacerbates depressions is unlikely to be permanent.

Exhibit 24: Euro area real GDP in levels, with Credit Suisse's forecast

1Q 2008=100



Source: Credit Suisse, Thomson Reuters Datastream

In reality, then, the pressure on policymakers is likely to be at its most acute in the new year if financial conditions remain deeply challenging and the euro area is clearly in recession.

So what can be done? It should be increasingly clear to policymakers that without ample liquidity, there can be no solvency in the euro area's public finances. The recent political changes in Italy, for example, should have been profound enough to have had a palpable impact on the market's perceptions of its government's solvency. Not so. And the innovation since then has been growing pressure on other, core, government's spreads.

To the extent that the immediate problem is liquidity, we see two potentially complementary policy options. The first is that the ECB injects substantial liquidity into euro area bond markets through large-scale asset purchases (or QE). We do not think that the treaty prohibits the ECB from doing so, as long as it is explicitly for monetary policy purposes. That may mean that the ECB will need to cut rates to 0.75% or 0.5% to demonstrate that its ability to ease policy further through rate cuts is exhausted and that asset purchases – similar to those conducted by other central banks – are the only option. It would also suggest that the ECB needs to buy a representative basket of euro area government bonds, rather than just those in the most distress.

Exhibit 25: 2012 euro area event risk

Date	Event
19 February	Greek elections
February	3rd Portuguese EU/IMF review
February	Italian bond redemption (EUR36.4 bn)
March	7th Greek EU/IMF review
March	Irish bond redemption (EUR5.5 bn)
March	Greek bond redemption (EUR14.5 bn)
March	Italian bond redemption (EUR27.1 bn)
22 April	1st round of the French presidential election
April	6th Irish EU/IMF review
April	Spanish bond redemption (EUR12.5 bn)
April	Italian bond redemption (EUR27.8 bn)
6 May	2nd round of the French presidential election
6 May	German state election: Schleswig-Holstein
May	4th Portuguese EU/IMF review
May	Greek bond redemption (EUR8.9 bn)
June	8th Greek EU/IMF review
June	Portuguese bond redemption (EUR10.2 bn)

Source: Credit Suisse

All the same, we think that a program on such a scale similar to that conducted by the Fed and Bank of England – that is, about 10% of their economies' GDP (so close to €1 tn for the euro area) – would have a significant effect on restoring confidence and liquidity to euro area government bond markets. The fact that QE has now become a standard part of monetary policy implementation in developed economies should give the ECB some comfort in that regard. At present, it is the exception.

The ECB could borrow other tools pioneered by other developed economy central banks. For example, the Fed developed the Treasury Securities Lending Facility (TSLF), which permitted banks to lend their hard-to-fund mortgages to the Fed (with appropriate haircuts for credit and liquidity risks) in exchange for borrowing some of the Fed's portfolio of Treasuries, which the banks would find easy to fund. This relieved some of the strains on bank funding and had a calming influence. The Bank of England did much the same with its Special Liquidity Scheme (SLS).

Analogously, some banks in Europe now find themselves holding dollar-denominated assets that are difficult for them to fund comfortably on acceptable commercial terms; meanwhile, euro area central banks hold large amounts of US Treasuries as part of their foreign exchange reserves. One could imagine a program under which euro area central banks allow banks to swap some of the difficult-to-fund dollar assets (with appropriate haircuts for credit and liquidity risk) for US Treasuries currently held by the central banks that would be easy to fund. This would help to relieve some of the strains in European bank funding.

Of course, to the extent that this support cannot be unlimited, even if it is substantial, means that there needs to be further progress in allowing governments to finance themselves in instruments that the market will regard as liquid. That implies a further move toward Eurobonds. The European Commission plans to produce proposals for Eurobonds by the end of this year.

But, even if euro area governments were to decide to move toward common debt issuance in some form, the political processes by which they could be effectively introduced would take some time. They would require the negotiation and ratification of an EU Treaty change, a process that could last well beyond 2012. Political risk related to such implementation could be considerable. An implication of this is that the ECB would need to keep its enlarged balance sheet in place for several years, as other central banks have already illustrated.

Of course, both of these policy measures – large-scale ECB asset purchases and a Eurobond – are currently opposed by the relevant authorities, especially those in Germany. So a solution involves some policymakers doing something they have told markets they are not prepared to do. In reality, that means the economic and financial crisis in Europe will need to worsen significantly further before, or if, they are accepted.

In our view, the crunch point is very soon.

Right-sizing Euro Financials

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2012 Core Views

- We believe that the excessive growth of the EUR banking system was, in part, a counterpart to the massive accumulation of Asian reserves and diversification away from the dollar.
- In the US, the sale by foreigners of private credit was immediately "nationalized" against the sale of Treasuries, in part then purchased by the Fed. In the euro area, the ECB is playing a similar role in deleveraging but so far with a much more opaque transfer of risk.
- Combined with political obfuscation, this has created a loss of trust and, even ignoring the worst outturns, will force a deep discount for new capital to conduct the increased market financing of corporate lending that a deleveraged system will require, in our view. The most efficient route to this is through EUR depreciation, but heavy defaults and the undermining of the euro itself are alternatives we find too close for comfort.

Scale of the problem

The ECB flow of funds data show the staggering scale of the challenge we all face.

Exhibit 26: The financial economy overwhelmingly dominates euro-area capital markets

Size of outstandings in euro bond markets (€bio), 31 August 2011

	Total economy	MFIs (including Eurosystem)	Financial corporations other than MFIs	Non-financial corporations	Central government	Other general government
euro	14471.9	4455.8	2730.8	703.3	6066.1	515.9
Non-euro	1768	936.4	506.4	145.4	98.7	81
All currencies	16239.9	5392.3	3237.2	848.7	6164.8	597

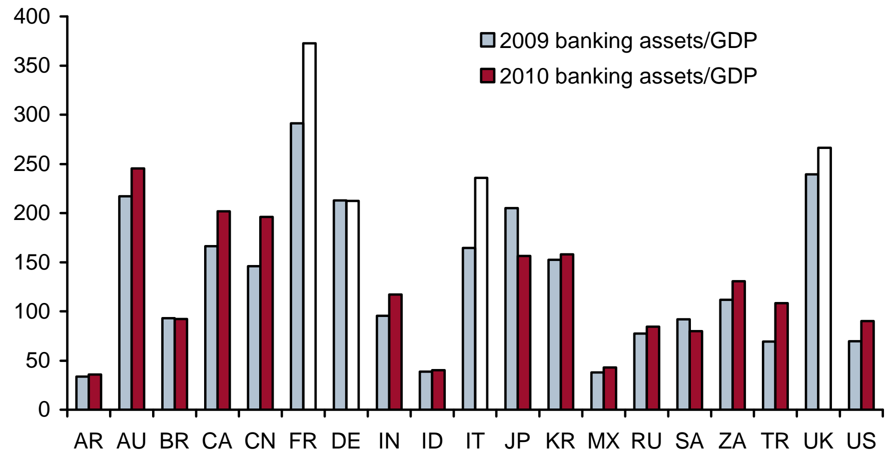
Source: Credit Suisse, ECB

The function of capital markets is to match end providers and end users of capital. Corporate issuance is a mere €700 bio of the total €14.4 tn of the euro domestic bond market. Of course, some of the financial share is eventually routed to corporates, but the numbers highlight the difficulty that the market faces in seeking to overweight corporate risk and seek refuge from uncertainty in financials. This is likely to show in the price, probably for a long time. We prefer non-financials to financials in all parts of the capital structure. However, we expect the relative performance to slow. Our analysis of the euro area is based in large part on the private sector's unwillingness to fund current account deficits. These now reside in the public sector, particularly with the ECB, where they are showing signs of being unsustainable. The eventual correction felt by exporters in the core will start to affect non-financials, in our view.

In Europe, 84% of corporate credit crosses a bank's balance sheet. The ratio is less than 40% in the US. This creates more exposure in the US to market closure and more exposure in Europe to bank deleveraging; the latter is a critical macroeconomic driver.

Exhibit 27: The European banking system is large by global standards

Banking assets as a percent of GBP for 19 G-20 nation states, end 2009 and end 2010. European names highlighted in 2010

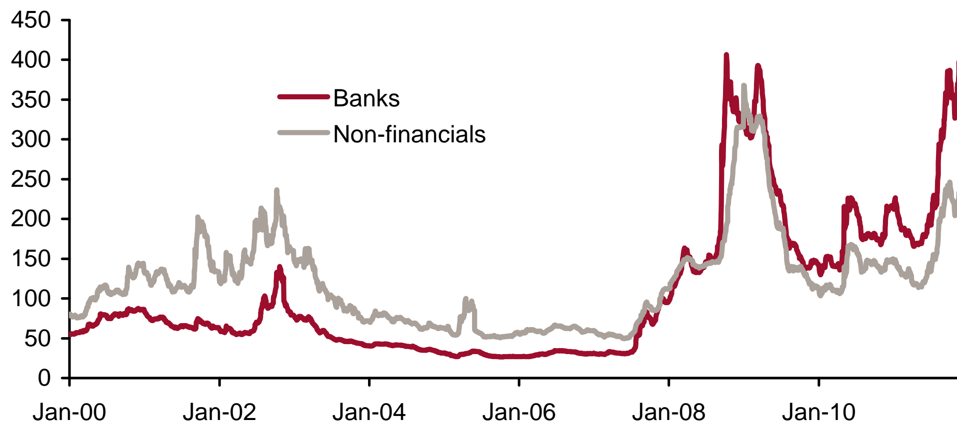


Source: Credit Suisse

We sometimes describe the banking business model as broken; the system has lost its relative funding advantage and its ability to leverage "risk-free" assets more or less without limit. (The size of the banking system is, we think, in part a legacy of its being a captive market for pre-EMU government financing – as, of course, are its government exposures.)

Exhibit 28: Whoops! Where did my business model go?

LEI euro banks vs. non-financial, spread to governments

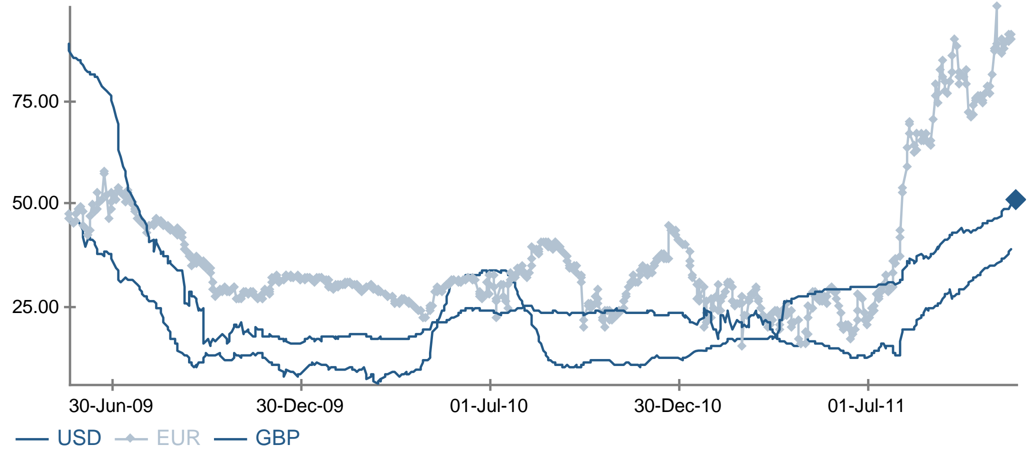


Source: Credit Suisse

As confidence falls in the sustainability of the banking system in its current format, a really brutal shrinkage is an ever-present risk. And, of course, in these circumstances, interbank bases increase; the 2008 history suggests that they can do so dramatically, highlighting the funding issues. As Exhibit 29 shows, this is seen much more strongly in the euro area at present. These are risky times.

Exhibit 29: Euro LIBOR-OIS is underperforming

LIBOR-OIS, three-month, BP, for selected currencies

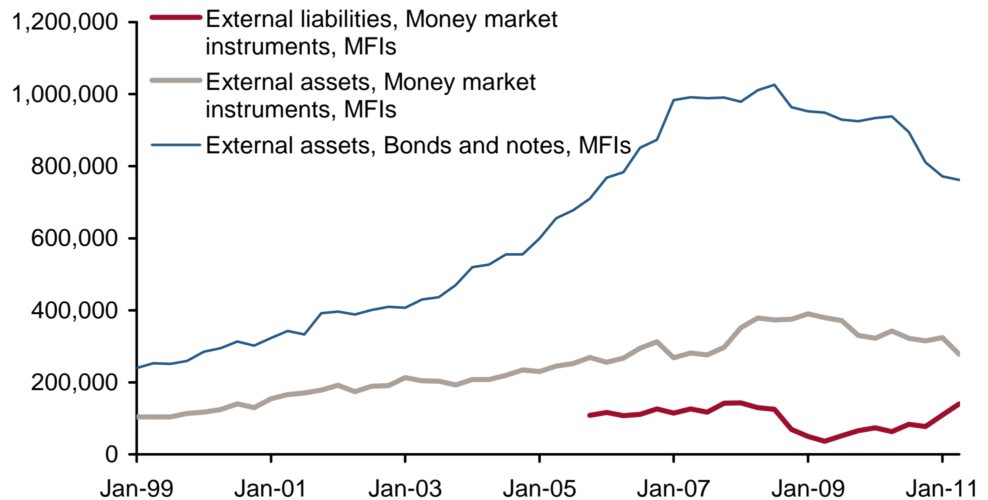


Source: Credit Suisse

Structurally, European banks are scaling back their foreign assets and are bidding for international deposits while scaling back on overseas money-market assets. Exhibit 30 contains data on the external position of euro-area Monetary Financial Institutions up to 2Q 2011: we expect that the processes have accelerated since.

Exhibit 30: European banks are scaling back internationally, especially in money markets

Data to April 2011, euro millions



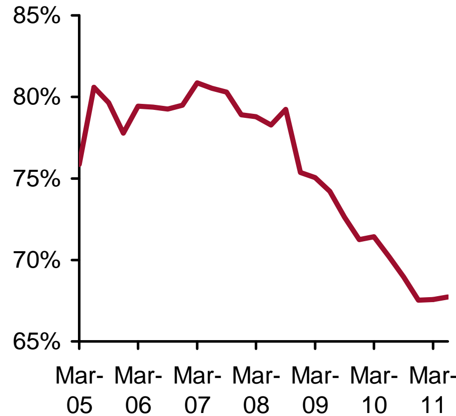
Source: European Central Bank euro area BoP data, Credit Suisse

Parenthetically, we think that this process is supporting the euro for the time being; the euro area is in current account balance, so the 30% of global reserve assets that have become denominated in euros result from capital exports, which, in our view (see charts below) have come largely through the banking system. As that trend reverses, the euro can "afford" its relative loss of attractiveness as a reserve asset.

The process is concentrated on the US, where participation in the credit bubble by European banks was particularly strong.

Exhibit 31: European bank deleveraging…

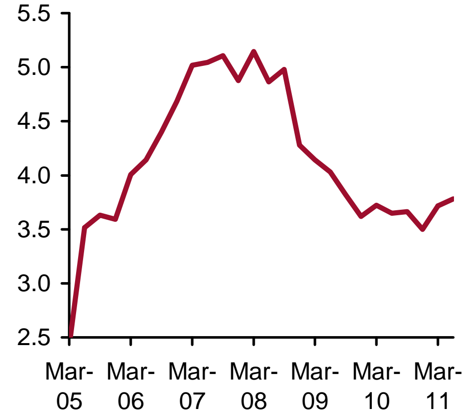
European banks' share of total claims on the US, ultimate risk basis



Source: Credit Suisse

Exhibit 32: …is already part of the scene

European banks' total claims on the US, ultimate risk basis, in US$ tn

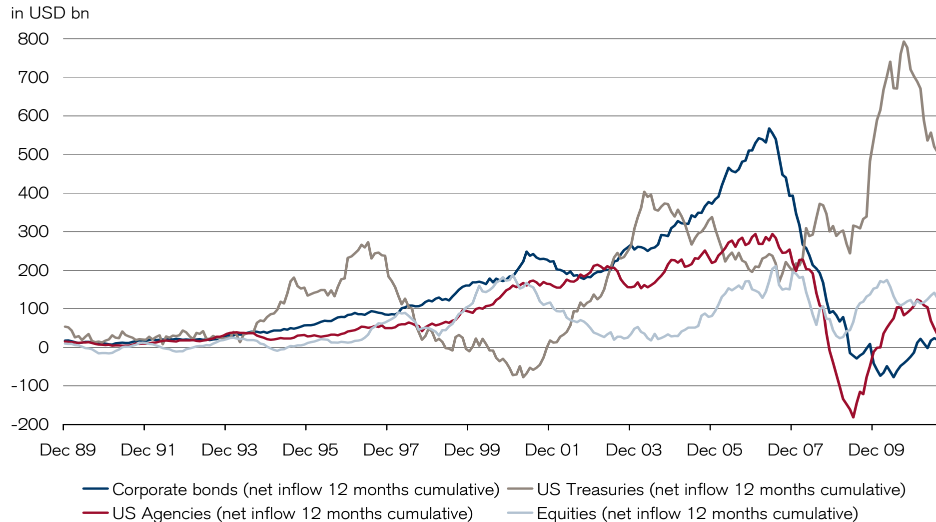


Source: Credit Suisse

This, of course, is the other side of the balance sheet of the TIC data we refer to regularly.

Exhibit 33: It was a European bank (Paribas) that called "time" on the US credit bubble on 9 August 2007, forcing the nationalization of credit flows as the US avoided a current account constraint

US rolling one-year capital imports by asset class



Source: Credit Suisse, US Treasury TIC

When the European bank credit machine started to break down, the US had to nationalize its current account deficit, as the above TIC data show. In the euro area, as we see below, the nationalization is occurring and, in our view, accelerating, across the balance sheets of the Eurosystem – where, as we point out, it is more circular, making it more unstable and unpredictable.

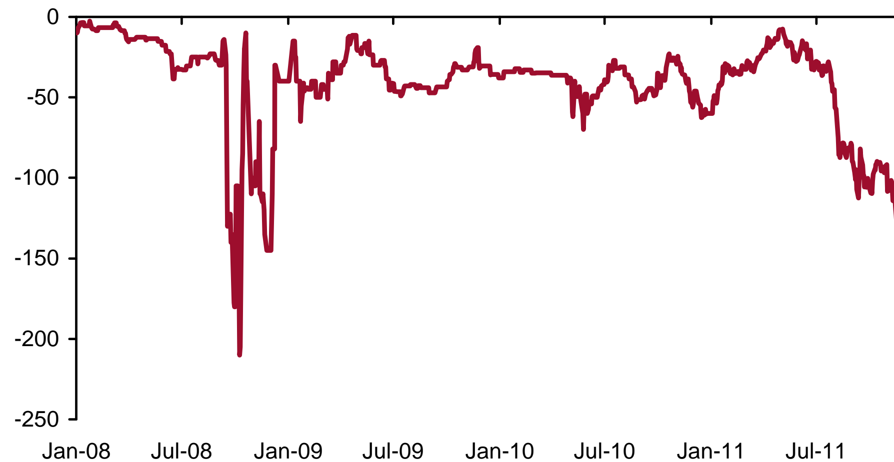
The scale of the folly of the European banks' participation in the US credit bubble is plain to see. Ex post, large-scale bond exposures to euro sovereigns are starting to show some of the same characteristics. Neither exposure has yet been unwound,[1] which creates two dominant parallel influences on the banking system.

[1] With the lingering par pretence still playing an important part, in our view.

The external influence is harder to manage structurally; to the extent that it creates pressures on dollar funding, we are seeing pressures on the basis swap.

Exhibit 34: Euro basis swap indicates 2008 levels of stress

Three-month (USD-)EUR basis swap, bp

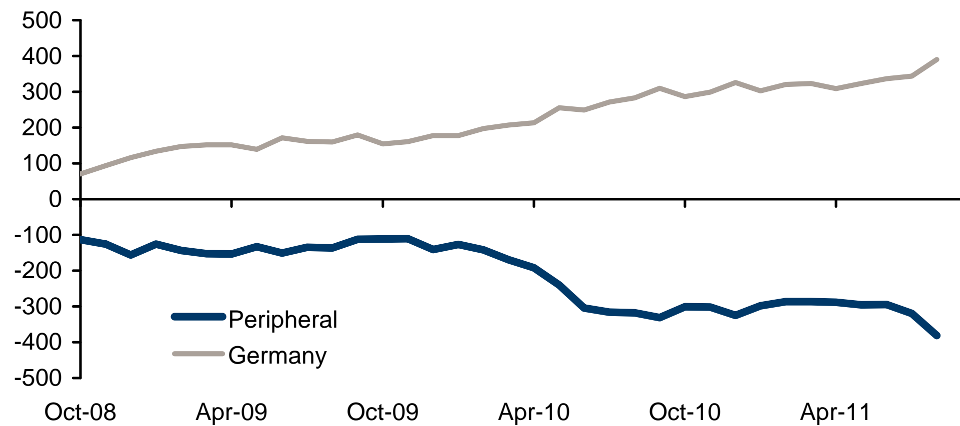


Source: the BLOOMBERG PROFESSIONAL™ service, Credit Suisse

On the intra-euro aspect, the stress is being steadily transferred into the central banking system. Exhibit 35 shows the extent to which the system is transferring funding to the periphery via the banking system in response to differential deleveraging pressures.

Exhibit 35: Flows across the ECB's balance sheet, from core to periphery, are increasing steadily to high levels

Net assets of periphery-5 NCBs, and of Bundesbank, at ECB



Source: Credit Suisse, European National Central Banks

There are several limits[2] to this process. First, the structural limits to the funding maturities the Eurosystem can provide. Second, shortages of collateral. Neither is acutely binding. There are more discussions about the increasing use of collateral swaps, which we understand to be causing official concern. We are more concerned about the first; it implicitly raises the question: "How long can you run a banking system increasingly reliant on CB funding without acknowledging explicitly the de facto nationalization that it represents?"

[2] i.e., technical limits. We are for now discounting limits of trust relating to large, effectively unsecured sovereign exposures at the ECB/NCB level.

The only answer that we can come up with is, very unfortunately: "Until you can't." The mechanism we have is systematizing and storing stress, in our view. Either it is relieved through accounting for assets on a sustainable basis (not necessarily marking to market but no par pretence either; Greece still represents a great example) or it will relieve itself with unpredictable and very powerful results, consistent with the tectonic forces we identify as being at work.

We note the interplay between the funding of a banking system and of a country. We start from the accounting identity between a euro member state's balance of payments and the NCB's balance at the ECB,[3] which, in turn, is very closely related to that NCB's loans to its banking system. This means that, in fact, the ECB is a lender of first resort, not last. Not to the sovereign but to the nation, and as we think that Ireland showed, the two become almost indistinguishable in extremis.

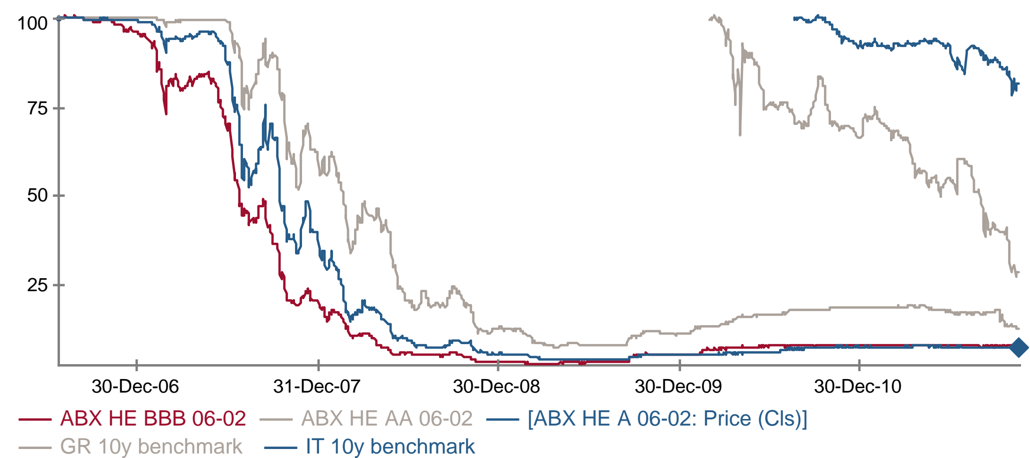
The scale of the funding problem is large. Our European bank equities team covered the sector in great detail in *The lost decade*. As it indicated, "Our adjusted LCR estimate is 76% for the sector vs. 84% on a Basel III definition, indicating a €969 bn sector liquid asset shortfall vs. a Basel III headline shortfall of €620 bn."

Putting finances on a sustainable footing must involve addressing the Eurosystem's internal balances; these are significant exposures that, in our view, are mounting. They are a further mechanism for systematizing the situation. If the periphery were to default en masse with no recovery (for argument's sake), the ECB would take the losses weighted by the capital key, with recourse to NCBs in the same proportion. The (already large) numbers would increase sharply in such an event, making the ECB a rather efficient vehicle for such systematization, which is an unavoidable corollary of the system, in our view.

The systematization appears in increasing correlations; the market's key mistake in the 2008 phase was to underestimate correlations; we see signs of a repeat in the euro area. We model the euro area as a CDO. The point is not intuitive but we find it very powerful. Unfortunately, it makes the below chart very worrying.

Exhibit 36: Very uncomfortable echoes in "the euro-area CDO"

Prices of ABX 06-2 BBB and AA tranches, of GGB and BTP current 10yr benchmarks



Source: Credit Suisse Locus

[3] http://www.bde.es/webbde/es/estadis/bpagos/bpabee.pdf

Progress in addressing the issue

There are two aspects to the problem, funding and capital. Capital is subject to deep circularity (hence increasing correlations) as pressures on sovereigns erode bank capital bases, making official intervention potentially unavoidable.

This makes estimates of capital requirements moving targets, and we find picking a target a less-than-useful exercise; Europe's issues will not be cured by a redenomination of between €200 bio and €400 bio, where most estimates settle, to bank capital. The money is probably not coming from the equity market and from governments is not generally available and politically difficult; broadly, that leaves the bond markets and money that has already been disbursed, leading to dysfunction in those markets, compounding funding issues.

Analysis often seems to assume that the money is exogenously available. Worse, policy prescriptions are full of contradictions that can only be squared by such an exogenous wealth injection – this is why the "Chinese solution" is so appealing. But the world does not work that way. As IMF member countries are pointing out with increasing force (China very vocally), Europe is a wealthy region with the wherewithal to cure itself. So simultaneous strictures for banks to increase lending **and** deleverage, as are particularly being seen in the UK but implicitly are being seen in the euro area as well, cannot work, in our view.

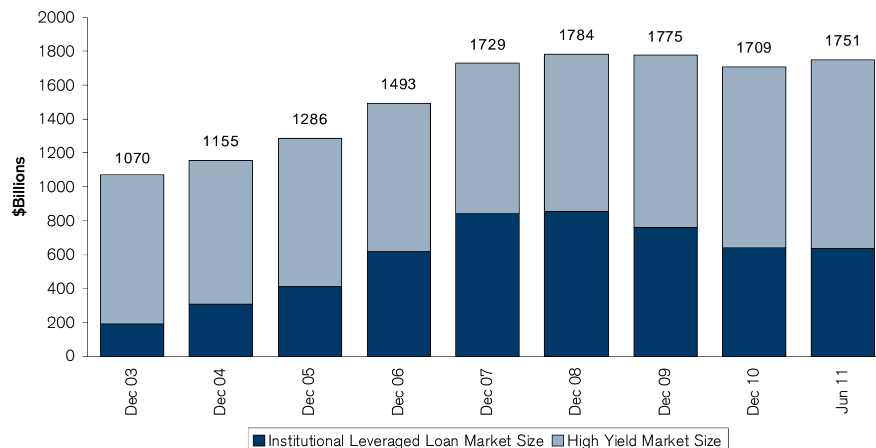
Rather, we still expect a slow (and risky) process of relative shrinkage of the banking system in favor of more direct capital market-based interactions. The risk of the process is reduced, in our view, by increasing the capital base at the same time. The problem is that this is unattractive. Enforcing it is, therefore, one way of sharing the costs of this episode.

To elaborate, with the economics of the banking system under severe challenge, we can dichotomize the industry into long-term "winners" and "losers." The stress tests mark a grudging acceptance of this reality. Winners should expect super-normal returns the other side of this episode, while losers should not expect to survive. Allowing market selection, which is essentially the current process, is likely to increase costs massively. So the "losers" have to receive capital (costs to the public sector) in the interests of stability, and the "winners" likewise (costs to the private sector, which is forced to share the future super-normal returns at valuations that are unattractive given a risk premium).

The differences between the US and European markets are striking in this regard. In the bullish case, the transition to markets that look more like those of the US (as implied by the creation of the euro and indeed a major purpose for it) is smooth. In the bear case, which currently seems very real, the deleveraging is disorderly and debt is reduced by haircutting rather than refinancing.

Exhibit 37: The US capital markets dwarf those of the euro area

Combined US High Yield and Institutional Loan Market Size as of 6/30/11

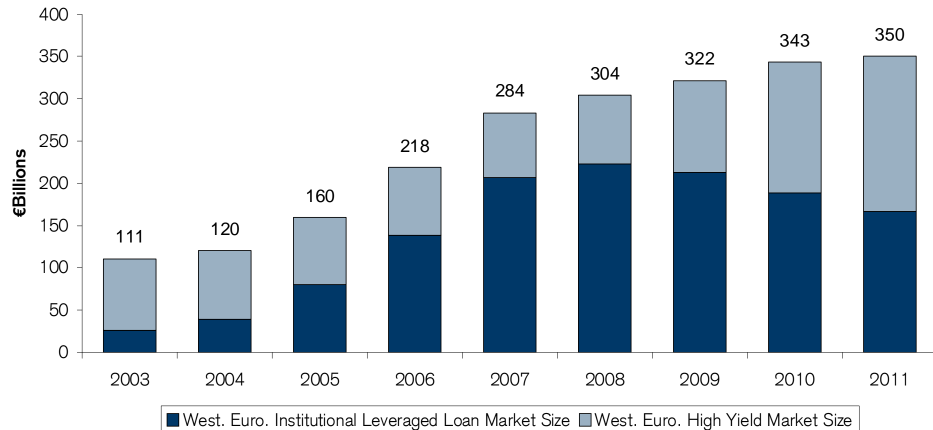


Source: Credit Suisse

Thus far, the process has been relatively orderly, giving insight into what the orderly outcome – which is still the most likely outcome, in our view – will look like: substantial rotation from banking finance to capital markets.

Exhibit 38: …but in the euro area, reshaping is occurring, even through the "crisis"

Combined Western Europe High Yield and Institutional Loan Market Size as of 6/30/11



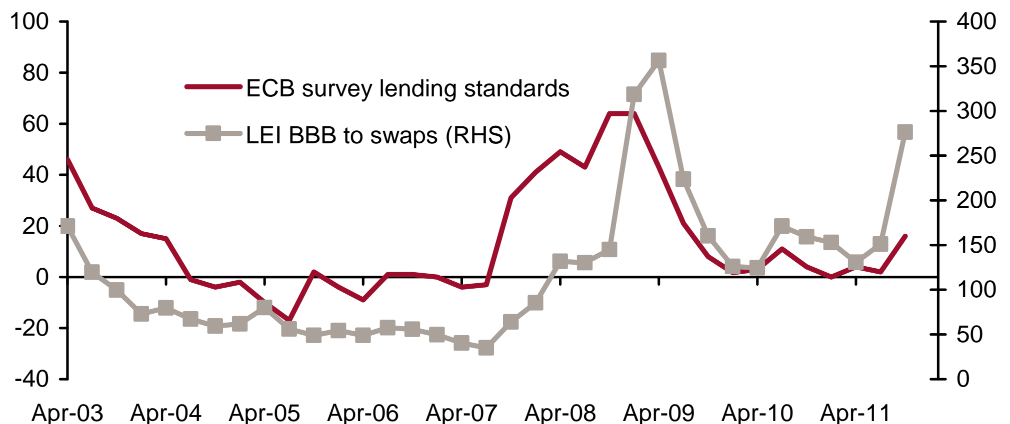
Source: Credit Suisse

In our view, the potential impact on SMEs is over-rated; we think that the banking system will be able to make most of the adjustment through a rotation away from funding larger enterprises, which have more funding options and are less vulnerable. In a world that is now more efficient at understanding risk (but not fully efficient…), it is against these larger entities that the banking system has lost its advantage. It still has a relative funding advantage over SMEs, and the change to capital treatment of exposures to the sector has been less radical. The result will probably be some margin compression in the sector that offsets the cost of funding of the banking system.

Our simple regression of bank lending intentions and spreads suggests that investment-grade capital market spreads have already moved to levels that should allow the market to clear based on the likely impact we are seeing from bank deleveraging to date (see Exhibit 39). So, for now, we see the issue as being effectively more endogenous to the financial system than something that can be exported from it. This leads us to prefer non-financials to financials, even at current levels, although we eventually see the ground shifting under non-financials as well, but via a real-economy pipeline rather than a credit pipeline.

Exhibit 39: Spreads have run ahead of currently planned bank deleveraging

ECB survey lending standards to large entities and Credit Suisse LEI BBB spread to swaps



Source: Credit Suisse

Absorbing the Excess in US Housing

A time for targeted policy

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2012 Core Views

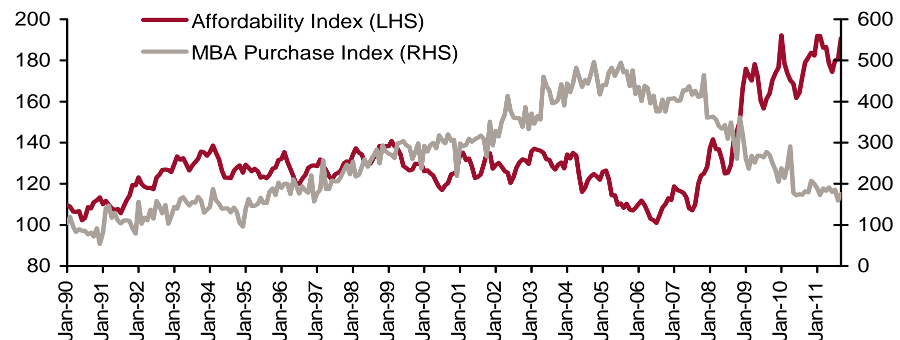
- We believe that establishing a home price floor is the key to setting in motion the mechanics of a nascent housing recovery.
- More than two-thirds of the distressed supply is held by government agencies.
- A buy-to-rent program to purchase and subsequently rent out GSE-owned distressed properties by institutional investors, where the government provides limited financing, has the best chance to stabilize home prices, in our opinion.

The US housing market has entered uncharted waters on many fronts since the housing crisis began including a record delinquency/foreclosure pipeline and a record number of borrowers with little or negative equity. **Although the road to eventual recovery is likely to be a long and painful process, the extraordinary conditions that define today's housing market amplify the potential impact of housing policy decisions and commensurately raise the risk of unintended consequences from those decisions**. As we look ahead to 2012, we believe that housing is at a critical juncture and that policy will play a crucial role in its trajectory in the coming year. Against this backdrop, our baseline home price forecast of down 7% in 2012 faces additional risk from an uncertain economic and employment outlook. Although there is clearly no silver bullet to cure US housing ills, we believe that policy should focus on a single, simple goal: stabilizing the national home price.

We believe that establishing a home price floor is the key to setting in motion the mechanics of a nascent housing recovery, because it would make consumers who have been delaying purchases more willing to purchase homes, lenders more willing to lend, and investors more willing to take credit risk. The alternative is to risk a self-reinforcing spiral in home prices as more and more borrowers are pushed through the zero equity boundary, reducing their demand for homes, increasing the default pipeline, and putting additional downward pressure on home prices. This, in turn, sends more borrowers through the zero equity boundary, putting additional pressure on home prices and so on. **The good news from the perspective of effective policy is that the government now owns the problem.** More than two-thirds of the distressed supply is held by government agencies, and over 95% of new originations are backed by either a GSE or the FHA/VA. The idea that the current housing finance system can be seamlessly transitioned to a private capitalized system simply ignores the current reality of US housing.

One of the most telling charts illustrating the current state of the US housing market is shown in Exhibit 40. Despite mortgage rates near generational lows and affordability at all-time highs, purchase demand remains anemic.

Exhibit 40: Affordability is at an all-time high, but housing demand remains anemic



Source: Credit Suisse, NAR, MBA

The potent combination of tight credit, constrained borrowers, and distressed-driven home price declines have severely limited housing demand. **Although refinancing high-coupon borrowers or further improving affordability or mortgage rate levels would help certain borrowers, it would have virtually no impact on the trend highlighted in Exhibit 40.** In contrast, stabilizing home prices is the key to changing this picture. Even a 1% increase in the aggregate home price would improve the equity position of US homeowners by an estimated $160 billion. More importantly, it would send the clear signal that the five-year decline in home prices has ended.

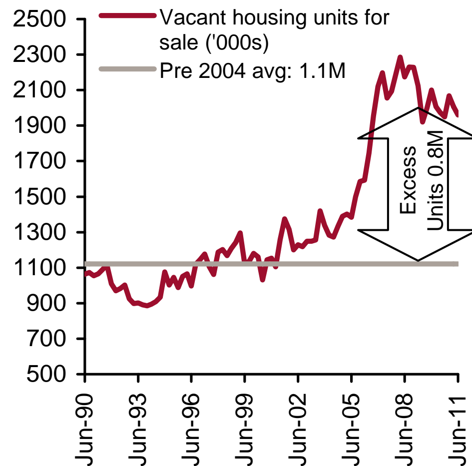
Among all the policy considerations, a well structured buy-to-rent program to purchase and subsequently rent out GSE-owned distressed properties by institutional investors has the best shot at alleviating the looming supply glut and stabilizing prices, in our view. We also think that a bulk sale approach, where investors bid in bulk, may not always lead to the best execution. Rather, a program where the GSEs act solely as a clearinghouse and investors bid on a minimum number of properties but are otherwise allowed to pick and choose may be easier and more efficient to execute.

In this note, we first review the key problems that continue to plague the housing market and then discuss the current array of policy initiatives on the table.

Supply and demand imbalance

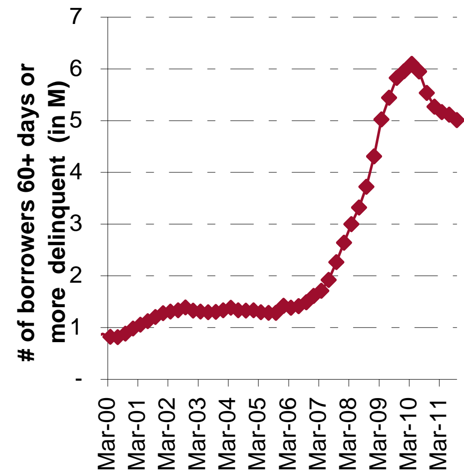
Our view remains that the excess supply of homes, driven by a steady stream of distressed homes, will continue to put downward pressure on home prices. Even at the current slow pace of liquidation, the market is unable to absorb the supply of distressed homes. This is evidenced by the near doubling of the number of vacant homes waiting to be sold from the pre-2004 average (Exhibit 41). In addition, currently 5 million borrowers are already in some state of delinquency (Exhibit 42), and a total of close to 7-8 million distressed sales are projected to take place in the next five years. With an average 30%-40% discount on distressed properties, not only do they create a glut in the market, but they also exert tremendous downward pressure on prices. Accordingly, the supply of already vacant homes and distressed properties accounts for two-thirds of the total 3 million annual net supply of homes for sale (Exhibit 43).

Exhibit 41: Number of vacant homes for sale is at twice the historical norm



Source: Credit Suisse, US Census Bureau

Exhibit 42: Distressed inventory totals 5 million homes



Source: Credit Suisse, NAR

Exhibit 43: Excess supply – about 7 million homes need to be absorbed by investors in the next five years

Numbers are in millions. First-time home buyers account for about 23% of home sales, according to CoreLogic

Annual Supply/Demand Imbalance (in millions)		
Supply	Vacant Units for sale (excess over long term trend: 1.9 - 1.1M)	0.8
	Distressed Supply (7.5M in 5 yrs)	1.5
	New home construction	0.6
	Total	2.9
Demand	First Time Home Buyers	1.1
	Second Home	0.4
	Investors	1.0
	Total	2.5
Supply / Demand Imbalance	Current Excess Supply even with investor participation	0.4
	Excess Supply over 5 yrs	*2.2*
	Excess Supply over 5 yrs excluding Investors participation (@ 1.4M/annum)	*7.0*

Source: Credit Suisse, NAR, MBA, Census Bureau

On the other hand, demand for housing remains tepid driven by stringent credit guidelines and risk-averse buyers concerned about job market weakness and further declines in home prices. For prospective buyers, caution remains the watchword. In response, individual investors with cash have rushed in to take advantage of cheap prices and compensate for the lack of demand for owner-occupied housing. Investors today account for a fifth of home sales (about 0.9 million annually, see above) and two-thirds of cash transactions.

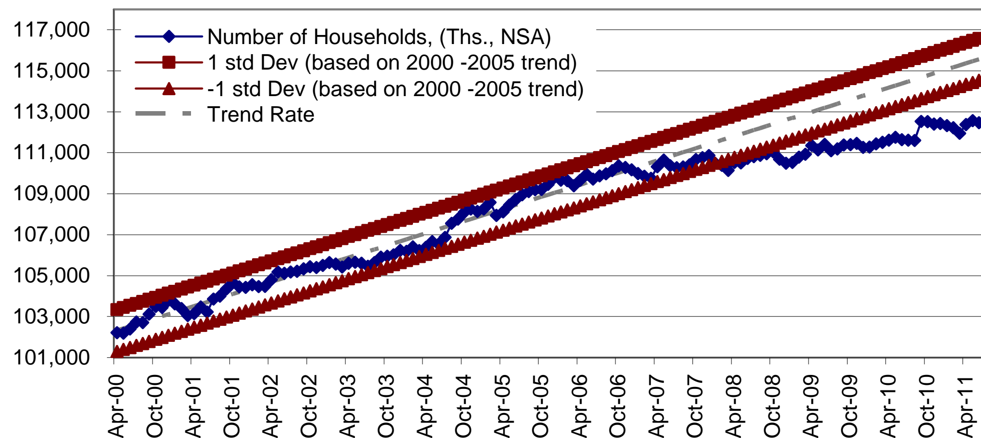
Despite such high rates of investor participation, **we estimate that the annual net supply of homes will outstrip demand by 0.4 million per year for the next five years** (Exhibit 43), **amounting to 2.2 million excess homes. Moreover, if we ignore investors from the housing demand equation, excess housing supply increases to a massive 7 million homes** (Exhibit 43) **over the next five years**. Thus, the twin malaise of a looming supply glut and an increasing price discount on distressed properties threatens to delay any housing recovery. The answer to this problem lies in finding a constituency that can generate enough demand to absorb about 7 million homes over the next five years and a way to compress the 30%-40% price discount on distressed properties.

Structural change in housing

Household formation has been running below trend by a cumulative 2.5-3 million households since the onset of the crisis, as shown in Exhibit 44. Even if economic conditions stabilize and household formation catches up with historical trend rates, this would not immediately translate to a surge in home sales, in our opinion. Home ownership rates for newly formed households are far lower than for the average population.

In addition, the 7-8 million borrowers likely to default (on top of the 4.8 million borrowers who have already been evicted since 2008) will be shut out of the housing market for the foreseeable future and will be forced to rent. Therefore, we believe that homeownership rates are poised to decline and that renting will become more prevalent. We believe that a targeted policy that facilitates this transformation would result in an orderly and quicker price stabilization.

Exhibit 44: Household formation is running below trend by almost 3 million



Source: Credit Suisse

Current and future policy initiatives are limited

Apart from Home Affordable Modification Program (HAMP), the impact of which is waning, few policy initiatives deal directly with alleviating the housing problem. The current stance of "kicking the can down the road" is aimed at slowing the supply of distressed inventory into the market to support price stabilization. This has worked in the past as financially troubled borrowers were evaluated for modifications and documentation/procedural issues at servicers held up the foreclosure process. But this is unlikely to succeed in the future. The pace of modifications is declining, and foreclosure starts have been increasing. Once servicers reach an agreement with state AGs regarding their foreclosure and documentation practices, at some point in the near future, distressed inventory will start to hit the market at an increasing pace.

Universal Refi/HARP 2.0 – minimal economic or housing benefit

We estimate that HARP 2.0 will affect between 0.8 million and 1 million borrowers, resulting in a net saving of about $2.5-$3.5 billion annually in interest costs. Although this reduces credit risk at the margin, it has very little impact on either housing or the broader economy.

Principal forgiveness – a hazardous policy

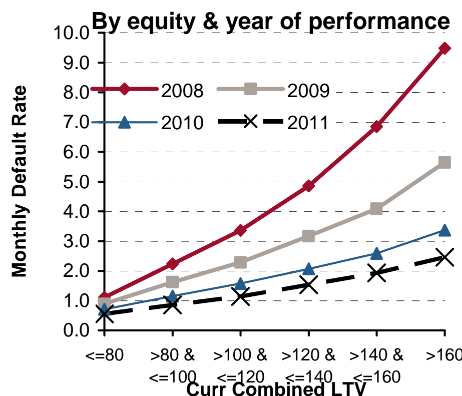
Another policy that has gained momentum as part of the AG settlement is the broad-based implementation of mandatory principal forgiveness modifications by servicers. We believe that this policy has two potential unintended consequences if implemented on a broad scale:

1. **In response to institutionalizing this policy, banks may further tighten lending standards and raise mortgage costs to offset the cost of providing borrowers with implicit protection against future declines in home prices.** A further tightening in credit could, in turn, put additional pressure on home prices, pushing even more borrowers into the negative equity window (requiring even more principal forgiveness). We estimate that a 5% decline in home prices from here would push an additional 2.7 million borrowers into the negative equity window.

2. **An unequal distribution of principal forgiveness targeting a "delinquent-pay" borrower universe implicitly penalizes a much larger "current-pay" negative equity universe, creating moral hazard risk on a large scale.** Despite sustained negative equity, the pace of default for deeply underwater borrowers has declined by 75% since 2008 (Exhibit 45), proving that credit curing is setting in. Additionally, we find no evidence that upon modification a borrower's propensity to default is influenced by the owner's equity position. In fact, the default rate is driven largely by the proportion of payment relief a borrower receives (Exhibit 46).

Given the asymmetrical risk/reward profile of a mandatory principal forgiveness policy, we think that this is the riskiest policy option on the table.

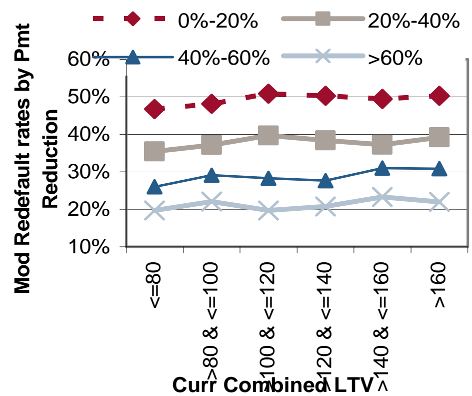
Exhibit 45: Default rates on deeply underwater borrowers have declined



Source: Credit Suisse, LoanPerformance, Case Shiller

Exhibit 46: Re-default rates are not driven by borrowers' equity positions

Modifications made in H1:2010



Source: Credit Suisse, LoanPerformance, Case Shiller

Government REO-to-rental program – the best chance to stabilize home prices

Currently, between the GSEs (33%) and the FHA (16%), the government controls 50% of the distressed inventory and accounts for 37% of all distressed liquidations. As we have discussed in the past, the timing and manner in which the GSEs and FHA, as the largest holder of REO properties, dispose off their distressed inventory is critical to the stability of the housing market. **Although there is no silver bullet, we think that a buy-to-rent program to purchase and subsequently rent out GSE-owned distressed properties by institutional investors with the right structure and targeted incentives can generate sufficient investor demand that will not only alleviate the excess supply problem but will also compress the price discount on distressed properties.**

We propose a program that is similar in spirit to successful programs, like TALF and PPIP, and the government can partner with private investors if needed. The government can encourage private investors with higher yield targets into the housing market by providing attractive long-term financing. In exchange, investors should agree to a minimum three- to five-year holding period. We think that there is significant private capital waiting to take advantage of such a targeted policy. Private institutions are already successfully engaged in this business on a small/local scale, and they have gained significant experience. It is important to leverage this experience. We caution that too many restrictions can easily diminish the chances of success.

Attractive financing is key. A simple example can clarify the point. Suppose a house with a fair market value of $100K fetches $10K in annual rents – making the gross rental yield 10% (annual rent/price paid). Now suppose that given the distressed nature of the property, it sells at a 50% discount or $50K. If the property still fetches the same rent, the investor reaps all the benefits, as the rental yield jumps to 20% (Exhibit 47). Naturally, such a market would remain skewed toward a higher distressed discount, and the higher the fraction of distressed sales, the larger the home price declines.

Providing leverage however, breaks this pernicious cycle. In the above example, with 70% financing, the investor could still make the same 27% rate of return with only a 13% price discount. Although a rental program is inherently local in nature, we believe that a properly structured financing option would draw in private capital, providing investors with the incentive necessary to overcome scalability hurdles.

Exhibit 47: Providing leverage to the REO-to-rental program would help to establish a home price floor

Based on property with $100K fair market value and $10K annual rent. Gross rental Yield = (annual rent) / (Price paid).
Investment horizon: five years. Selling price$ 100K

	5 yr Cum. HPA 0%			
	Distressed Home Price Discount	**Price Paid ($K)**	**Gross Rental Yield**	**5 yr Rate of Return**
No Leverage	0%	$ 100	10%	6.5%
	10%	$ 90	11%	9.3%
	25%	$ 75	13%	14.5%
	50%	$ 50	20%	27.2%
Levered Yield (30% Haircut, 5yr Swp + 100bp, 5yr Loan)	**13%**	**$ 87**	**12%**	**27.2%**

Source: Credit Suisse

Program structure

- The government (either through the Fed, Treasury, or the GSEs) would provide financing to investors at attractive terms – e.g., L+100-150 and 20%-30% haircuts, similar in design to TALF and PPIP.
- Investors would have to agree to not sell the properties acquired through this program for a period of three to five years.
- Even though we have advocated a bulk sale approach in the past, bidding in bulk may not always lead to the best execution. Admittedly, a bulk sale would clear inventory faster and would ensure that investors have as much economy of scale as possible, making it easier for them to put in place the infrastructure needed. But it is important to note that investors would need to have the necessary infrastructure in place before they could bid in bulk and not the other way around. Also, investors might want to control their exposure and grow more organically in specific markets. Furthermore, some of the properties out for bid in a bulk transaction could be in unusable condition and uneconomical to rent. These would most likely need to be destroyed. Forcing a bulk sale in such cases could lead to lower prices. Thus, a program in which the GSEs act solely as a clearinghouse and investors bid on a minimum number of properties but are otherwise allowed to pick and choose could be easier and more efficient to execute.
- Renters, where applicable, would be given an option to buy after a certain period of time of on-time rental payments (e.g., two or three years).
- Loans would remain outstanding for a three- to five-year period, after which they would amortize based on a schedule or over a set time period (e.g., another five years). In addition, once the loan starts to amortize, the coupon rate could be increased to encourage faster paydown of the loan. However, it is extremely important not to structure the loan as a bullet with a fixed maturity. This would only encourage investors to sell the properties at the same time, increasing the stress on the market.

In Exhibit 48, we explore the potential terms of the financing (haircuts and rates) for a hypothetical pool of distressed properties. By our calculations, investments in a buy-to-rent program with L+100 financing and 30-point haircuts would earn as much as 20% returns in the base case, if we assume about a 10% gross rental yield. **We believe that this is a conservative estimate; private institutions already engaged in this trade earn much higher returns on an unlevered basis.**

Exhibit 48: Return profile of buy-to-rent program under different rental yield, haircut, and HPA scenarios

Gross rental yield=12*(monthly rent)/(home price), five-year loan paydown term

5yr Cum Home Price appreciation: 0%	Levered Yield			
	Haricut			
Gross Rental Yield	100%(no leverage)	50%	30%	20%
6%	2.9	3.7	4.8	6.2
8%	4.7	7.3	10.8	15.2
10%	6.5	10.9	16.8	24.2
12%	8.3	14.5	22.8	33.2
14%	10.1	18.1	28.8	42.2
16%	11.9	21.7	34.8	51.2
18%	13.7	25.3	40.8	60.2

5yr Cum Home Price appreciation: -10%	Levered Yield			
	Haricut			
Gross Rental Yield	100%(no leverage)	50%	30%	20%
6%	0.9	-0.3	-2.1	-4.8
8%	2.8	3.6	4.8	6.4
10%	4.7	7.5	11.5	17.1
12%	6.5	11.3	18.2	27.4
14%	8.4	15.2	24.7	37.4
16%	10.3	19.0	31.2	47.2
18%	12.1	22.8	37.6	56.8

Source: Credit Suisse

Eroding Barriers Between EM and DM

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2012 Core Views

- Until a few years ago, the correlation between countries' GDP per capita and their sovereign risk spreads was strong, but that correlation has weakened.
- The two macro-variables that currently best explain sovereign spread differences across a large pool of EM/DM countries are inflation and external debt.
- Fiscal performance plays less of a role but seems likely to become a more significant influence on risk spreads in the long run. This generally is likely to benefit the EM countries.

Introduction

In the good old days, "poor country sovereigns" reliably traded at a positive spread to "rich country sovereigns," but that is no longer the case

Until a few years ago, the correlation between countries' GDP per capita and their sovereign risk spreads was strong, but that correlation has weakened substantially since the onset of the crisis in 2008. In particular, the sovereign spreads of many high-income countries in the EU now exceed the spread on the EMBI Global Diversified index for EM sovereign dollar debt.

The two macro-variables that currently best explain sovereign spread differences across a large pool of developed and emerging markets countries are inflation and external debt. The measure of external debt that works well is the consolidated external debt of the country as a whole. "Pure" fiscal variables, such as the ratio of government debt to GDP, play a less significant "spread-explaining" role in our broad country sample.

The dominant "spread-explaining" variables are inflation and external debt

However, the spread market does at present pay closer attention to government fiscal variables, specifically when it compares sovereign risk across different EU countries. A new and interesting IMF measure of the government sector's fiscal challenge in each country is well correlated with sovereign spreads, specifically within the EU, although it fails to work well as a "spread-explaining" variable in our broader country sample.

Interestingly, Italy's fiscal challenge, measured in this particular way, is less serious than that of most other EU countries and no worse than Germany's. So the measure does not help explain why Italian debt is under severe pressure in the market at present. Yet it works well to explain the spread differentials between other EU countries.

We think that fiscal variables will gain prominence over the longer run

From a forward-looking perspective, we suspect that the debt market will gradually over the long run pay an increasing amount of attention to "fiscal challenge measures," not just when it comes to determining risk spreads among EU sovereigns but also when it comes to spreads among sovereigns in the rest of the world. This would benefit the EM countries, many of which have fiscal risk readings that are far superior to those of the G3.

Right argument, wrong timing

Several of Italy's key sovereign risk indicators have for long looked worse than those of Brazil

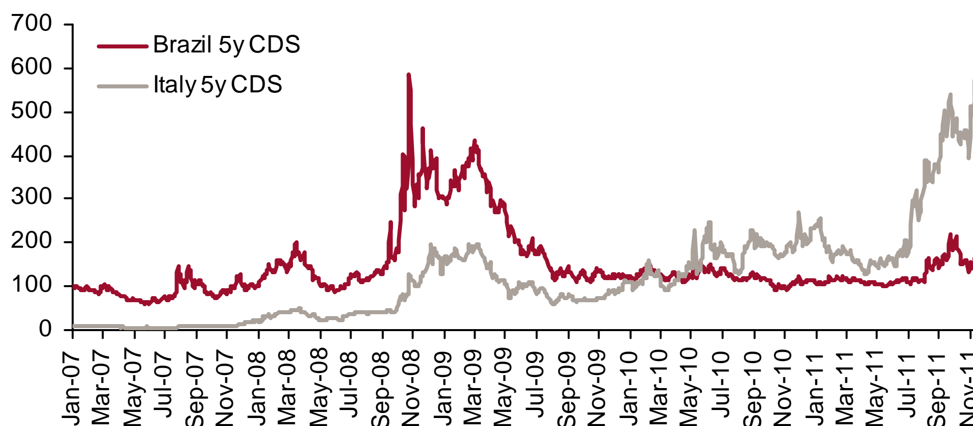
In July 2007, we published a piece called *The optimist's guide to EM valuations*. In the piece, we argued that the preceding years' erosion of spreads between the yield on EM sovereign debt and the yield on developed market debt was rational. The piece included the following commentary on Brazilian and Italian sovereign risk: "several key sovereign default risk indicators currently [as of July 2007] look substantially better in Brazil than in Italy. In light of this, the main residual arguments for a positive spread between Brazil and Italy are (1) the fact that Brazil relies more heavily than Italy on production and export of commodities, whose world market prices can change quickly, and (2) the possibility that the Brazilian government would be more inclined than the Italian government to embark on irresponsible policies in response to a crisis, such as a severe economic slowdown. The latter argument is, however, losing power with every year in which the government of Brazil holds on to responsible macro-policies".

As it turned out, the timing of the piece was unfortunate, as it coincided with a temporary low in the Brazil-Italy spread. Indeed, we took some well-deserved flak for it at the time.

We can, however, take bit of belated consolation from the fact that debt investors have now bought into the argument we presented years ago. Although we recognize that the recent drop in the correlation between GDP per capita and risk spreads probably owes more to investors' increasingly negative view of the euro zone than to a change of investor thinking about EM risk, we show below that the drop began to happen in 2008, well before the full-blown eruption of the euro-zone crisis; and although the fiscal indicators we focused on in our 2007 piece have not generally gained the prominence (as spread determinants) that we expected, they have come to prominence in the EU, as we show below.

Exhibit 49: Brazil's and Italy's 5yr sovereign CDS spreads

bps



Source: the BLOOMBERG PROFESSIONAL™ service

Crisis in 2008 blurred the border lines between EM debt and DM debt

As the exhibit above suggests and as we discuss in further detail below, it was the credit market crisis in 2008 that paved the way for a blurring of the previously prevailing hard border lines in the sovereign debt universe between emerging markets and developed markets, but it was only in the second quarter of 2009 that the Brazil-Italy risk spreads narrowed seriously from the wides seen in late 2008.

We still think that the correlation between GDP per capita and sovereign risk spreads will decline further over the longer term as many EM countries continue to show a combination of prudence and policy stability while the developed sovereigns struggle to convince the debt markets that they can seriously reduce their indebtedness without some combination of default and high inflation.

Yet the EM sovereigns have not made headway since the end of 2009 in narrowing their risk spreads against those heavily indebted G7 sovereigns – such as the US, Japan, and the UK – whose debt is denominated almost fully in currencies that are controlled by "their own national" central banks. A serious narrowing of, for example, the EM-US risk spread would probably require a recovery of market optimism about the prospects for global real GDP growth. Given the immense potential consequences of the prevailing problems in the euro zone, this seems unlikely to occur in the very near term.

EM sovereigns no longer in a world of their own

GDP per capita is no longer one of the top "spread-explaining" variables

It is no longer generally true that "poor country sovereigns" trade at a positive spread to "rich country sovereigns." The borderline between emerging markets debt (EM debt) and developed market debt (DM debt) has been blurring over time. This is reflected in Exhibit 50 below. The exhibit covers the most recent six years. It lists for each year those two macro-variables that best explain cross-country differences in sovereign risk spreads.[4] In 2006 and 2007, the top-two "spread-explaining" variables were GDP per capita and inflation.[5] But in 2008, GDP per capita dropped out of the top two. It hasn't made it back to the top-two list since then.

The prominent "spread-explaining" role played by GDP per capita in 2006 and 2007 meant that the debt of the governments of emerging markets countries (which, by definition, generally have a relatively low GDP per capita) tended systematically in those years to trade at higher yields than the debt of governments in developed market countries. The bigger the income differential, the larger the yield differential. That has not been the case to the same extent since 2008.

Investors focus more on full-country external debt than on government indebtedness and budget deficits

Measures of government fiscal performance serve remarkably poorly as "spread-explaining" variables

Direct measures of governmental fiscal performance – such as the ratio of gross government debt to GDP and the ratio of the general government balance to GDP – have consistently (at least since 2006) been less significantly correlated with investor assessments of sovereign creditworthiness than have other macro-variables, such as inflation and the consolidated external debt of the private sector and the public sector. As the exhibit below shows, none of the fiscal variables made it to the top of the list of spread-explaining variables at any point over the period covered by our analysis – the years from 2006 to 2011.

GDP per capita and inflation were the dominant spread-explaining variables in 2006 and 2007

Specifically in 2006 and 2007, sovereign debt markets were keener to punish a low-per-capita income level than terrible debt statistics. How could that be? Why were GDP per capita and inflation the dominant explanatory variables in those years? We believe that the answer is that GDP per capita and inflation are measures of the cumulative success and reliability of countries' institutions and economic policies over many years. Prior to 2008, debt investors probably trusted, based on longer-term historical evidence, that there was a strong relationship between a country's GDP per capita and the risk of sudden adverse changes of policy direction by the country's rulers – changes that could involve or be triggered by deliberate debt default, violent political regime changes, or adoption of irresponsible fiscal and/or monetary policy. Meanwhile, investors saw high inflation, sensibly in our view, as a symptom of bad fiscal and monetary policy. High inflation could also be seen more directly as a forward-looking threat to sovereign solvency, because it could lead to downward pressure on the FX reserves of those central banks that were inclined to intervene in the FX market in an effort to curb inflation (as are, for example, the central banks of Argentina and Venezuela to this day).

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[4] We computed the numbers in the table on the basis of an analysis that involved one cross-section regression exercise for each of the past six years. For each year, we used regression analysis to estimate the parameters in a "spread model." The dependent variable in each year's model was the deviation of each country's 5-year sovereign CDS spread from the average of all sampled countries' sovereign CDS spreads at the end of the year. The explanatory variables used were GDP per capita in dollar terms, end-December year-on-year CPI inflation, the ratio of the country's external debt to GDP, the ratio of the current account balance to GDP, the ratio of the country's fiscal deficit to GDP, and the ratio of the country's government debt to GDP. We tried out all possible combinations of two explanatory variables (the third variable in a three-factor regression consistently came out as statistically insignificant) and settled for the model that resulted in the highest R squared reading. All coefficients are significant at the 5% level.

[5] We deliberately use the term "spread-explaining variable" instead of "spread-determining variable" because we do not wish to imply a direct causality. For example, we do not think that investors focus directly on GDP per capita as a risk indictor, but we believe that they focus on other risk indictors (mainly perceptions of institutional strength) that are in practice correlated with GDP per capita.

Exhibit 50: Which two variables has worked best (in each of the past six years) to explain cross-country differences in 5yr sovereign CDS spreads?

Variables 1 and 2 are those variables, out of a large sample of possible explanatory macro-variables, that generate the two-variable spread model with the highest R-squared, when the model is specified as a simple linear regression, in which the dependent variable is the log of the "relative spread" (the ratio between the country-specific spread and the average spread for the countries in the sample).

Time	Variable 1	Variable 2	R2
End-2006	GdpPerCap	inflation	0.73
End-2007	GdpPerCap	inflation	0.73
End-2008	inflation	ExtDebt %gdp	0.77
End-2009	inflation	cacct %gdp	0.65
End-2010	inflation	ExtDebt %gdp	0.45
November 2011	inflation	ExtDebt %gdp	0.66
Full sample (2006-2011)	GdpPerCap	inflation	0.42

Source: Credit Suisse and Haver Analytics®

GDP per capita has dropped off the top-two list of "spread-explaining" variables

Since 2008, however, GDP per capita has dropped out of our "top-two list" of the most significant spread-explaining variables (Exhibit 50). Why did this happen? It probably reflects the relative prudence of fiscal policy in the EM countries throughout the past decade and especially during the years of global crisis. The idea that EM countries were more prone to abrupt risky policy shifts than the developed countries was challenged by the global crisis experience in 2008 and 2009. During those years, most of the large developed countries adopted massively expansionary fiscal and monetary policy in an attempt to revive flagging real GDP growth. The vast majority of the emerging markets countries (China is the most startling exception) opted for much milder policy shifts.

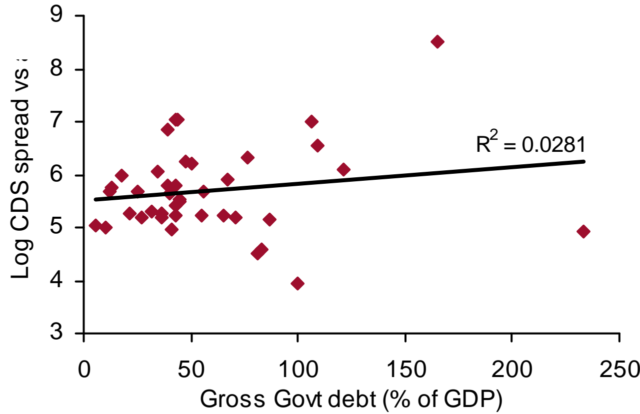
The external debt of the country as a whole makes the top-two list of "spread-explaining" variables, but the government's debt does not

That said, even today, the fiscal variables perform poorly as "spread-explaining" variables. The ratio of the fiscal deficit to GDP and the ratio of fiscal debt to GDP still fail to reach our top-two list (in Exhibit 50) of particularly statistically significant spread-explaining variables. This may, at first sight, appear counter-intuitive given that the sovereign spreads are supposed to reflect the risk of government default. Right now, the consolidated external debt of the private sector and the public sector makes it to the top-two, but the ratio of government debt to GDP does not. Does that make sense?

We believe that the most likely reason is that governments, when they are faced with particularly extreme cases, tend to assume responsibility for large swathes of the debt of the private sector, often via bank bailouts. That has been true historically in the emerging markets countries, and it was true in many developed countries in 2008-2009. This argument is, of course, not new. Both the debt markets and the ratings agencies have historically tended to build it into their behavior by paying more attention to measures of countries' consolidated external indebtedness than to measures of sovereign indebtedness. Thus, as Exhibit 51 shows, countries' external indebtedness has been on the top-two list of spread-explaining variables in three of the four years from 2008 to 2011.

Exhibit 51: Cross-country differences in the ratio of gross government debt to GDP do not generally explain cross-country differences in sovereign risk spreads

Results of a regression of the log of CDS spreads in November 2011 on the ratio of gross government debt to GDP (as forecast by the IMF for the end of 2011) for a sample including 41 countries drawn both from the emerging markets and from the developed markets



Source: Credit Suisse, Haver Analytics®, and the IMF's World Economic Outlook

Exhibit 52: … and neither do the cross-country differences in the ratio of government fiscal deficits to GDP

Results of a regression of the log of CDS spreads in November 2011 on the ratio of general government balances to GDP (as forecast by the IMF for 2011) for a sample including 41 countries drawn both from the emerging markets and from the developed markets

Source: Credit Suisse, Haver Analytics®, and the IMF's World Economic Outlook

The crisis in 2008 saw a sharp drop in the appetite of investors and banks to engage in cross-border capital flow transactions. The result was enormous pressure on debtors that relied on such flows – whether those debtors were in the public sector or in the private sector. The reliance on such flows was – by definition – particularly large in countries that were running substantial current account deficits and in those that faced hefty external debt service payments. In many cases, the governments and/or the central banks in those countries ended up helping out private-sector entities that had depended on funding flows from abroad that suddenly dried up. Debt investors saw this as a confirmation of the view that sovereign risk was more accurately reflected in the countries' external debt statistics or in their balance of payments data than in the government's fiscal finance data.

That said, we still think that it would make good sense for the market to pay more attention to fiscal variables than it has done in the past, and indeed, the market does appear a bit schizophrenic on this point: as we see below, fiscal variables do seem at present to have a large influence on investor's assessment of relative risk within the euro zone even as they do not have the same influence on investor perceptions of relative risk among sovereigns in the rest of the world.

Debt markets currently reward G3 countries with generous central banks

The spread markets do not like extreme central bank orthodoxy

Why is Spanish sovereign debt trading at a substantially positive spread to the sovereign debt of more heavily indebted G3 sovereigns (the US, the UK, and Japan)? There are many possible reasons for this, but we believe that an important contributory explanation is a prevalent perception among investors that the typical central bank would be willing in extreme circumstances to lend cash to its "own" government to obviate sovereign default: it would do so if the government were close to bankruptcy. For example, many observers would probably guess that if the US Treasury were to run out of cash, the Fed would find some way to supply it with enough money to allow it to avoid a debt default. On this view, there would be little risk of outright default on the US governments' dollar-denominated

debt.[6] Conversely, there would be a larger risk of sovereign default in a country whose sovereign debt is denominated in currencies that cannot be printed by the country's own central bank. We suspect that this line of thinking is a key (albeit clearly not the only) reason why US and Japanese sovereign CDS spreads remain very low despite the large government debt stock and sizable budget deficit of both of those countries; we also think that it is a key reason why some EM sovereigns with sizable stocks of dollar-denominated or euro-denominated debt trade at wide spreads to the US sovereign.

On this argument, investors should generally, when they assess sovereign risk of a country, focus particularly on that part of the government's debt (and contingent liabilities) that is denominated in a currency that the country's own central bank does not control. We believe that this is exactly what investors are currently doing, and we believe that a recent reinforcement of this line of thinking is an important part of the reason why the ratio of external debt to GDP has become an increasingly significant "spread-explaining" variable in the most recent years.

In the case of the euro zone in particular, the current crisis has reminded us all that the fiscal debt of the countries in the zone – with the possible exception of Germany and France – is almost entirely denominated in a currency that these countries' own central bank's do not control. Are Germany and France exceptions? Only to the extent that the ECB would be willing to intervene massively in the bond markets, particularly to prevent German or French sovereign default, while being unwilling to do the same for other euro-zone countries.

Fiscal variables seem to influence spreads more in the EU than elsewhere

Within the EU (but not outside the EU), the IMF's measure of each country's fiscal adjustment need works well as variable that explains cross-country spread differences

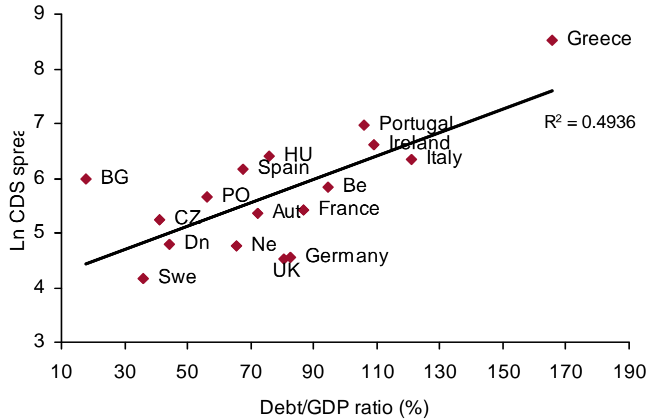
Interestingly, in a restricted cross-section analysis that takes into account only observations for the EU countries, the ratio of government debt to GDP does show up at present as a variable that is decently well correlated with cross-country differences in sovereign spreads (see Exhibit 53 below). This is probably consistent with the idea that investors currently focus heavily on the aforementioned considerations about the currency denomination of sovereign debt. The government debt in each of the countries in the euro zone, much more than in countries elsewhere in the world, is denominated in a currency that is beyond the control of the country's own central bank. It is denominated in a currency that is controlled by the ECB. This helps explain why the CDS spreads for the UK, France, and Germany stand out as being "expensive" in Exhibit 53: investors probably think that the governments in these three countries would be bailed out by their central banks (and by the ECB in the case of German) if they were to run out of cash, and investors probably assume that there is a high risk that the ECB would fail to mount a comparable effort to obviate sovereign default elsewhere in the euro zone.

A comparison of Exhibits 52 and 54 suggests that the ratio of the fiscal deficit to GDP works only slightly better as a spread-explaining variable for the countries in the EU than for the broader sample of countries.

[6] It is not an unchallenged assumption. Several ratings agencies argue in their methodological notes that there is not systematically a huge gap – for each individual sovereign – between the risk of default on domestic currency debt and the risk of default on foreign currency debt. They argue, with reference to historical evidence, that countries at times choose to default on domestic debt when the only alternative is to fund the debt service by printing money, given the potential that the latter option would cause a severe spike in inflation.

Exhibit 53: Specifically within the EU, there is a decent correlation between the ratio of government debt to GDP and the sovereign risk spreads

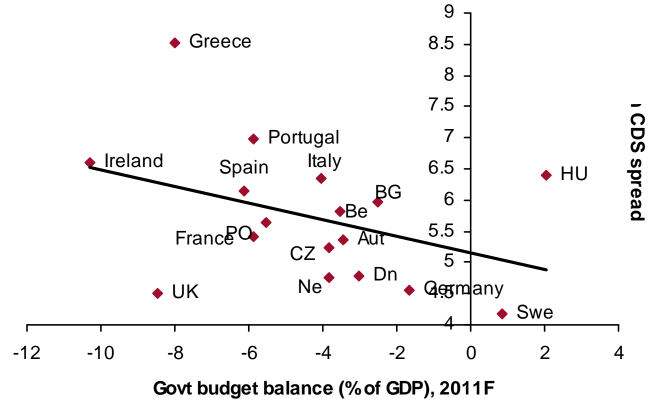
Results of a regression of the log of CDS spreads (in November 2011) on the ratio of gross government debt to GDP (as forecast by the MF for the end of 2011) for a country sample including 17 EU countries



Source: Credit Suisse, the BLOOMBERG PROFESSIONAL™ service, Haver Analytics®, and the IMF's World Economic Outlook

Exhibit 54: … but even within the EU, there is a poor correlation between the ratio of the fiscal deficits to GDP and the sovereign spreads

Results of a regression of the log of CDS spreads (in November 2011) on the ratio of the general government balances to GDP (as forecast by the IMF for the full year 2011) for a country sample that includes 17 EU countries



Source: Credit Suisse, the BLOOMBERG PROFESSIONAL™ service, Haver Analytics®, and the IMF's World Economic Outlook

Exhibit 55 below, however, shows that a "more sophisticated" (IMF-inspired) measure of the fiscal deficit challenge – a measure that the IMF has been focusing on in recent publications – works well as a spread-explaining variable for the euro zone. This "more sophisticated" measure gauges how big a fiscal adjustment is required in each country to arrive at a ratio of government debt to GDP of 60% in all countries in 2030. The underlying assumptions include the following: (1) the entire required adjustment to the cyclically adjusted primary balance will be completed by 2020, and (2) if required, additional spending cuts (or revenue increases) will take place to offset (or eliminate) projected increases in age-related spending (age-related spending will rise in most countries for demographic reasons if the current entitlement systems are not changed). Thus, our IMF-inspired measure of the "required fiscal adjustment" incorporates both the needed cut in the cyclically adjusted primary balance and the need for spending cuts or tax increases to offset increases in age-related spending. When we derived the numbers that are reflected in Exhibit 55, our starting point was the set of estimates that the IMF provided in the latest edition of its *Fiscal Monitor* publication, but we amended the IMF's estimates to make the numbers comparable across countries.[7]

Italy's fiscal adjustment need looks no worse than Germany's on numbers quoted by the IMF

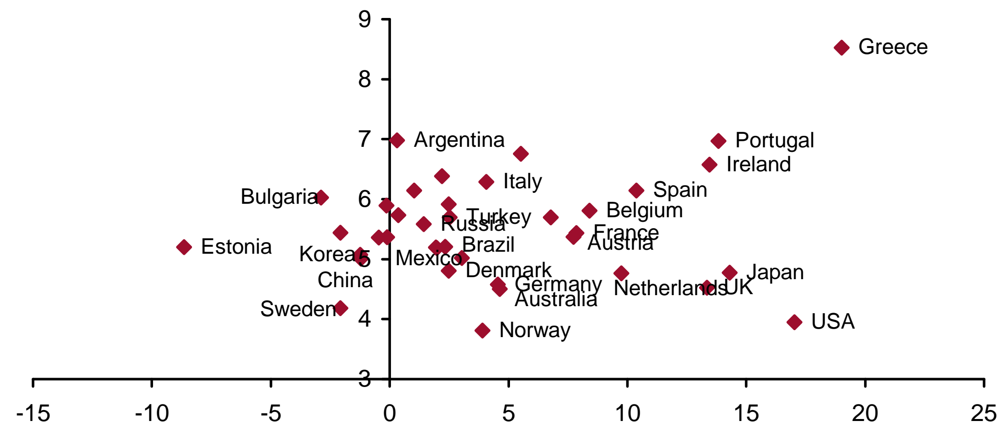
One stand-out observation in the exhibit is that Italy's required fiscal adjustment, on the IMF's measure, is no larger than Germany's and substantially smaller than France's. If this measure of the fiscal adjustment need were the only influence on sovereign risk spreads, Italy's current risk spread should come down sharply. To be sure, the flattering observation for Italy reflects in part the interest cost assumption that goes into the calculation of the numbers. The IMF assumes a differential between the interest rate and real GDP growth of 1 percentage point, whereas the current differential in the case of Italy is much higher.

[7] For this purpose, we made use of the IMF estimates that appear in tables 5a and 5b of the IMF's *Fiscal Monitor* from September 2011. But we had to amend the IMF figures to make the numbers comparable across countries. We adjusted the IMF figures for two effects. First, the IMF's *Fiscal Monitor* operates with a target debt/GDP ratio of 60% for the developed countries and 40% for the emerging markets countries. This makes it impossible to use, without amendment, the IMF's figures for the EM countries for the purpose of our cross-EM/DM regression analysis. So we amended the IMF's figures in such a way that they became consistent with a 60% target for the debt/GDP ratio (pertaining to 2030) for all countries. Second, for countries whose projected debt/GDP ratio at end-2012 is below either 60% or 40% (depending on whether it is in EM or DM), the IMF sets a end-2030 debt/GDP target ratio equal to the debt/GDP ratio in 2012. We also adjust for this, so that all countries have the same target debt/GDP ratio in 2030.

But the IMF measure nevertheless does lend some support to the view that Italy's fiscal numbers on their own (after taking into account more information than just the current debt/GDP ratio that is quoted in Exhibit 53) suggest that the Italy/Germany bond spread has widened irrationally sharply in recent months.

Exhibit 55: CDS spreads mapped against the "fiscal balance adjustment" needed to land the ratio of government debt to GDP at 60% by 2030

On the y-axis: the log of sovereign CDS spreads as of 18 November 2011. On the x-axis: the sum (in percentage points) of increases in the ratio of revenues to GDP and cuts in the ratio of spending to GDP needed to achieve the targeted ratio of government debt to GDP of 60% in 2030. To avoid clogging up the chart, we have not labelled all of the diamonds – the ones that are not labelled are all EM countries.



Source: Credit Suisse, International Monetary Fund's Fiscal Monitor from September 2011

The exhibit above also shows that the UK, US, and Japan (three countries whose central banks have demonstrated substantial recent willingness to purchase government debt) stand out as having low sovereign CDS spreads while also having "required fiscal adjustments" (on the IMF's measure) that are as large as those of Portugal, Ireland, or Spain and far larger than that of Italy.

Fiscal variables will probably gradually become more significant spread determinants in the long run, and this should benefit many of the EM countries

From a forward-looking perspective, we suspect that the debt market will gradually pay more and more attention to "fiscal challenge measures," such as those that appear in Exhibit 55, not just when it comes to determining spreads for the EU sovereigns but also when it comes to spreads for sovereigns in the rest of the world. At present, investors in the debt market seem generally to be convinced that the current extremely high ratios of government debt to GDP in the US, Japan, and the UK will neither lead to government default (hence the low CDS spreads) or high inflation (hence the ultra-low government bond yields).

The low-and-stable-inflation assumption seems to us likely to be one that the market will at some point challenge, and when it does, the seriousness of the fiscal challenge is likely to add to the upside risk to bond yields. This is probably not a story for 2012, as we consider it unlikely that the market will begin to express serious long-run concerns about inflation until the growth data begin to look a lot stronger than they do right now.

Over the longer run, however, it seems to us sensible to expect fiscal performance measures, such as the one used in Exhibit 55, to have a heavy influence on risk spreads. This would be likely to benefit the EM countries, many of which have fiscal risk readings that are far superior to those of the G3.

Defining the Risks from Food and Energy Commodities

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Headwinds fade, but tail risks remain

2012 Core Views

- The spike in oil prices in early 2011 was, in our view, a major factor in the slowdown in the G7 economies over 1H.
- Similarly, rising food prices have been a key factor pushing inflation higher in China, ceteris paribus, resulting in tighter monetary policy.
- While both oil and food prices are likely to remain high, the drag on the global recovery and impact on inflation is likely to have peaked, although risks remain.

Over the past year, spikes in commodity prices provided one of the key shocks to the global economy.[8]

- In the G7, the rapid increase in oil prices around the turn of the year was a significant factor in the slowdown in economic growth.
- In emerging markets, the rapid increase in many agricultural commodity prices over the second half of 2010 and in corn and pork prices through the first half of 2011 exerted upward pressure on inflation and was a factor in the move to a more restrictive monetary policy stance.

In our view, commodities are unlikely to provide headwinds of the same magnitude over 2012.

- The main impact on EM economies is normally through food prices, while in the developed world, oil is the main factor.
- We expect the price of most agricultural products to trade sideways to down, while the price of oil is likely to increase at a far more modest pace than early this year.

However, this relatively benign outlook is not without risk. In particular, given that oil and many agricultural markets are very tight, both markets are vulnerable to further disruptions.

- For oil, an increase in G7 consumption could see markets tighten materially. Effectively, EM countries have absorbed the spare capacity released by the deep recession in the West. Given that there is little pass-through of higher prices to consumers in many EM countries, it is likely that the West would again need to undertake the bulk of the adjustment required to allow markets to clear if the recovery in the US in particular turns out to be stronger than currently expected.
- In addition, further supply disruptions are an ever-present risk; in our view, MENA, Venezuela, and Nigeria are the key pressure points.
- For grains, further bad weather could cause prices again to move quickly higher.

As a result, further commodity price spikes remain a risk to global growth and inflation. However, given that the magnitude of any impact is (at least in theory) related to the percentage change in the price rather than the level, we think that a shock of a comparable magnitude to that seen early this year is unlikely to occur in 2012.

- For oil, a comparable shock would require the price of Brent to increase to over $160 from the current $110 (50%).

[8] All prices are denoted in US dollars.

Background

Over the past year, rapid increases in commodity prices have acted as a significant headwind to the global economic recovery, with the spike in the price of oil a large contributor to the North Atlantic slowdown seen over 1H, while high and rising food prices over 2H 2010 and for corn and pork prices (the most important for China) into 1H 2011, exacerbated concerns about overheating in many emerging market economies.

Although increases in commodity prices are generally a zero-sum game for global income[9] (some countries/companies win, while others lose), in the current uneven global economy, they have tended to exacerbate the bifurcated nature of the recovery, increasing both concerns about weak growth in the North Atlantic and inflation (and hence policy flexibility) in many emerging markets.

- The increase in oil prices early in the year was a significant drag on still very weak US and European consumer income and spending.
- Increased food prices exacerbated inflationary tensions in emerging markets, where the success of the post-Lehman stimulus packages has generally helped output gaps to close.

In this note, we assess the outlook for grain and oil prices (two of the key commodities when it comes to inflation and growth) and discuss the likely implications for the global economic outlook.

The outlook for energy and food prices

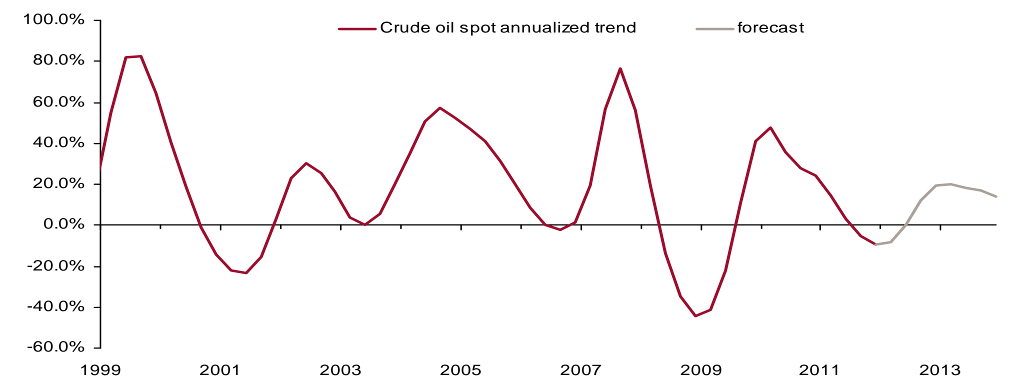
Although all commodity prices can have an effect on inflation and growth, oil prices have the largest impact on OECD growth, and food prices have the largest impact on emerging market inflation (see *Will Commodity Prices Derail the Global Recovery? We Think Not...*). Over the past year, pork prices (which are highly correlated with global corn prices) have been a major factor underpinning Chinese inflation.

Oil

Despite the intensification of macroeconomic risks over the past few months, the micro fundamentals of the oil market remain strong. Brent crude is currently trading around $110, and the futures curve is in backwardation. In our recent forecast update, *Commodity Forecast Update: A Dangerous New Phase*, we noted that unless the situation in Europe worsens noticeably and begins to drag down growth in the emerging markets and North America, we expect the price of oil to move modestly higher over the coming year, with Brent trading at around $120 in 4Q 2012.

Exhibit 56: Crude oil price trend growth

qoq annualized changes with forecast (average of WTI and Brent), nominal



Source: the BLOOMBERG PROFESSIONAL™ service, Credit Suisse

[9] An exception is when the increase in prices is due to a supply disruption, whereby the producer loses volume.

Under that scenario, the price of Brent oil would only increase another $10ish per barrel over 2012. In contrast, in early 2011, the price spiked from $85 in November 2010 to $127 in April 2011 – an increase of around 50% (Exhibit 56). As a result, we believe that the drag on G7 growth from movements in the oil price peaked in H1 2011, with the headwind likely to continue to moderate over 2012.

We note, however, that there are considerable risks around this outcome. On the downside, it is clear that further significant contagion from Europe to the rest of the world could cause global growth to be well below our economists' forecasts in 2012.

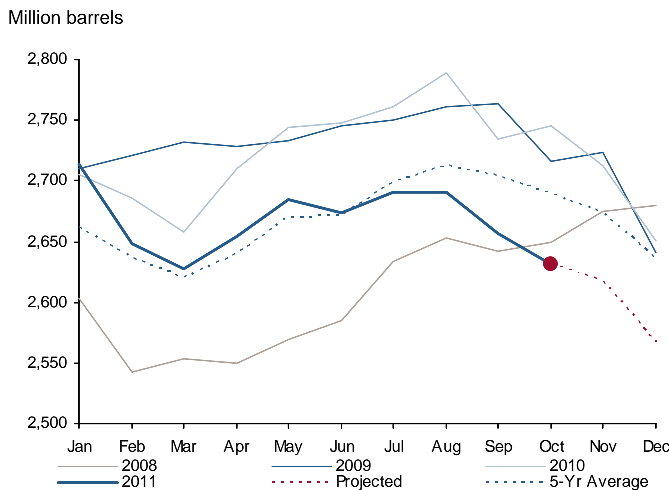
- In this world, the price of Brent oil could be expected to fall to well below $100 dollars a barrel.

There are, however, significant upside risks.

- It is now clear that in the short term, we were, if anything, too pessimistic about the near-term outlook, with the price over October and November on average trading around $10 dollars above our $100 forecast.
- It is also noticeable that despite a slowdown in global economic growth, and the partial return of Libyan supply, the oil market continues to tighten. In particular, global inventories have returned to the bottom of their range over the past decade (in days of consumption), with the prospect of substantial further falls over the coming year.
- Although we consider a further release from the strategic reserve a possibility, we see such action as akin to foreign exchange intervention by central banks – intervention can affect market positioning and the short-term price, but it is unlikely to have a lasting impact on the price level.

Exhibit 57: Commercial oil inventories OECD

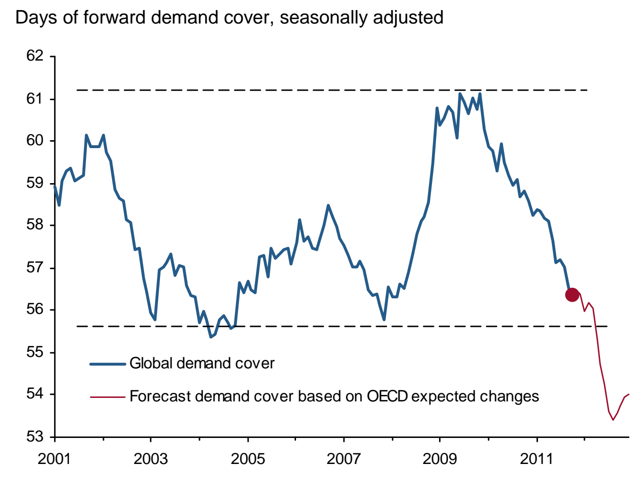
Million barrels



Source: IEA, Credit Suisse

Exhibit 58: Commercial inventory demand cover

Days of forward demand cover, seasonally adjusted



Source: IEA, Credit Suisse

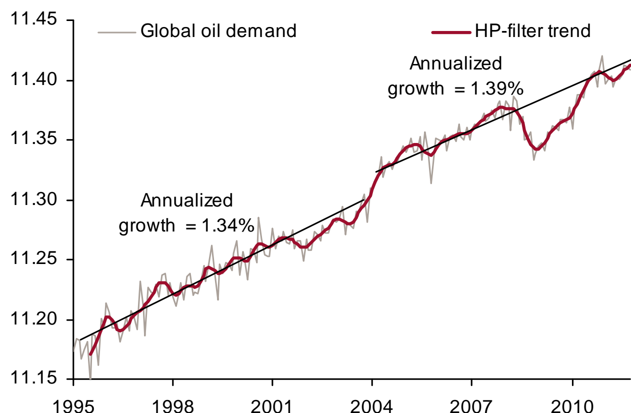
Oil demand remains surprisingly resilient

Despite the slowdown in global economic growth over recent quarters, demand for crude oil remains surprisingly resilient. As noted in *Oil From 30,000 feet: Structurally Tight*, stepping back from the day-to-day data cycle, an analysis of the dynamics over the past five years suggests that we have seen a fundamental shift in the balance of oil consumption globally.

- At a global level, consumption growth has continued at around 1.4% per year, with the level of consumption back at the pre-crisis trend. However, there has been a substantial and possibly permanent shift in the allocation of demand, with rapid EM growth (averaging nearly 4 ½% per year) fully compensating for still-weak North Atlantic consumption.

Exhibit 59: Global oil demand

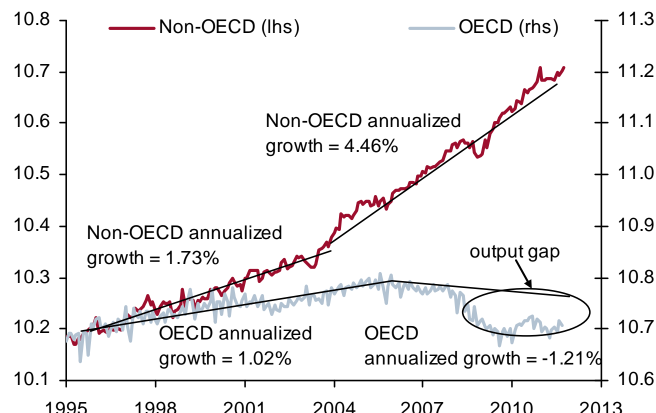
Natural logs, seasonally adjusted



Source: IEA, Credit Suisse

Exhibit 60: OECD and non-OECD oil demand

Natural logs, seasonally adjusted



Source: IEA, Credit Suisse

This continued-strong global consumption growth has occurred despite near-record real prices. In "normal times," very high prices would be expected to result in significant demand destruction. However, the elasticity of demand in the EM economies appears to be very low – no doubt in large part due to continued distortions in their petroleum markets, which have in effect blunted the price signal to consumers.

- This suggests that the global level of prices needed to allow markets to clear will be much higher than would be the case if all consumers were facing live pricing signals.
  - In effect, the EM countries (led by China and India) have absorbed the spare capacity made available by deep recessions in the North Atlantic.
- Given that EM consumption is likely to continue to grow at around trend (absent moves to significantly reduce subsidies), if and when the OECD enters a meaningful recovery, its increased call on the oil market could cause prices to move materially higher – much as seen last year.
  - With EM growth relatively unaffected (consumer prices unchanged as a result of subsidies), the burden of demand adjustment would be likely again to fall on the G7, with the price of oil acting as a substantial headwind to broader US consumption.

Oil supply: the potential for significant disruptions remains

Despite more positive news from Libya and improved growth in North America, recent news has again highlighted the potential for further significant supply-side disruptions. As outlined in *Oil fundamentals: Supply-side worries*, these include the following:

- **Iran:** The leaking of a UN report on Iran's nuclear weapons program in mid-November has caused the market again to focus not only on the possibility of an Israeli preemptive strike, which could have a substantial impact on Iran's sizeable exports (which, at about 2.3 million barrels per day, account for about 5% of internationally traded crude oil) but also on the roughly 12-15 mb/d of oil that is transported through the Straight of Hormuz (where Iran can have significant military power).
  - Although we consider the risk of an Israeli strike on Iran to be very low, with the MAD logic of the cold war likely to prevent any such attack, it has nonetheless significantly increased the market focus on supply-side risks (see *Living in a MAD world*)
- **Venezuela:** We also worry about stability in Venezuela, where President Hugo Chavez is battling cancer. Given the limited succession plans in place and the limited investment in the industry since the sector was nationalized in 2002, we see considerable risks to Venezuela's more than 2 million barrels per day of exports.

- **Nigeria:** Meanwhile, Nigeria was supposed to deliver some relief with a new president in place since April. The thinking was that a pacification program could over time deliver more stability across the often seemingly lawless Niger Delta – where the core of Nigeria's onshore oil wealth is concentrated. Reorganizing the industry with greater involvement from local companies and Chinese investors would allow the fairly rapid re-development of the 600-800 kb/d of oil capacity that has been shuttered since early last decade. Instead, little progress has been booked. Prospective new JVs have seen their MOUs lapse, and redevelopment efforts and investments remain log-jammed. Nigeria's exports of just below 2mb/d have not grown at all this year.

More generally, we note that global supply growth has slowed noticeably over the past six or seven years, despite near-record real prices, with the current trend annual increase only a little above 1% per year (Exhibit 61). Within this context, it is notable that OPEC supply has been highly volatile since 2005, but in trend terms, it has been flat.

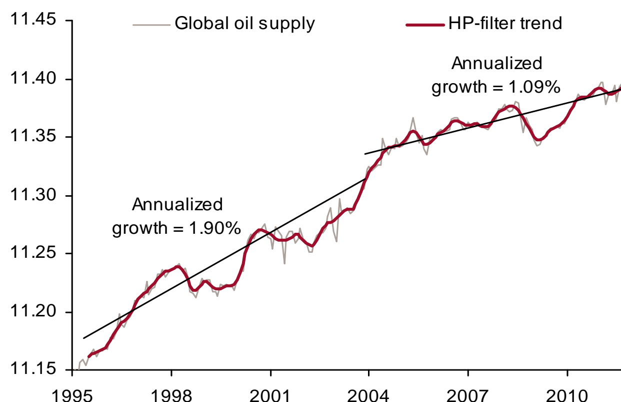
In our view, a complex and often interlocking set of factors has been acting to inhibit supply growth. And with most of these likely to prove fairly intractable in the short term, this will effectively prevent a substantial increase in supply growth at a global level over coming years despite still-high prices. Although higher prices should act to resolve the supply blockages, this is likely to take a considerable amount of time, with the industry still suffering from the chronic underinvestment during the period of very low prices until the early 2000s.

Supply issues that need to be overcome include the following:

- Production is falling in older, mature oil provinces. Roughly 3% of global oil supply capacity is currently lost every year to "natural decline rates." This drives the industry to ever more remote places from which to replace cheap base-load volumes.
  - In the past ten years, capital and attention have had to focus on ultra-deep water, the arctic, new technologies, and under-explored new frontiers.
  - The costs of developing reserves in these plays is rising and is materially higher than was the case for the "easy-to-get-to oil."
  - Giant projects on these new frontiers also take materially longer to bring oil to market (often more than seven to ten years between discovery and "first oil").
- What's more, the higher the price, the more interest governments have in getting a share of the pie. Negotiations take longer, terms are adjusted in mid-development, fewer deals get done, and those that do get done are done more slowly.
- Of course, within OPEC, the cartel of sovereign producers, difficulties proliferate as well.
  - Stability is the key requirement for upstream investment and capacity growth. Venezuela, Nigeria, Libya, Iraq, and Iran – which are also the traditional price hawks and which all have very large reserves of oil – do not meet that stable investment climate test.
  - Qatar, Ecuador, Angola, and Algeria have reserves that are too small or too difficult to make much of a difference, with their oil policy on a global level in the medium term.
  - Kuwait, the UAE (arguably), and Saudi Arabia could make a meaningful difference in the shorter term, but for very specific reasons, they are not really making that difference.
  - In this context, it is worth noting that it now appears likely that Saudi Arabia (in a way, the world's oil central bank) is targeting a higher oil price than many had expected until recently. Saudi Arabia's budget break-even oil price (BEP) (as computed and reported on by the Institute for International Finance) rose to the high $80s after concessions made by King Abdullah in early March, and we expect the BEP to rise to around $115 for Brent in 2010 dollars by 2015, as the Saudis continue to increase their domestic social expenditure.

Exhibit 61: Global oil supply[10]

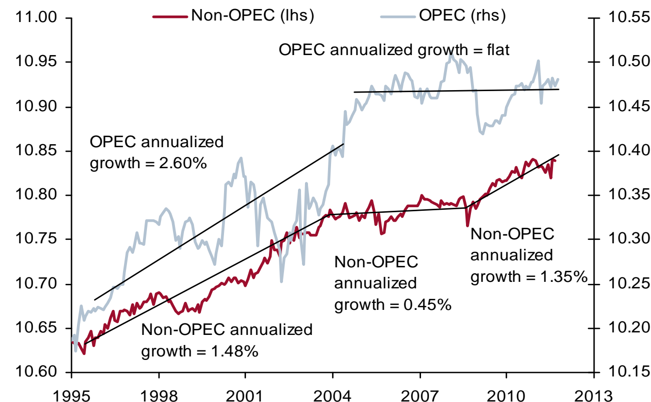
Natural logs, seasonally adjusted



Source: IEA, Credit Suisse

Exhibit 62: OPEC and non-OPEC oil supply

Natural logs, seasonally adjusted



Source: IEA, Credit Suisse

Given these constraints, in our view, we would need to see radical shifts in resource policy from key sovereign producers and/or a significant technological breakthrough for a substantial acceleration in supply growth to occur in coming years.

Oil's impact on growth and inflation: we see the US as particularly exposed

We believe that the main impact of a greater than currently expected increase in oil prices for the global economy would be on incomes and consumption growth in the G7 – with the US particularly exposed given that it has much lower levels of taxation on gasoline than Europe does.

To that end, although any increase would have an impact on income, it is the rate of change that ultimately determines how much of a drag on income growth would follow. Given that we consider it highly unlikely (barring a significant supply shock) that the price will again increase by 50% (this would take Brent north of $160 per barrel), a shock of the magnitude seen in 1Q to US growth appears unlikely.

The main impact in emerging markets would be on government and corporate budgets, as they tend to absorb large swings in oil prices, with little flow through to households.

Although an increase in the price of oil would also have an impact on inflation in the developed world, given current large output gaps, it is highly unlikely that the US Fed would react to such a development – but it remains a possibility that the ECB could, at the margin, use oil to motivate a move to tighter policy, as it did earlier this year. Hopefully, however, it learned from that experience, given the likely ongoing structural frailties on the European continent.

Food

As outlined in *Commodities Forecast: A Dangerous New Phase*, our central scenario is for food prices to move sideways to down over the coming year, with grain prices in particular expected to retreat a little as supply responds to higher prices and the absence of additional supply shocks. The more contained outlook is predicated on a number of factors.

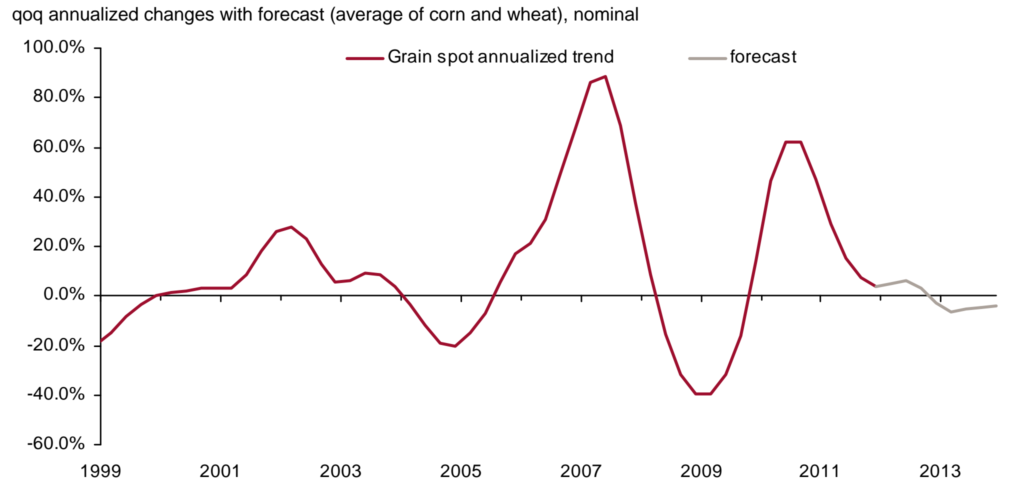
- A return to more "normal" weather after several seasons of significant variation; and
- Increasing production through higher investment. Investment in new production has grown dramatically in recent years, with the USDA expecting global corn and wheat production to grow by 3.8% and 5.1%, respectively, in the next crop cycle (compared to their long-run compounded annual growth since 1960s of about 2.9% and 2.1%, respectively).

[10] Growth in global oil supply (1.09%) differs from combined OPEC and non-OPEC supply growth because different time periods are under consideration. OPEC supply growth since mid-2005 has been flat, following expansion from 2002 to 2004.

Under this scenario, the maximum impact on inflation from food prices (across the EM countries, food accounts for nearly a third of CPI baskets) is likely to have already occurred (see Exhibit 63).

Exhibit 63: Grain price trend growth[11]

qoq annualized changes with forecast (average of corn and wheat), nominal

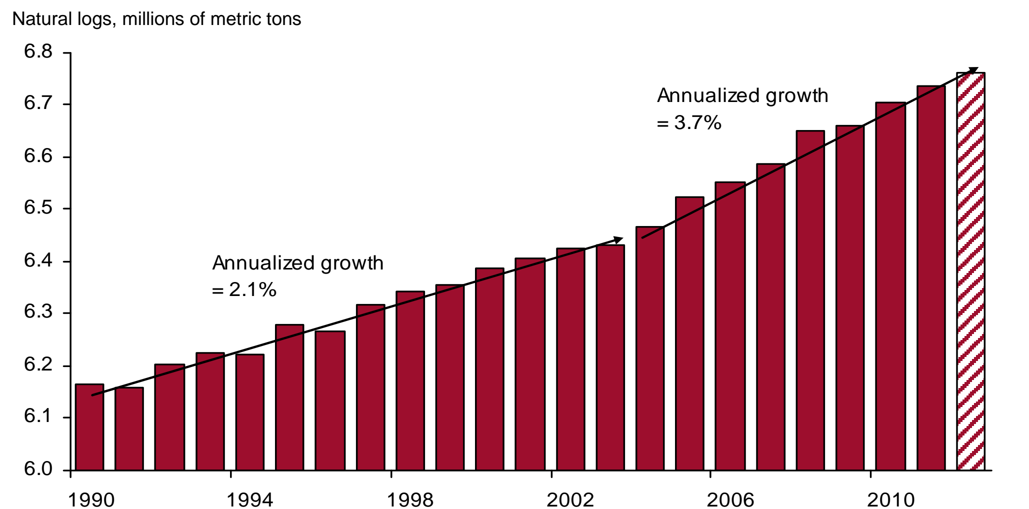


Source: the BLOOMBERG PROFESSIONAL™ service, Credit Suisse

As is always the case, however, the outlook for food prices remains highly dependent on the weather. This is particularly the case at present, with the two factors that have caused global grain consumption increase substantially over the past decade (US ethanol and the increased Chinese call on the global market) remaining very much in place. These factors, along with weather-related disruptions to supply, have caused global inventories for corn in particular fall to an historically low level in days of consumption, although inventory cover for wheat and soybeans is higher.

Exhibit 64: Global corn consumption[12]

Natural logs, millions of metric tons



Source: the BLOOMBERG PROFESSIONAL™ service, USDA, Credit Suisse

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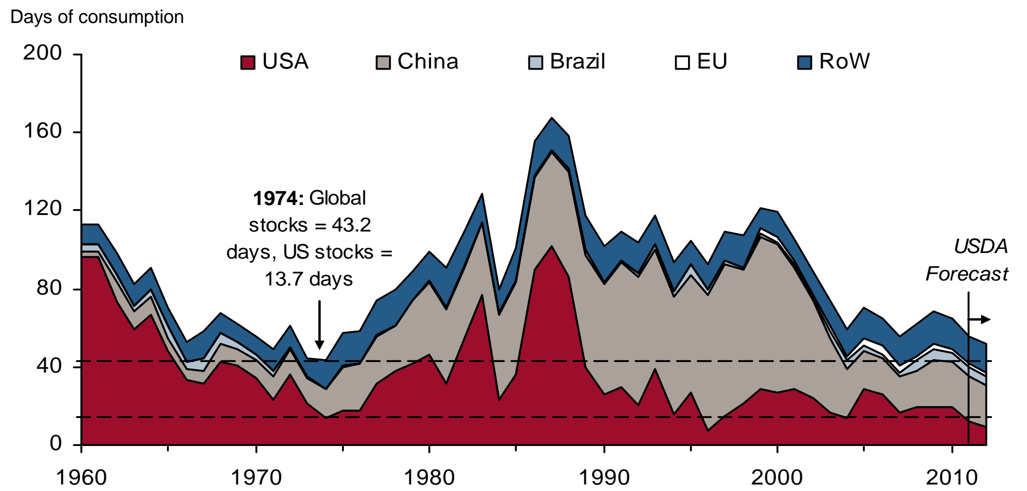
[11] This measure is an average of corn, wheat, and soybeans. There was, however, a significant divergence in price movements earlier this year, with wheat prices falling over the first half of this year and soy prices essentially flat, while corn prices increased further.

[12] The corn market remains tighter than that for soy beans, which in turn is tighter than the market for wheat. This has been reflected in the relative price movements over 2011. We focus on corn because of its clear link with pork prices, particularly in China.

Exhibit 65: Global corn inventories (days of consumption)

Days of consumption



Source: the BLOOMBERG PROFESSIONAL™ service, USDA, Credit Suisse

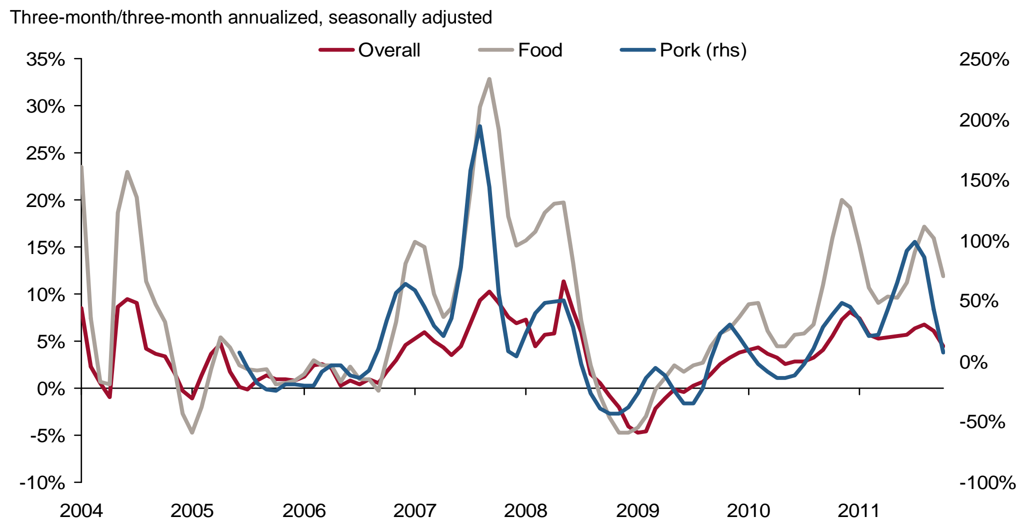
Although food prices have pushed inflation higher in many countries over the past couple of years, the impact has been most acutely felt in the emerging markets, where food on average comprised nearly a third of consumer price baskets. And within the emerging markets, the most significant impact from a global economy point of view has been in China, where 30% of the increase in consumer prices over the year to July (the peak was 6.5%) was directly attributable to food.

Notably, of that 6.5% increase in the total CPI, we estimate about 1.3 percentage points (or 20% of the variation) was driven by one food commodity, pork, despite pork accounting for only 3% of the CPI.

Although we do not specifically forecast Chinese pork prices, it is notable that prices have generally been highly correlated with the global price of corn (China's key feedstock) over recent years (Exhibit 67). This suggests that the outlook for global corn prices may be one of the key factors underpinning inflationary pressures in China, with potential implications for China's capacity to react forcibly to any further deterioration in economic momentum in the North Atlantic.

Exhibit 66: Chinese CPI is strongly driven by food prices

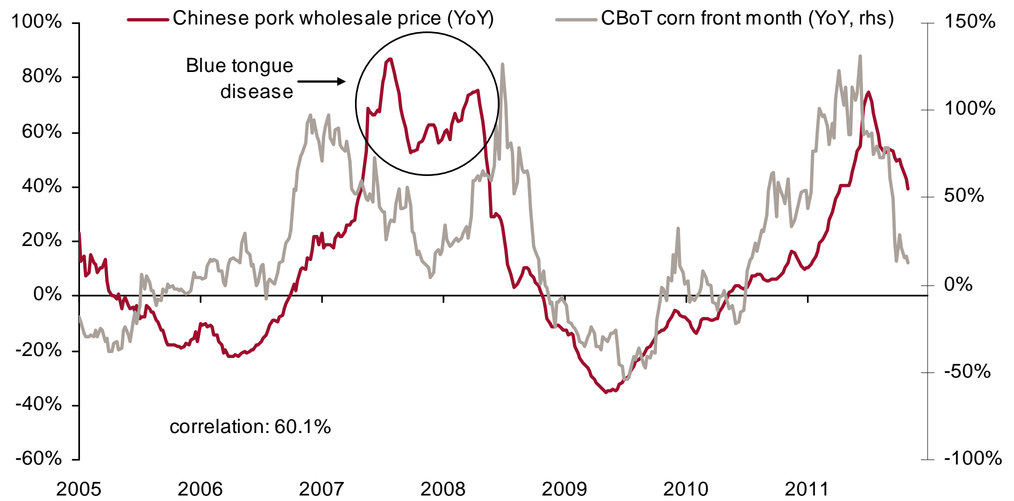
Three-month/three-month annualized, seasonally adjusted



Source: CEIC, NBS

Exhibit 67: Chinese pork prices are strongly influenced by rising input prices, especially feeds (i.e., corn)

Yearly changes



Source: the BLOOMBERG PROFESSIONAL™ service, CEIC, China Ministry of Commerce, Credit Suisse

To this end, unfortunately, the corn market remains very tight and highly vulnerable to further supply disruptions. Although flat to slightly falling prices remain the most likely outcome over 2012, recent evidence that a La Niña weather system is again building over the Pacific Ocean highlights the fact that global food supply remains highly vulnerable to inclement weather. And with inventory cover very thin, a significant disruption could result in a significant spike in prices, although it looks unlikely that corn prices will again increase by the 118% seen in the 12 months to June 2011.

Why does the PBoC care so much about pork prices? It's all about underlying inflation

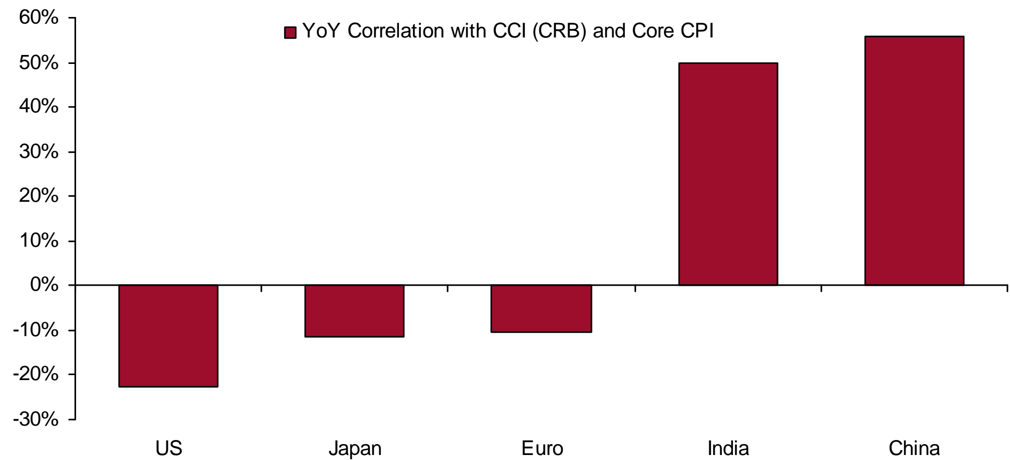
Although central banks in developed economies (with the notable exception of the ECB) have not been particularly concerned about food price inflation over recent years, it has been a clear focus among the large emerging economies. On the surface, this may be a little puzzling; however, an analysis of the flow-through from food prices to more generalized inflation across countries suggests that the PBoC's concern is well founded.

As a simple measure of the pass-through of food and energy price inflation to underlying inflation, we calculate the correlation between annual percentage changes in the CRB Index against the exclusion-based core CPI in a variety of countries – following the methodology adopted by our chief economist and head of Global Economic Research, Neal Soss (*Commodities and Core CPI: As Dead as Disco*).

For the developed economies, the correlation is generally slightly negative, suggesting no real pass-through. Interestingly, however, for both India and China, the correlation was relatively high, suggesting a substantial spillover from food price inflation to broader inflationary pressures.

Exhibit 68: Correlation between core inflation and commodity prices

Correlation of yearly changes since January 2001; note that India uses WPI, and China uses non-food CPI



Source: the BLOOMBERG PROFESSIONAL™ service, Thomson Reuters Datastream, Credit Suisse

Given the importance of low and stable inflation to social stability in China, a further rapid increase in food (pork) prices would be likely to limit significantly the authorities' ability to ease policy in an effort to offset weakness in the North Atlantic. Therefore, if there is a major recession in the developed world, we believe that the authorities are likely to feel much less constrained.

Questioning Reinhart & Rogoff on Long-term Growth

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2012 Core Views

- Europe's crisis is the result of a deflationary shock and the lack of a robust institutional framework to deal with it, not high government debt levels *per se*.
- We do not expect the European experience to be repeated elsewhere. Contrary to popular belief, there is no clear relationship between future growth and government debt ratios.
- There are considerable holes in readings of economic history claiming to show that high debt levels cause weak growth.

Many of our clients think that developed market growth will be weak for years as a result of high debt levels. The theme was famously explored in the book *This Time is Differen*t by Carmen Reinhart and Kenneth Rogoff. We find, however, that there is almost no evidence of a relationship between trend growth rates and government debt levels or between debt and an economy's ability to get back to full employment after a shock.

Wars, deflationary shocks drive big adjustments in debt levels

The history of sovereign debt is intertwined with wars and deflationary shocks. Often, debt appears to affect growth when war itself is driving the path of activity. In times of deflation, debt levels can grow sharply, but the solution is aggressive monetary policy, which need not worsen the debt burden and can usually help it.

There are simple reasons why government debt should not affect underlying trends in real growth. Government debt doesn't destroy a nation's factories; it won't make a population less intelligent and industrious; it can't halt the technological progress that has driven efficiency for centuries. However, many market observers, citing Reinhart and Rogoff's research, insist that fiscal tightening is essential to encourage future economic growth.

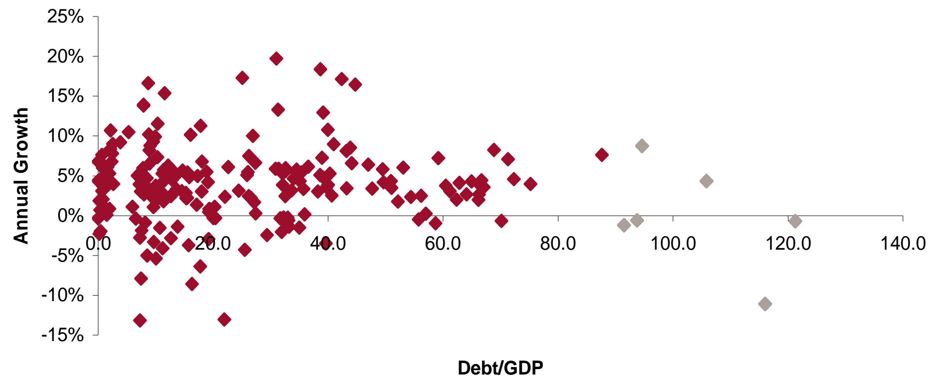
Of course, a ballooning interest burden creates the need for a government to run a primary surplus in order to maintain stable debt dynamics. A sudden shift toward primary surplus might negatively affect short-run growth, but longer term, there is no relationship between primary balance and trend growth, except for the tendency for primary balances to increase with high growth as tax revenue floods in.

Output gaps tell us much more about future growth than debt levels

Output gaps, in contrast to debt levels, do consistently forecast above-trend future growth. Economies running well below potential output tend to grow above trend as they return to full employment. Clearly, low resource utilization creates deflation risks, but competent central banks often can manage those. In the second part of this note, we examine the current drags on US growth and argue that today's missing output is mostly housing related and likely to return over time. This real adjustment should make higher primary surpluses easier to establish and maintain, but admittedly, the US has a long way to go in both output adjustment and in budget adjustment.

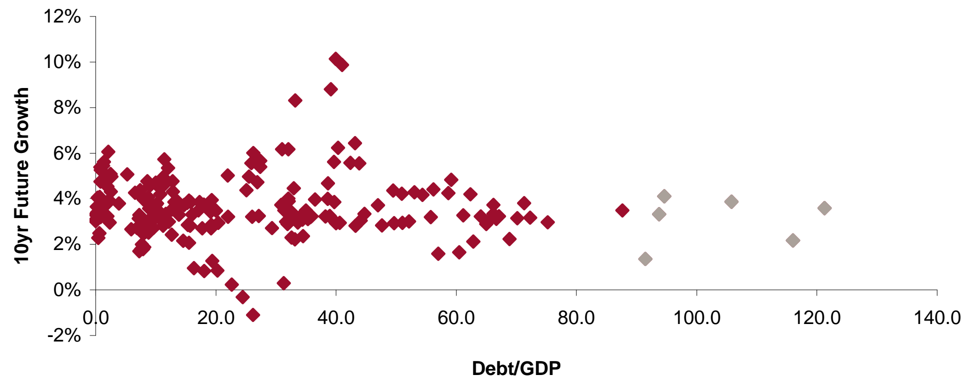
Debt adjustments can occur as an economy simultaneously returns to full employment while establishing higher primary surpluses. For forecasting purposes, this is a radically different proposition from starting by observing debt levels and claiming that growth must be weak as a result. We believe that much of the anxiety about debt levels in the developed world represents a misreading of history. Although it is ironic, given the title of Reinhart's and Rogoff's seminal work, the biggest reason not to worry about high debt levels is that *this time really is different* from the historical episodes that drive Reinhart's and Rogoff's conclusions.

Exhibit 69: US Annual growth and debt/GDP



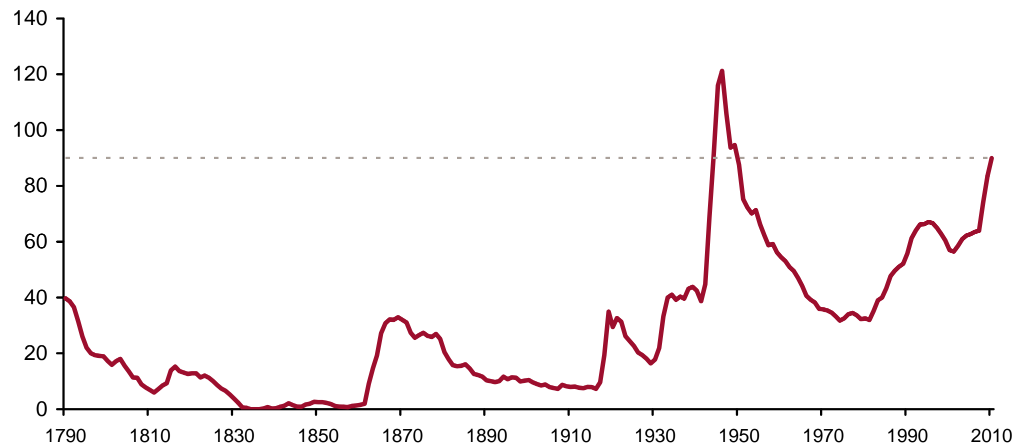
Source: Credit Suisse, Reinhart and Rogoff, *Historical Statistics of the United States*

Exhibit 70: US long-term growth and debt/GDP



Source: Credit Suisse, Reinhart and Rogoff, *Historical Statistics of the United States*

Exhibit 71: US debt/GDP



Source: Credit Suisse, Reinhart and Rogoff

Consider what is perhaps Reinhart's and Rogoff's strongest evidence. They provide a table (Exhibit 78 below) that presents mean annual growth rates for developed nations. It clearly demonstrates that nations typically experience lower annual growth when their debt levels exceed the 90% threshold. The evidence is mixed across the whole sample, but the numbers for the US in particular stand out. Although this is strong prima facie evidence for believing that high debt can affect growth, there are key problems with this method of analysis.

The first problem is simply that the variable of interest, annual growth rates, doesn't properly capture the "long-run growth" of a nation. Annual growth rates are volatile and mean-reverting, suggesting that a low annual growth rate doesn't provide much evidence of persistent economic malaise. Switching to a ten-year future growth rate, we can see a much clearer picture of how an economy evolves in response to high levels of sovereign debt.

Exhibits 69 and 70 show that changing the focus to longer-term growth removes a great deal of the effect identified by Reinhart and Rogoff. In addition to this methodological adjustment, however, there is a much deeper problem with the application of Reinhart's and Rogoff's result to the present situation of developed economies. Their results are primarily driven by extreme historical circumstances (war, in particular), which are not easily applicable to contemporary debates on debt.

To show this, it makes sense to go more in depth into historical experiences of high sovereign debt. Perhaps the most eye-popping statistic in Reinhart's and Rogoff's table is the fact that US growth averaged -1.8% when debt/GDP exceeded 90%. More than any other nation, the US has experienced a falloff in growth (to the point of outright contraction) when its debt has risen above this threshold.

World War II drives Reinhart's and Rogoff's results on the US

However, what the table fails to display is the historical circumstances surrounding the US experience with high levels of debt. First, it is worth noting that in the 220 years of data available on US debt/GDP, in only 6 of those years (1944-1949) did debt levels exceed the 90% threshold (Exhibits 71 and 74). Indeed, the reason for the high debt levels was the massive mobilization of resources for World War II. And unsurprisingly, the run-up in debt was associated with impressive levels of economic growth. As debt levels rose from 44% of GDP in 1939 to 91% of GDP in 1944, the economy grew 14% per annum.

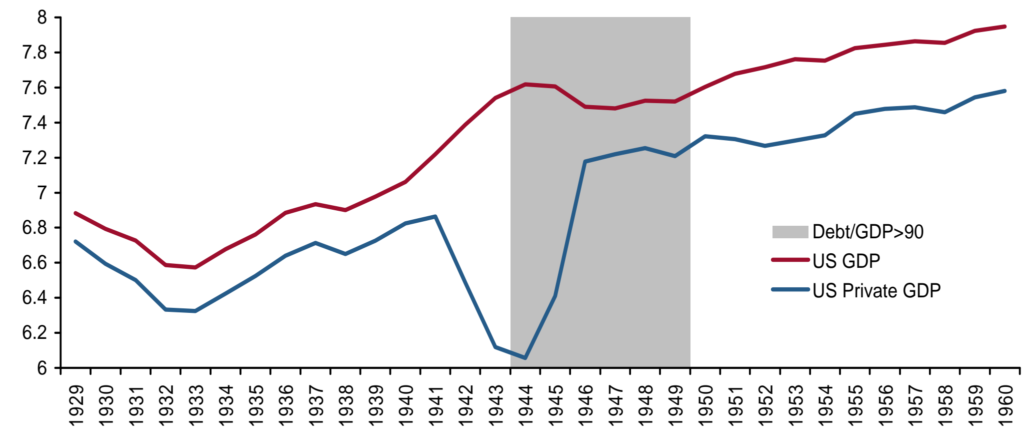
Coincidently, however, the United States reached the 90% debt/GDP threshold at the beginning of the post-war demilitarization. In 1945 alone, the economy contracted by 11%. However, it would be absurd to believe that this contraction was *caused* by a high debt-to-GDP ratio. Even if there were no debt, the fact would remain that nearly half (48%) of US GDP in 1944 that was dedicated to fighting the Axis powers ceased to be useful in 1945. This can be seen clearly by looking at GDP growth ex-government spending (Exhibits 72 and 73). Indeed, the entire six years of high debt saw US private GDP grow at a 23% average annual rate.

Exhibit 72: US private GDP at different government debt levels

		Central (federal) government debt/GDP			
Country	**Period**	**Below 30%**	**30 to 60%**	**60 to 90%**	**>90 %**
United States	1929-2010	-12.2%	2.2%	2.6%	23.4%

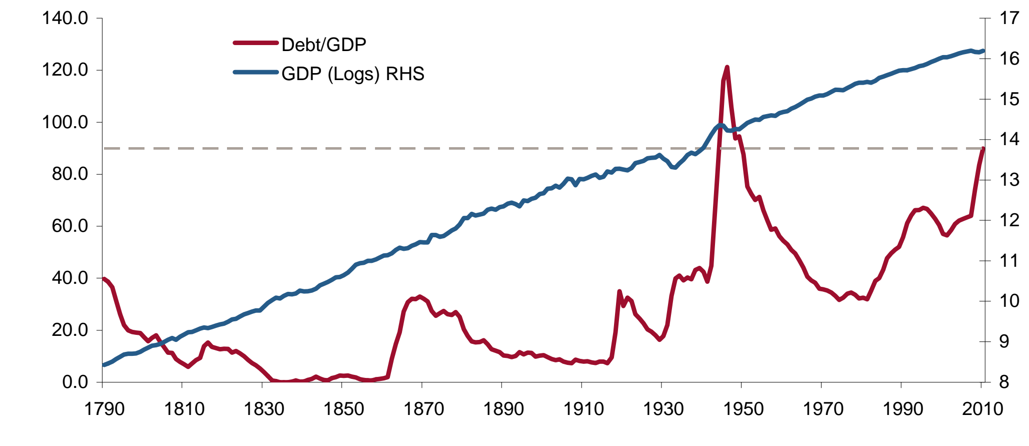
Source: Credit Suisse, Reinhart and Rogoff, BEA

Exhibit 73: US GDP and private GDP (logs)



Source: Credit Suisse, Reinhart and Rogoff, BEA

Exhibit 74: US government debt-to-GDP ratio versus real GDP (logs)



Source: Credit Suisse, Reinhart and Rogoff, BEA

It is absurd to believe that this historical episode offers any insight for current debates about national debt. Yet Reinhart and Rogoff's table is full of similar cases. Unsurprisingly, the frequency of high-debt episodes peak around World War II (Exhibit 75). In these cases, growth outcomes were not caused by high debt levels. Clearly, the actual cause of debt and growth levels is total war, which commands a huge amount of resources and leads to vast destruction of human and physical capital. It is unreasonable to imagine that these historical experiences provide any insight to the potential consequences of current debt-to-GDP levels in the developed world.

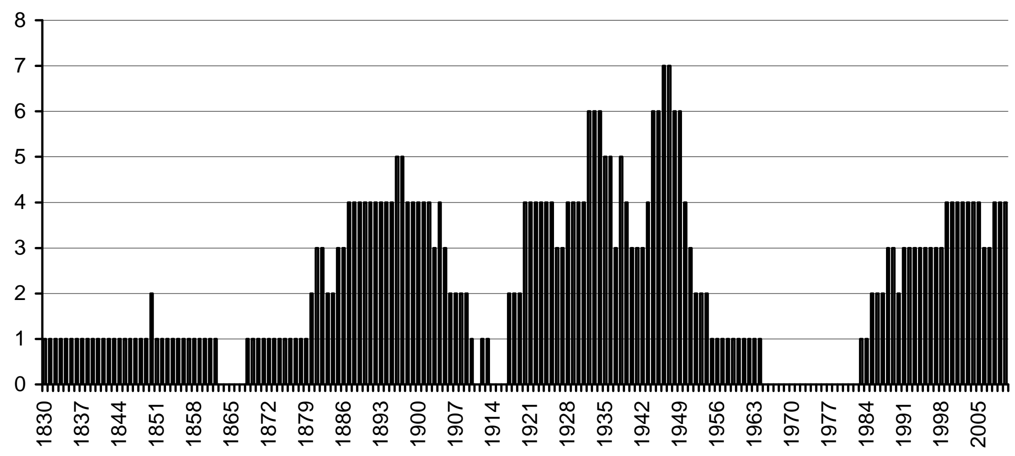
The other obvious clusters occur in periods of Gold-Standard deflation: the late 19th century and 1920s-1930s. In this case, it is easy to see both high debt and low growth simultaneously caused by monetary contraction. As in World War II, high levels of debt appear to be a side effect of a more plausible cause for low growth – deflation. Although these historical examples might be relevant to the present European debt crisis, there is little similarity to economies with independent monetary policy.

During ordinary times, debt appears to have no impact on growth whatsoever

However, economic history does offer some evidence that applies to current debates about sovereign debt. In particular, one of the best examples for thinking about the United States' present situation comes from public finance in the United Kingdom. In the 179 years of data used by Reinhart and Rogoff, the UK had a debt-to-GDP ratio in excess of 90% for 81 years (Exhibit 76). National debt peaked following the Napoleonic Wars and again in the two World Wars. But unlike most other nations, the UK paid down these debts slowly and consistently – carrying large levels of debt for long periods of time. This allows us to see the effects of high debt during relatively ordinary times, rather than exclusively during extreme historical episodes. In the entire UK sample, debt appears to have had no impact on growth whatsoever. Although annual growth was slightly lower, as reported in Reinhart and Rogoff, long-term future growth was actually slightly higher for high levels of debt (Exhibit 77).

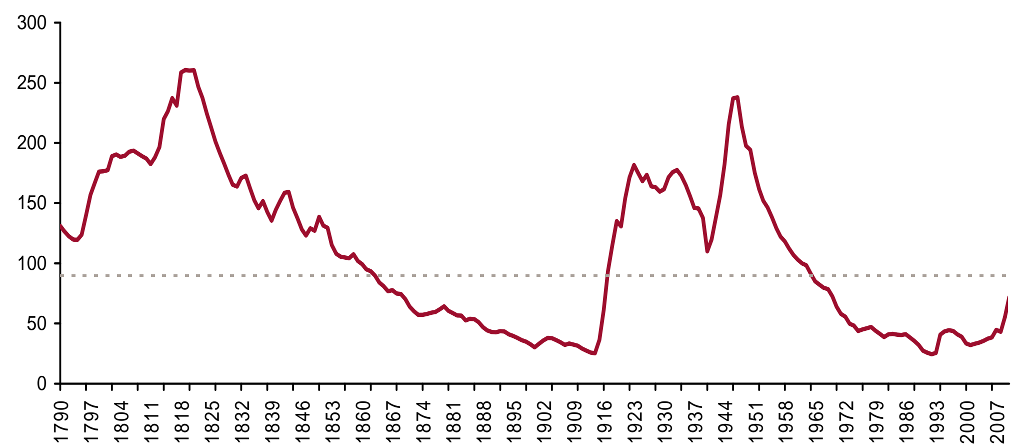
The statistics produced by Reinhart and Rogoff are an invaluable contribution to economic history, but it is important to think deeply about when they might apply to a contemporary situation. Their simple table relies on the crucial assumption that all high-debt episodes are comparable. Yet the United States is not in the midst of a World War. It is not on the gold standard. It has not lost the Franco-Prussian war, unified the Italian Peninsula, or struggled to maintain territories in Latin America. Economic history has a great deal to teach us – as long as we always remember that this time is *very* different.

Exhibit 75: Frequency of high-debt episodes



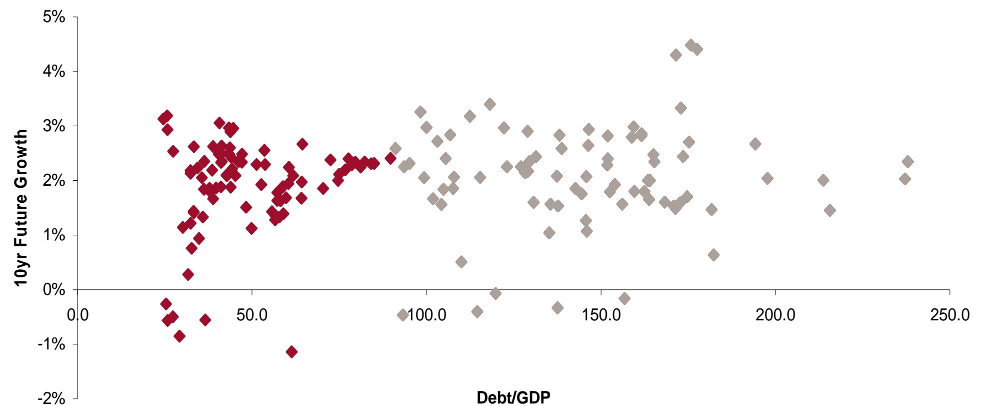
Source: Credit Suisse, Reinhart and Rogoff

Exhibit 76: UK debt-to-GDP ratio



Source: Credit Suisse, Reinhart and Rogoff

Exhibit 77: UK debt/GDP and long-term growth



Source: Credit Suisse, Reinhart and Rogoff, Angus Maddison

Exhibit 78: Growth in a time of debt

Real GDP growth as the level of government debt varies: selected advanced economies, 1790-2009 (annual percent change)

		Central (federal) government debt/GDP			
Country	Period	Below 30 Percent	30 to 60 percent	60 to 90 percent	90 percent and above
United States	1790-2009	4.0	3.4	3.3	-1.8
United Kingdom	1830-2009	2.5	2.2	2.1	1.8
Japan	1885-2009	4.9	3.7	3.9	0.7
France	1880-2009	4.9	2.7	2.8	2.3
Germany	1880-2009	3.6	0.9	n.a.	n.a.
Italy	1880-2009	5.4	4.9	1.9	0.7
Spain	1850-2009	1.6	3.3	1.3	2.2
Australia	1902-2009	3.1	4.1	2.3	4.6
Austria	1880-2009	4.3	3.0	2.3	n.a.
Belgium	1835-2009	3.0	2.6	2.1	3.3
Canada	1925-2009	2.0	4.5	3.0	2.2
Denmark	1880-2009	3.1	1.7	2.4	n.a.
Finland	1913-2009	3.2	3.0	4.3	1.9
Greece	1884-2009	4.0	0.3	4.8	2.5
Ireland	1949-2009	4.4	4.5	4.0	2.4
Netherlands	1880-2009	4.0	2.8	2.4	2.0
New Zealand	1932-2009	2.5	2.9	3.9	3.6
Norway	1880-2009	2.9	4.4	n.a.	n.a.
Portugal	1851-2009	4.8	2.5	1.4	n.a.
Sweden	1880-2009	2.9	2.9	2.7	n.a.
Average		**3.7**	**3**	**3.4**	**1.7**
Median		**3.9**	**3.1**	**2.8**	**1.9**
Observations=	**2317**	866	654	445	352

Source: Credit Suisse, Reinhart and Rogoff (2010)

Life After Debt: A Back-Loaded US Recovery

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2012 Core Views

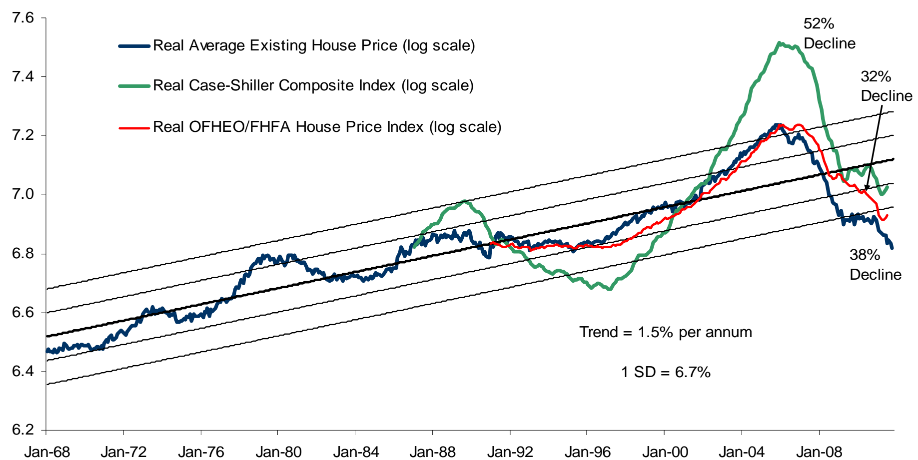
- The legacy of the US housing boom continues to shape the recovery, which is likely to be back-loaded.
- Services consumption and residential investment are likely to drive strong growth eventually.
- Household formation rates and house price stabilization are key ingredients to a lasting recovery.

The best way to examine the impact of a housing boom and bust is to study its effects on local economies and then to think of national economies as networks of little bubbles.

If everyone in a neighborhood thinks that house prices will trend steadily higher over a long period, that perception will affect spending, saving, hiring, investment, and living arrangements. During a housing boom, people buy lots of durable goods, invest in their kitchens, save less than usual, hire construction workers, start businesses that cater to real estate brokers and property developers, and buy houses with little down (even if they have the opportunity to live for free with someone else). And, of course, they leverage up.

When house prices eventually peak and start to fall the economic consequences are severe. When expectations shift, everyone now "knows" house prices will fall for a long time, and the process above begins to operate in reverse. And so real house prices go from being very expensive to very cheap (see Exhibit 79).

Exhibit 79: US housing prices



Source: Credit Suisse

Even worse, economic decisions have been distorted for so long in so many ways that growth early in the recovery is very limited. Once the initial sharp shock to growth (the recession) passes, the economy must begin not just to rebound but also to reform. Where housing was once the engine of local employment and the fountain of local wealth, a great reorientation of activity must now occur.

New productive activities must be found. Technology always creates possibilities for this, but initially, they are rarely obvious. Economic distress creates incentives for people to start new businesses that are not dependent on housing. Stress creates activity, but activity does not instantly create jobs and spending – that comes later. Visible distress and slow recovery also depresses animal spirits and creates a significant headwind early in a recovery, as labor demand and spending takes significant time to pick up. Investors hoard cash and "safe" assets until confidence in the recovery is high.

This description of a housing bust and recovery is extreme, but it fits the past decade. It does not, however, describe the regular boom-bust cycles in residential investment that accompanied other post-war US business cycles. The difference this time is likely related to the meteoric rise in house prices that led to, by far, the biggest house price fall since the Great Depression.

Investors and policymakers overemphasize the importance of debt

The widespread view is that because debt levels are high (government, household, or total economy), deleveraging must occur before significant growth can return. Surely, rising indebtedness occurs along with housing booms, and deleveraging via foreclosures follows during busts. But all too often, investors over-emphasize the importance of debt levels in defining the economic regime and its possible outcomes, a mistake that can lead to bad decisions.

The alternative to the debt focus is to monitor the deeper healing process. Are local economies that were previously housing-centric now capable of growing again, even if housing does not pick up sharply and debt levels continue to fall? When we examine the progress that has been made this year in many parts of the US economy, we see that there is a long way to go but also significant potential for further acceleration in growth. We will focus on the US, but in large part, we are examining a particular case of a general phenomenon that has happened across much of developed world over the past decade.

The two most significant drags on US GDP growth so far in the recovery (compared to previous recoveries) have been services consumption and residential investment. Weak residential investment is obviously related to the boom but also affected by a severe tightening of underwriting standards. Weakness has been multiplied by the economy's slow pace in regaining full employment and churning the labor force away from construction/real estate/finance/government and into other sectors.

Fewer households means less spending

A cursory glance at expenditure patterns shows big spending gaps in categories directly related to the number of households or the number of jobs. Labor market stress has led to slower population growth and fewer households. Immigration has slowed, birth rates have declined, and young people have decided to live with their parents for far longer. Average household size is estimated to have risen from 2.70 persons in late 2006 to 2.75 persons now. This directly reduces the number of households by over 2 million. Fewer households means a larger inventory of empty housing units and less scope for an immediate recovery in construction spending.

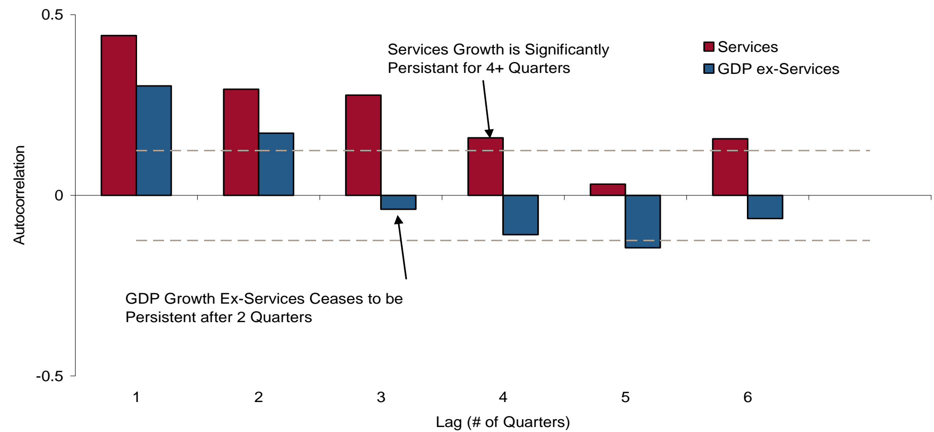
Exhibit 80: US GDP breakdown

8-quarters from recession trough

	Avg Contrib. (prior 5 cycles)	Current	Current Cycle Ppt. Deviation vs Avg
US GDP	4.6	2.4	-2.2
Housing/Construction	0.7	-0.3	-1.0
Services Consumption	1.4	0.5	-0.9
Durable Goods Consumption	0.9	0.6	-0.3
Government Spending			
Federal Non-Defence	0.1	0.1	0.0
State & Local	0.2	-0.3	-0.5

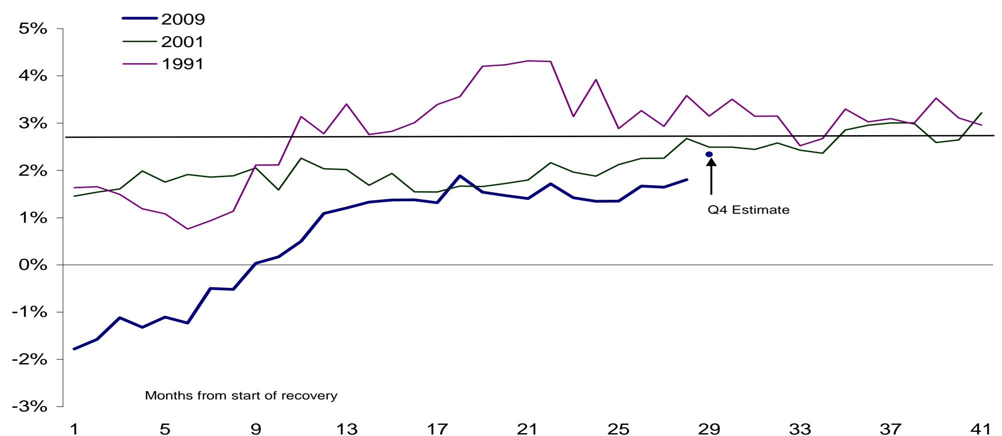
Source: Credit Suisse

Exhibit 81: US GDP auto-correlations – services versus GDP ex-services



Source: Credit Suisse

Exhibit 82: US services consumption growth (y/y%) in recoveries



Source: Credit Suisse

It also affects services spending directly. Thirty-one percent of services spending (and roughly 15% of GDP) is the direct consumption of housing (imputed rents). This category of GDP has been very depressed and accounts for a large part of the weakness in services consumption shown in Exhibits 80 and 82 . Another major drag on services consumption is weak financial services spending, which includes insurance. Insurance spending in aggregate has been hit hard by high unemployment levels.

Encouragingly, overall services consumption is one of the most persistent and stable parts of output growth, suggesting that the baseline average for growth from here may be considerably higher than it has been in the past five years. In Exhibit 81, we show correlograms demonstrating the persistence in services consumption (half of GDP) with GDP excluding services consumption. Services spending shocks tend to persist for at least four quarters, with some residual effect even present a full year and half later. In contrast, the rest of GDP is significantly auto-correlated for just two quarters.

Meanwhile, there is direct evidence that households have not changed their spending behavior in ways that suggest active debt paydown. If households were withholding spending in an attempt to deleverage, we might expect that to show up as a decline in discretionary spending.

Although large and expensive durable goods spending has been weak in the first two years of recovery, it has been only a minor drag relative to previous recoveries. What is perhaps more interesting is the data on small discretionary items. Exhibit 83 shows real spending on personal technology, books, and admissions to clubs, theaters, theme parks, and sporting events. These items are all substantially above pre-recession levels and near or above long-term trends. Exhibit 84 shows real retail sales (including durable goods) and discretionary services spending, which both have trended strongly higher (in correlated fashion) in the recovery.

Growth has improved despite well publicized headwinds

US growth has improved in recent months despite well publicized headwinds. Some of this improvement is due to improving services spending. Recovery is likely to accelerate as business formation, household formation, and jobs growth improve in concert and reinforce each other. Because the measurement of household formation, in particular, is problematic, the core driver of this symphonious recovery may not initially be visible, except in steadily improving jobs growth.

Exhibit 85 shows the stagnation in household formation relative to trend. In our view, this is already tentatively beginning to reverse itself but may take years to fully return to trend. We can bemoan the slow projected rate of decline in the unemployment rate, or we can interpret this as a welcome medium-term snowball-like force for sustaining economic momentum.

Those who move out of a big household into an empty housing unit are likely to lower their savings rates sharply, help boost the local real estate market, and in so doing raise the odds of more household formation also occurring. It is a self-reinforcing cycle of improving growth, and in the US, such a recovery is visibly spring-loaded. We believe that this is the key to returning both GDP and real house prices back to their long-term trends.

Exhibit 83: US real consumption of small discretionary goods and services

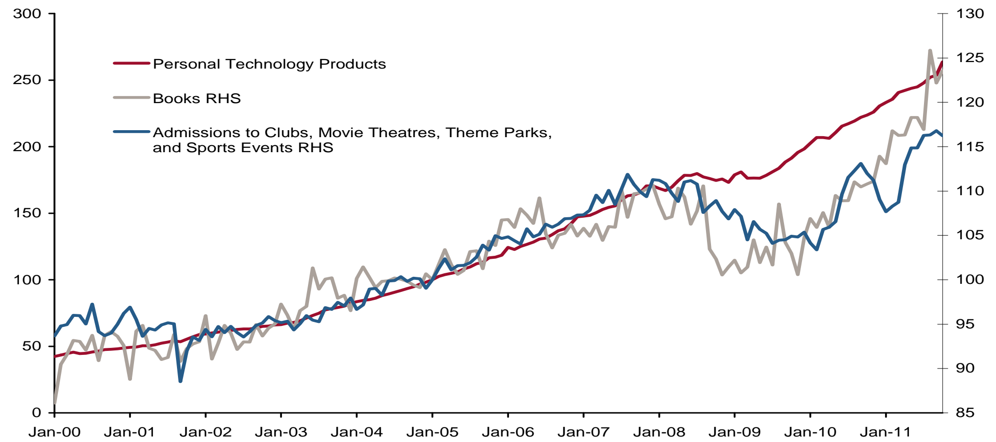


Exhibit 84: US real retail sales and real discretionary services spending

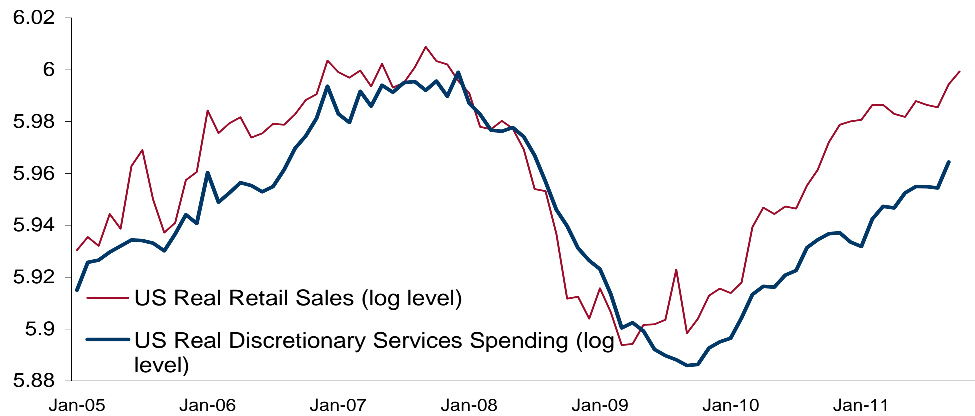
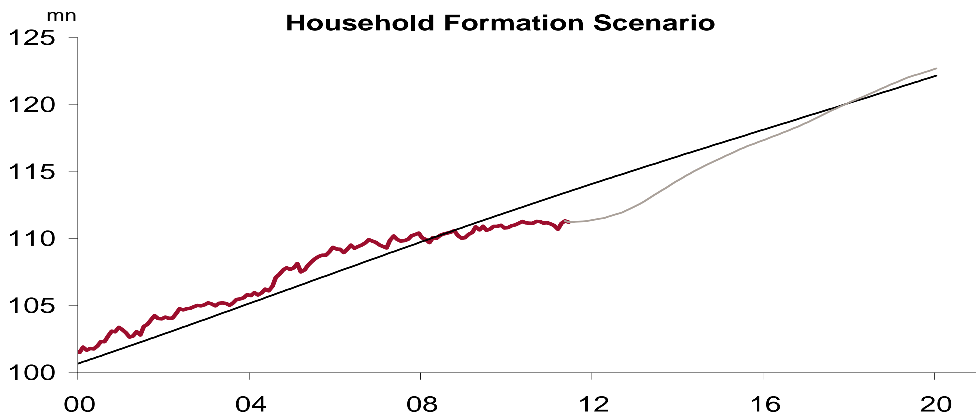


Exhibit 85: US household formation with projection



Source: Credit Suisse

The Double-edged Sword of Zero Rates

The dark side of ZIRP

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2012 Core Views

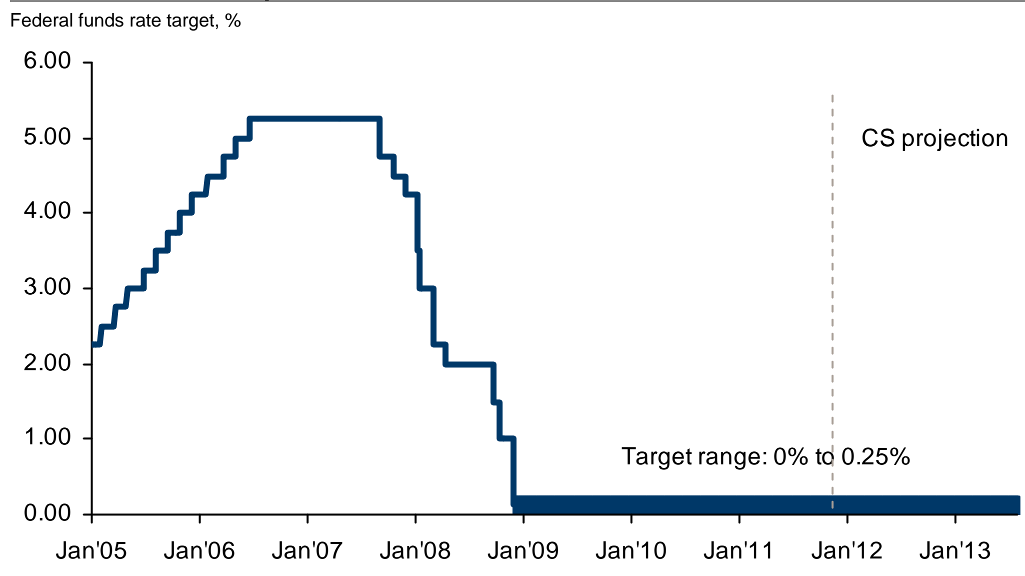
- The Fed's move to a zero-interest-rate policy (ZIRP) in 2008 was understandable, but ultra-low interest rates introduced a new set of problems.
- Japan's 12 ½-year experience suggests that once ZIRP is adopted, it is very difficult to reverse; normalizing policy and market rates become frustratingly elusive goals.
- Already in the US, there is evidence that ZIRP is posing a significant challenge to the profitability of traditional financial business models, much like we saw in Japan.

The US economy has been operating under a zero-interest-rate policy (ZIRP) for nearly three years. In December 2008, during the darkest days of the US financial crisis, the Federal Reserve lowered its operating target, the federal funds rate, to a range of 0%-0.25%. This historic monetary policy decision, not particularly contentious at the time, capped off a series of Fed interest rate cuts that totaled 525 basis points over 15 months.

The progression of events that necessitated these dramatic rate reductions, and the "unconventional" easing programs that followed, are well documented. The Fed was forced to respond during the crisis not only to a financial market seizure but also to the substantial damage done in terms of lost output, lost jobs, and lost wealth.

Exhibit 86: The sharp descent to zero interest rates

Federal funds rate target, %



Source: Federal Reserve, Credit Suisse

Considered in context, US policymakers' rush to a zero-interest-rate regime is understandable. However, that does not negate the fact that with ultra-low interest rates comes a new and different set of challenges. ZIRP is not costless.

Ultra-low interest rates tend to be more persistent than ultra-high ones

One serious consideration is that ultra-low interest rates tend to be more persistent than ultra-high ones. This partly reflects the asymmetry in the efficiency of monetary policy in stimulating versus restraining economic activity. It also partly reflects the arithmetic of fiscal sustainability: low interest rates suppress debt service costs for debtor governments, while high interest rates contribute to explosive debt-to-GDP dynamics.

Also, the exit from ultra-low interest rates is higher interest rates – that is, a bear market in bonds. Bear markets tend to expose and magnify financial fragilities; therefore, human nature tends to incline the monetary authorities to a more cautious pace of raising interest rates.

The problems that accompany extended periods of very low interest rates need not be solely theoretical. Already in the US, there is evidence that ZIRP is posing a significant challenge to the profitability of traditional financial business models by reducing the rewards of maturity transformation. The hardships are particularly acute among money market funds, life insurance companies, and pension funds. As we describe below, households, too, are in some ways suffering from the very policies that are intended to lessen their debt burdens and spur consumption.

In anticipating how the US adjusts to a protracted ZIRP, we can learn from Japan, which has been subject to the BOJ's zero-interest-rate policy (or a close approximation thereof) for the past 12½ years.

Japan's ZIRP triggered a massive income shift from households toward non-financial corporations and the government

Japan's ZIRP – and the ultra-low market interest rates that have accompanied it – triggered a massive shift of income away from households (savers) toward non-financial corporations and the general government (debtors). This might have turned out well if the transfer stimulated investment by the net debtor sectors, particularly by the corporate sector. But Japan has not witnessed such investment. Gross capital formation to GDP has declined continually over the last two decades (see the 22 September 2011 *Japan Economic Adviser: What has happened under Japan's zero interest rate regime? Part 1: Changes in the distribution of financial income*).

Very low market interest rates over an extended period in Japan have also perpetuated the fragility of the financial industry. As we are already seeing in the US, the traditional business models of life insurance companies and pension funds in particular have been challenged in Japan (see the 29 September 2011 *Japan Economic Advisor: Part 2: How has Japan's life insurance industry adapted to the low interest rate climate?* and 16 November 2011 *Japan Economic Advisor: Part 3: Performance of public pension funds has been undermined*).

Below, we discuss further the consequences of very low interest rates on these aspects of the Japanese economy. Then, we consider how ZIRP is affecting selected sectors of the US economy: households, money market funds, life insurance companies, and pension funds and non-financial corporate profits (for a more thorough treatment of the effects of low rates in the US, see the 21 November 2011 *US Economics Digest: The Dark Side of ZIRP*).

Japan's experience

The Bank of Japan Governor Masaaki Shirakawa once argued that a true ZIRP – that is, a policy aimed at keeping the weighted average of the overnight call rate at an extremely low level, such as 0.001% – could render the interbank lending market illiquid by making various transaction costs so expensive (in relative terms) that market participants are robbed of any incentive to do business.

This fear that the central bank might ultimately find itself unable to implement any form of interest rate targeting into the future is perhaps the main reason that the Shirakawa-led Monetary Policy Board has maintained a 0.0%-0.1% target range. But this is close enough to a zero interest rate policy for the purpose of this discussion.

The BOJ's inability to normalize market interest rates entails a substantial economic cost

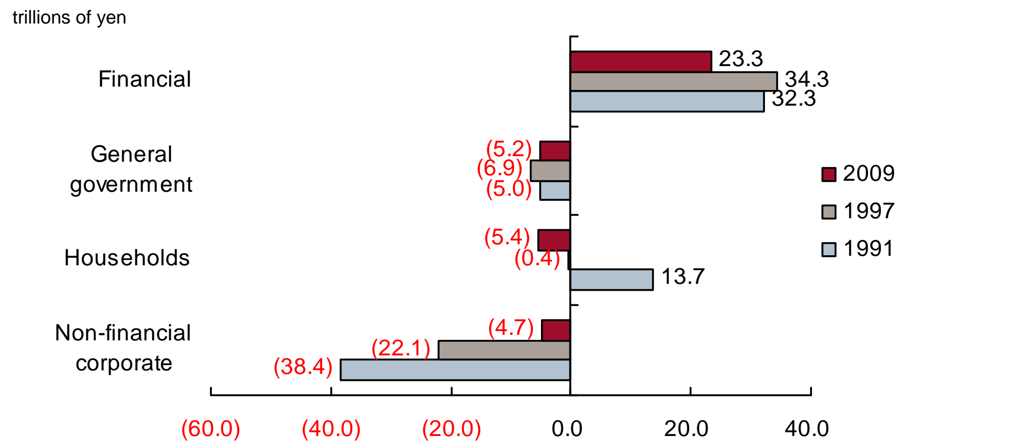
The BOJ has, of course, continued to deploy unconventional measures – such as buying REITs and equity ETFs via its Asset Purchase Program – in a bid to rescue the Japanese economy from its liquidity trap, but a failure to cap the yen's rise has ultimately proved very costly, with the continued weakness of stock and real estate prices making an exit from ZIRP appear even more remote. In other words, although the BOJ has so far been reasonably successful in maintaining a properly functioning interbank market, its inability to normalize market interest rates continues to entail a substantial economic cost. Ultra-low interest rates seem to be a bit like quicksand – once you're in it, it's awfully hard to get back out.

What is the economic cost of very low market interest rates over an extended period? Looking back on the experience of the last decade in Japan, we could describe the massive income transfer from savers to debtors as a cost (unless the transfer stimulates investment by debtors). Importantly, a sluggish economy with weak investment tends to lead to fragility of the financial industry, pension funds in particular, as they are much less capable of controlling revenue and expenditure, being more directly exposed to financial market performance. Below, we summarize some relevant observations.

Looking at net asset returns (or net debt costs), we observe material declines in net debt costs for the corporate and government sectors between 1991 and 2009, while net asset returns for the household sector turned negative.

Exhibit 87: Net interest receipts by sector in Japan

trillions of yen



Source: Cabinet Office, Credit Suisse

The non-financial corporate sector's net interest payments indeed fell from ¥38.4 trillion in 1991 to ¥4.7 trillion as of 2009, reflecting both sharp falls in the interest cost of debt and a significant paring back of net liabilities (financial downsizing). The general government's net interest payments remained almost unchanged despite a roughly 6.6-fold increase in net government debt for that period. The household sector was a net receiver of interest to the tune of ¥13.7 trillion, which was equivalent to 4.9% of household disposable income back in 1991, but has been making net payments since 1997, standing at ¥5.4 trillion or 1.9% of household disposable income in 2009 (Exhibit 87).

The zero-interest-rate policy and consequent very low market interest rates thus have triggered a massive shift of income away from households toward non-financial corporations and the general government. Problematically, such income transfer has proved to be ineffective in stimulating investment by the net debtor sectors, particularly by the corporate sector. Prevalent deflation expectations and inefficient capital allocation under delayed industrial reforms seem mainly responsible. Gross capital formation to GDP has actually declined non-stop over the last two decades. Arguably, the economy has suffered, on a net basis, from the deterioration of household income that probably weighed on personal consumption, perhaps particularly of the elderly.

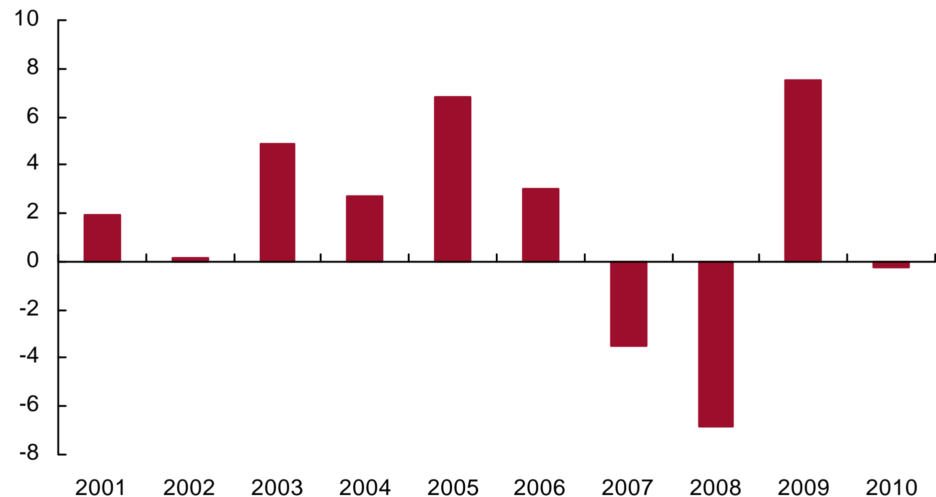
Life insurers in Japan benefitted from increasing longevity

Another apparent cost of Japan's low interest rate environment is the weakening profitability of **financial intermediaries**. As seen from Exhibit 87, net interest receipts of the financial industry decreased from ¥32.3 trillion in 1991 to ¥23.3 trillion in 2009. Although a relatively stable lending margin of depository institutions has helped underpin net interest income of the industry, **life insurers have faced a tougher profit environment.**

Yields offered on new policies have been lowered to reflect prevailing market interest rates, but life insurers still are saddled with negative margins as a result of the ongoing mismatch between assumed and actual yields. They have extended the scope of business while having accelerated streamlining (steady reduction of operating costs). In addition, life insurers have increased holdings of foreign securities and lengthened the average duration of JGBs. All of these factors, combined with reduced insurance payouts due to increasing longevity, allowed them to maintain a certain level of profitability up to 2007; the global equity market instability since 2008 probably lowered profits (detailed information on an aggregate basis is not yet available).

Exhibit 88: Annual investment return of public pension funds in Japan

Percent changes



Source: MHLW, GPIF, Credit Suisse

Pension funds are relying more on riskier assets

Importantly, investment portfolio re-allocation under the very-low-interest-rate environment has also been observed for **public pension funds**. Pension fund managers faced with sluggish premium revenue growth and increasing outlays have aimed to compensate by trying to generate higher returns on their asset portfolios. The share of foreign securities in the total asset portfolio, therefore, rose to 34% in 2007 from 19% in 2001. Ironically, this allocation shift prompted by very low rates weakened the profitability of public pension funds substantially into 2008 as domestic equity investment returns collapsed (Exhibit 88), leading to a rebound in the proportionate share of domestic bonds since 2009. Unlike life insurers, the pension funds are not able to control revenue and expenditure variables proactively, and a bigger reliance on riskier assets has increased their vulnerability. Poor domestic equity market performance has been largely attributable to the sluggish Japanese economy, which continues to suffer from the liquidity trap. In this sense, ineffectiveness of income transfer from savers to debtors looks like the cause of the problem.

The US experience to date

Household sector

Low interest rates have cut borrowing costs and have helped to reduce the debt burden for the household sector. These are welcome developments, as they promote balance sheet healing. But lower rates have also punched a significant hole in the consolidated household income statement. Personal interest income has collapsed over the last few years. The decline in interest income actually dwarfs estimates of debt service savings.

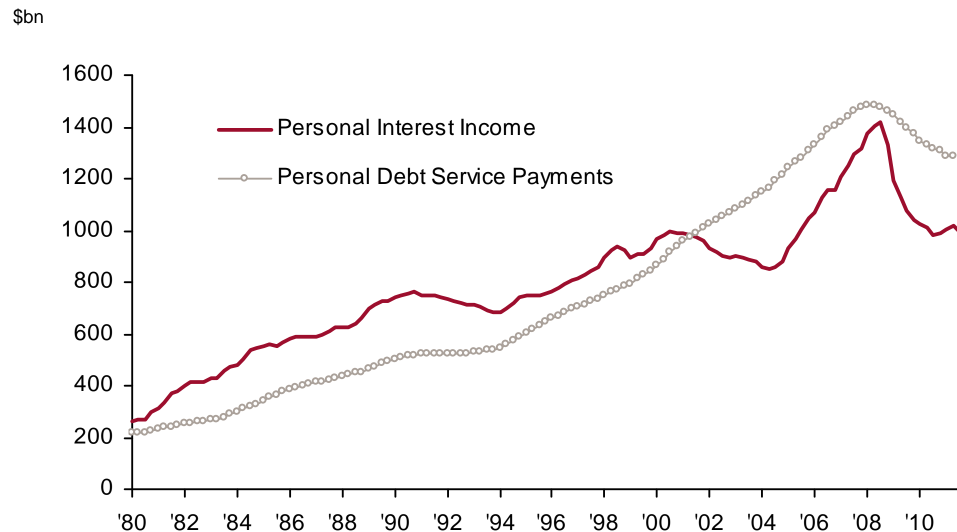
Interest income loss exceeds debt service savings

In Exhibit 89, we compare the evolution of household debt service costs and personal interest income. Both aggregates peaked over $1.4 trillion at roughly the same time – the middle of 2008. According to our analysis of Federal Reserve figures, total debt service – which includes mortgage and consumer servicing costs – is down less than $200 billion from the peak. The contraction in interest income amounts to roughly $425 billion from its peak, more than double the windfall from lower debt service.

A significant fraction of debt service reduction has been due to the cancellation of debt payments via mortgage foreclosures. So, if anything, the trade-off between foregone interest income and lower debt service is even more adverse than it appears in this chart.

Exhibit 89: Savers pay the piper

$bn



Source: Bureau of Economic Analysis, Federal Reserve, Credit Suisse

What these data hide are the distributional dynamics under the surface. Illustratively, the impact of lower interest income falls heavily on higher-income earners, who tend also to own more assets and thus earn the bulk of the aggregate interest income. Still, the effect is likely significant for certain segments of the population, notably retirees, who are forced into higher-risk/higher-yielding assets to replace diminished cash flow from safer assets (such as money market funds and CDs). Also, low interest rates contribute to the generalized phenomenon of low returns for retirees and near-retirees, which forces older Americans to remain in the labor force. Even as the participation rate has declined for most of the workforce in recent years, the participation rate in the over-65 cohort has increased.

Money market mutual funds

The domestic money market mutual fund (MMF) industry faces several challenges, including recent 2a-7 rule changes and prospects for additional regulation, motivated by the Reserve Primary Fund "breaking the buck" in September 2008. Also, the sovereign debt crisis in Europe has introduced increased credit risk to the normally liquid, high-quality money market paper that MMFs purchase from foreign banks. A related challenge is the reduced supply of top-rated commercial paper available for money funds to buy.

Most fundamentally, MMFs are being squeezed by ultra-low short-term interest rates and the prospect that those rates will remain very low for years. Particularly punishing, for example, was the FOMC's determination this past August that "economic conditions … are likely to warrant exceptionally low levels for the federal funds rate at least through mid-2013."

MMFs are struggling to earn enough on their low-yielding assets to cover expenses

In many cases, especially for government or Treasury-only MMFs, the funds are struggling to earn enough on their low-yielding assets to cover bare-bones expenses. Even prime money market funds, which have more leeway in the short-term paper they are permitted to purchase, are covering their costs by only very slim margins (Exhibit 90).

One effect – patently unattractive in the longer run – is that many money market funds have waived their fees to avoid a situation in which investors realize negative interest rates on their savings. Regulatory changes affecting the maturity of assets that money funds may hold and prospective changes relating to capital and accounting compound the industry's business model problem.

Exhibit 90: Money market funds struggling to cover expenses

Crane money fund indexes (October 31, 2011)

Taxable MMFs	Avg Weighted Maturity (days)	Expense Ratio (%)	7day simple ann. yield (%)	1yr total MMF return (%)	3yr avg ann. MMF return (%)
Money Fund Avg	**39**	**0.17**	**0.02**	**0.03**	**0.15**
Institutional	38	0.15	0.03	0.04	0.18
Prime	35	0.21	0.06	0.07	0.29
Government	39	0.13	0.01	0.02	0.14
Treasury	43	0.09	0.01	0.01	0.04
Retail	39	0.18	0.01	0.01	0.11
Prime	36	0.23	0.01	0.02	0.17
Government	40	0.13	0.01	0.01	0.08
Treasury	43	0.09	0.01	0.01	0.02

Source: Crane Data LLC, Credit Suisse

Those money market funds associated with larger investment companies with deep pockets could go on indefinitely in this environment. The parent company makes its money funds whole, when necessary, with earnings generated by its other products. This arrangement can persist as long as the parent company considers it worth the cost to keep investors' liquid savings "in the family," perhaps in the hopes of eventually encouraging customers to move a portion of their cash into higher-yielding, wider-margin investment classes.

Keeping investments in house is itself a struggle for financial firms in this environment. With near-zero interest rates for cash and near-cash alternatives, the opportunity cost of parking money in an FDIC-insured savings account as opposed to a MMF becomes practically insignificant. Cash is migrating from money funds, and a significant portion of the outflow is going into savings accounts at depository institutions.

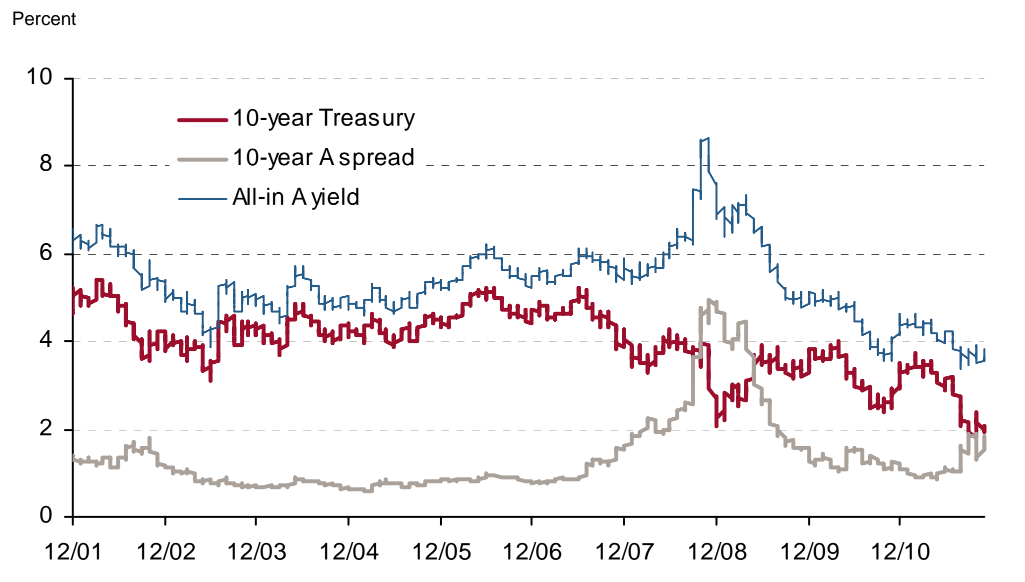
Life insurance companies

The prospect of a prolonged period of low interest rates and a public fixed income market that continues to suffer from a scarcity of high-quality assets compounds the issue and raises serious concerns about the potential impact on the US insurance industry. Insurance companies have reacted by evolving their investment behavior at the margin, but there is an increasing conviction that the asset side of the balance sheet provides only a limited solution for the income and earnings needs of the industry. Weathering and eventually thriving in a prolonged low-rate environment will require strategic and potentially wrenching business decisions, well beyond the scope of asset allocation and asset risk tolerance.

Long-term interest rates have arguably been below ideal levels for the insurance industry for most of the last decade. Ten-year single-A investment yields have bounced between 4% and 6% since 2001 (Exhibit 91), levels that were already below many guaranteed policy rates and long-term actuarial assumptions (generally in the 6%-6.5% range). Since early 2010, the picture has only gotten worse.

Exhibit 91: Long-term rates below ideal levels for the insurance industry

Percent



Source: Credit Suisse Locus, Credit Suisse

Insurers are exposed to the triple threat of stable, falling or rapidly rising rates.

Insurers remain exposed to the triple threat of stable, falling, or rapidly rising rates. The sole hope for the industry would be a gentle return to higher yields. But given the level of volatility evidenced in the rates market since 2007 and the market's increased tendency toward a fast and resolute reaction, this benign scenario appears to be a low-probability outcome.

The insurance industry is also facing a dramatic shortage of spread investment product. The securitized debt market that was a significant source of assets for the industry has shrunken significantly since its peak in 2005-2007. Net new issuance in high-grade corporates has been fairly healthy, but the industry now suffers from a crowding in to high-grade credit risk, where they already maintain significant exposure.

In addition to buying high-grade public corporate bonds, the industry has a limited number of tools available to alleviate the strain. In recent quarters, insurance asset managers have been increasingly looking away from the public securities markets to help. Insurers with the appropriate capabilities have been increasingly directing investment flows toward private-placement debt, direct lending, particularly in commercial real estate, and alternative asset classes. In addition, at the margin and on a limited basis, companies have increased their reach for yield by adding to below-investment-grade bonds and loans.

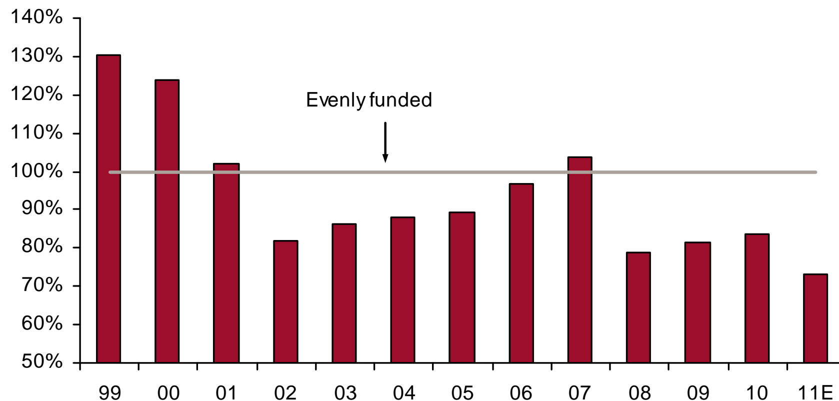
Pension funds and the corporate sector

Low interest rates pressure private and public pension funds

Falling interest rates, as well as a weak stock market, continue to beat up on corporate pension plans. As of early October, Credit Suisse's accounting and tax analyst, David Zion, estimated that defined benefit plans of S&P 500 companies were underfunded by $477 billion (or 72% funded). That's a $228 billion fall from the $249 billion in underfunding as of the most recent reported year-end (84% funded). (For a more detailed discussion, see Credit Suisse's accounting team's report *From Bad to Worse: S&P 500 Pension Underfunding Hits $477 billion*, 10 October 2011.)

Exhibit 92: S&P 500 pension plan funded status

Total pension assets/total pension obligations of all S&P 500 companies



Source: Credit Suisse Accounting and Tax Analysis Team *2011E includes actual funded status for January to June fiscal year-end companies

State and local government pension shortfalls have been another source of concern in recent years. In a few states, such as California and Illinois, pension funding has become a major political controversy. Estimates of the total size of unfunded liabilities at states and localities range widely. Some studies have pegged the shortfall as high as $3 trillion, while others put the unfunded liability at a more manageable, though still large, $700 billion.

Corporate profits

Interest savings account for almost 40% of margin expansion

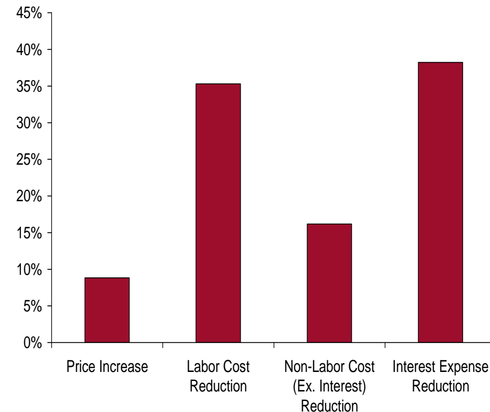
While pension obligations are under increasing pressure from lower interest rates, the reduction in interest expense has been a boon for corporate profits. In the non-financial corporate sector, "unit profits," or profits per unit of gross value added (a proxy for the aggregate profit margin), are up 72% since the recession trough in 2Q 2009. Unit profits can rise in one of two ways – either unit prices go up or unit costs (labor and non-labor costs, such as depreciation and interest expense) go down.

Exhibit 93 shows the sources of margin expansion since mid-2009. The reduction in interest expense is an even larger contributor to margin growth than the more widely chronicled fall in unit labor costs. Diminished interest expense amounts to 38% of the margin expansion, compared to 35% for unit labor costs. Higher prices and low depreciation expense have been smaller contributors (9% and 18%, respectively). Once interest rates reach a low point and stabilize, further increases in profitability would have to come from raising prices, lowering unit labor costs, or reducing investment and hence depreciation charges.

The stock market has not really appreciated that profit surge. Over the last decade, the dollar value of US GDP has risen about 45%, corporate profits an eye-popping 133%, and the S&P 500 hardly at all. The conventional wisdom that lower interest rates energize stock prices has not worked well in this particular episode.

Exhibit 93: Sources of profit margin expansion during the recovery

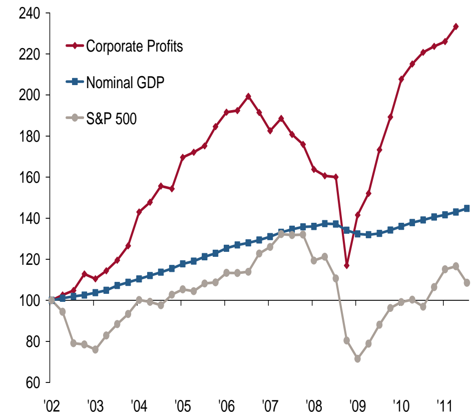
Per unit of real gross value added, non-financial Corporate business, pretax basis



Source: Bureau of Economic Analysis, Credit Suisse

Exhibit 94: Profits, GDP, and stock prices over the last decade

1Q 2002=100



Source: Credit Suisse

The evidence to date suggests that there is a dark side to ZIRP

Any cost/benefit analysis of the Fed's zero-interest-rate policy will be, by its nature, unsatisfactory. It is a complex undertaking that yields inconclusive results. Clearly, the Fed is not blind to the hardships that ultra-low interest rates pose for some sectors of the economy, a list that far exceeds the illustrative discussions in this note. But the majority of monetary policymakers believe that not pursuing ZIRP (and the unconventional easing programs that followed) would have led to even more painful outcomes.

In the question-and-answer portion of his post-FOMC press briefing on 2 November 2011, Chairman Bernanke addressed some of the most common criticisms of ZIRP directly:

> "We are quite aware that very low interest rates, particularly for a protracted period, do have costs for a lot of people. They have costs for savers. We have complaints from banks that complain that their net interest margins are affected by low interest rates. Pension funds will be affected if…low interest rates for a protracted period require them to make larger contributions.
>
> "So, we're aware of those concerns and we take them very seriously.
>
> "I think the response is, though, that there is a greater good here which is the health and recovery of the US economy. And for that purpose we've been keeping monetary policy conditions accommodative, trying to support the recovery, trying to support job creation.
>
> "After all, savers are not going to get very good returns in an economy which is in a deep recession. I mean, ultimately if you want to earn money on your investments you have to invest in an…economy which is growing.
>
> **"And so we believe that our policy will ultimately benefit not just workers and firms and households in general, but will benefit savers as well, as the returns that they can earn on their investments will improve with the improvement in the economy."**

We could speculate, but we never really will know what would have transpired had the Fed stopped short of driving interest rates to ultra-low levels. But the evidence to date, and the lessons learned from the Japanese experience, do suggest that there is a pronounced dark side to ZIRP.

Demographics: In Sickness and in Old Age...

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2012 Core Views

- Fiscal sustainability in rich countries requires the renegotiation of pensions, health care, and long-term care promises. This may begin as part of current austerity programs.
- The old, in terms of their characteristics and behavior, vary across countries; this, along with differences in levels of promises made to them, leads to different fiscal strains.
- Renegotiations of benefits should be part of a rethinking of holistic policy reforms covering labor markets, education and retraining, pensions, health care, and taxes.

We believe that demographics pertains to people's characteristics – people as consumers and workers, not just their numbers but also their changing behavior over time. In this section, we provide a demographic perspective on the fiscal sustainability of the G6 countries: the US, Japan, Germany, France, Italy, and the UK.

Public debt and fiscal sustainability (public pensions, health care, and long-term care)

Demographics underlies fiscal sustainability pressures of old advanced countries

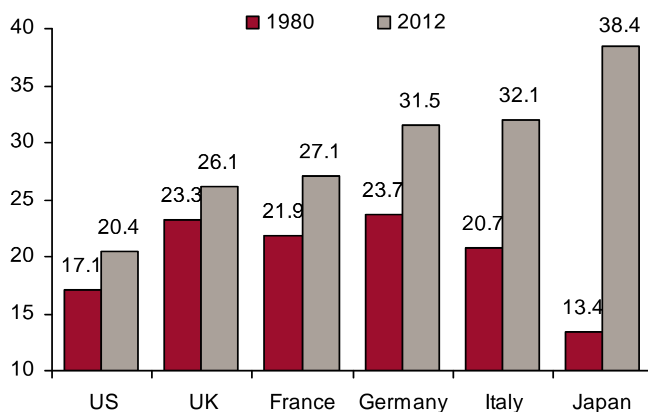
Demographics is one of the factors underlying the current turbulence in many First World countries regarding fiscal sustainability. To varying degrees, nearly all these countries face a looming demographic challenge as the relatively large generation born after the Second World War enters an old age that medical science seems likely to continue to make longer. The burden of sustaining these people falls heavily on public budgets that are already strained by the weak and uncertain growth environment that has followed the financial crises and recessions of recent years.

Old-age dependency ratios influence pensions and health care obligations. But this focuses on the numbers of old

The current levels of public pension and health care outlays may not be sustainable in many jurisdictions. These long-term promises were made, presumably in good faith, in the past, yet today there is doubt about the ability of governments to honor them in the future. Growing numbers of old people, along with generous government promises to them, are straining the outlook for public budgets, worsening the public debt-to-GDP ratios in a currently weak growth environment. Exhibit 95 shows the increasing old-age dependency ratios (ratio of number of 65+ year olds per 100 working age people) over 1980-2012 across the G6.

Exhibit 95: Old-age dependency ratio

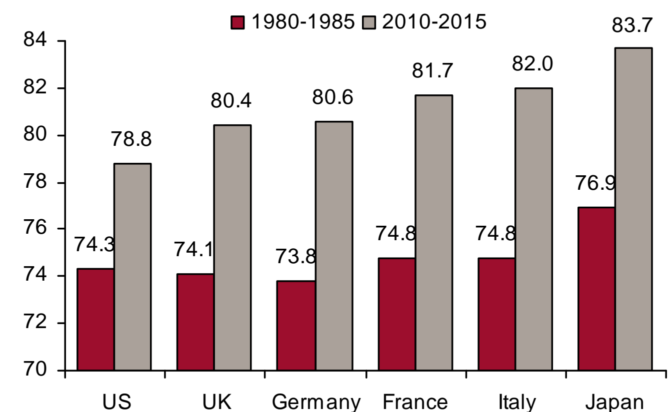
Ratio of population aged 65+ per 100 of population aged 15-64



Source: UN, Credit Suisse

Exhibit 96: Life expectancy at birth

Years



Source: UN, Credit Suisse

Japan, Germany, and Italy have the highest ratios. Note that the dramatic increase in this ratio for Japan has been caused by a combination of increased life expectancy and lower fertility rates.

The increased longevity (life expectancy) at birth in G6 countries is shown in Exhibit 96. Note the difference between longer-lived consumers and workers on average in the US and Japan – they are vastly different, a point that challenges those who see the US following Japan in terms of its "lost decades" experience.

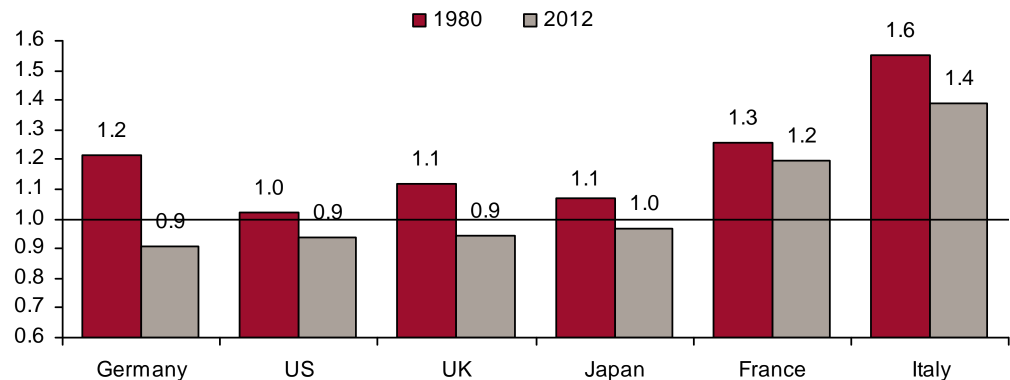
Economic dependency ratios need to be considered along with old-age dependency ratios to understand the drivers of fiscal burdens

In addition to the old-age dependency ratios that are defined using age ranges, it is useful to look at another dependency ratio – the economic dependency ratio, which is defined as the ratio of non-workers to workers – i.e., it considers the work status of people.

Exhibit 97 shows that the non-worker to worker ratio is above 1 for Italy and France, reflecting the fact that many people retire before the official retirement ages. (For many countries, this ratio was higher in 1980 and before because of a concentration of children in the population; now, the ratio is more reflective of the elderly.) While Germany, the US, the UK, and Japan have made the adjustment from the boom periods of the 1980s, Italy and France have to cope with the burden of many more non-workers. This raises a further question: why should Germany or other countries with a lower proportion of non-working retirees pay for other countries? Germany is among the oldest countries in the world, and with its own fairly generous promises to its old, it will have its own fiscal problems with which to deal.

Exhibit 97: Economic dependency ratios – the G6 compared

Ratio of non-workers to workers



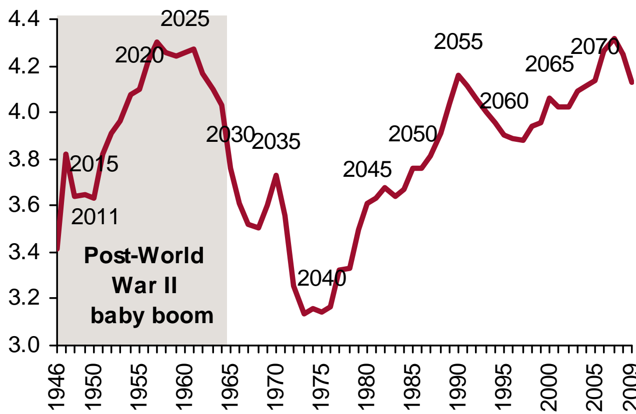
Source: ILO, Credit Suisse

US and Japan are dramatically different in terms of their underlying demographics and pressures on fiscal sustainability

Exhibit 98 and Exhibit 99 further illustrate the differences between the US and Japan in terms of the pattern of the number of 65-year-olds: while the numbers in the US are expected to increase over the next 15 years, in Japan they should actually decrease over the next few years. The X-axis indicates the year of birth, and the year they turn 65 is marked on top of the curve, while the Y-axis indicates the number of live births. The US is now only in the foothills of retirement mountain, which explains a lot of the difficulty the so-called Super Committee had in finding a politically suitable mix of revenue and entitlement cuts to try to improve the federal government's medium-term fiscal outlook.

Exhibit 98: US – Number of live births and the year they turn 65

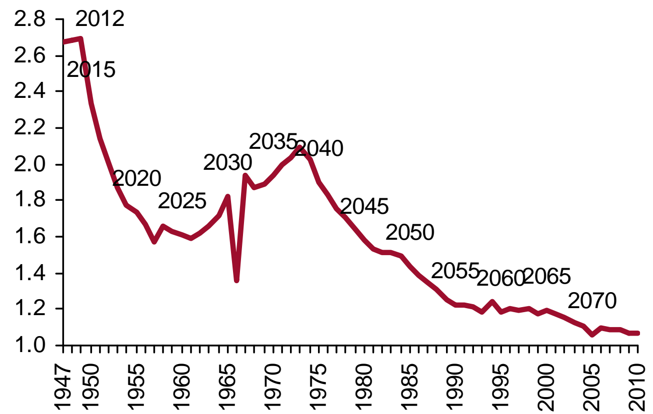
Live births in millions. The year they turn 65 marked on top of the line.



Source: US Census Bureau, Centers for Disease Control and Prevention, Credit Suisse

Exhibit 99: Japan – Number of live births and the year they turn 65

Live births in millions. The year they turn 65 marked on top of the line.



Source: Japan Ministry of Health, Labor and Welfare, Credit Suisse

Political and entrenched positions resist the needs for benefit renegotiations and eligibility changes

Exhibit 100 shows forecasts for the age-related pensions, health care and long-term care expenditures as a percentage of GDP across the G6 countries for 2010 and 2012. European countries also devote a large share of their benefit expenditures to help people cope with the costs of old age, sickness and health care, and disability – 73% in Germany, 75% in France, 83% in Italy, and 84% in the UK in 2009, according to Eurostat. Proposals to deal with these claims on the public purse are naturally contentious. Increasing the age at which citizens become eligible for public pensions and/or health care or long-term care is often seen as changing a social contract that many had relied upon. Cutting benefits for those already eligible to receive them is even more fraught politically.

Exhibit 100: Age-related government expenditure forecasts

Percentage of GDP

		US	Japan	France	Germany	Italy	UK
Pension	2010	4.8	9.7	13.5	10.2	14.0	6.7
	2012	4.8	10.1	13.5	10.2	14.0	6.7
Health care	2010	5.5	7.1	8.2	7.6	5.9	7.6
	2012	5.3	7.4	8.3	7.7	6.0	7.7
Long-term care	2010	-	1.5	1.5	1.0	1.7	0.8
	2012	-	1.7	1.5	1.0	1.7	0.8

Source: European Commission, Congressional Budget Office, Japan National Institute of Population & Social Security Research, Credit Suisse

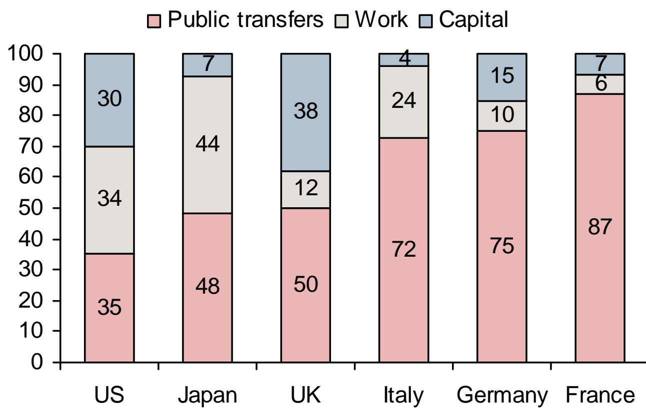
Exhibit 101 shows the differences across countries in terms of share of old-age income provided by alternate sources. In the case of public transfers, note the lower fractions for the elderly in Japan and the US, meaning that they are more likely to need supplementary incomes, from working after the official retirement age, tapping into personal savings, or relying on family support.

Not only are the number of old people different across countries, BUT the promises made to them are also very different

Exhibit 102 presents gross pension replacement rates for the G6 countries. A replacement rate is the ratio of gross pension entitlement divided by pre-retirement income. Italian replacement rates, for example, are nearly double those of Japan (although both are "old" countries). Contrasting Japan with Italy, we note that while Japan has higher old-age dependency ratios, its public pension promises are much lower than those of Italy, France, and Germany – not just the number of old people but also the generosity of promises need to be examined to tackle fiscal sustainability. There are real issues of intergenerational equity involved here that make the budget negotiations that much more complex. There are also real issues of international equity when political leaders in one country must ask their citizens to provide support to the public finances of another country whose citizens enjoy more generous old age and other public benefits.

Exhibit 101: Income sources of the old in the G6

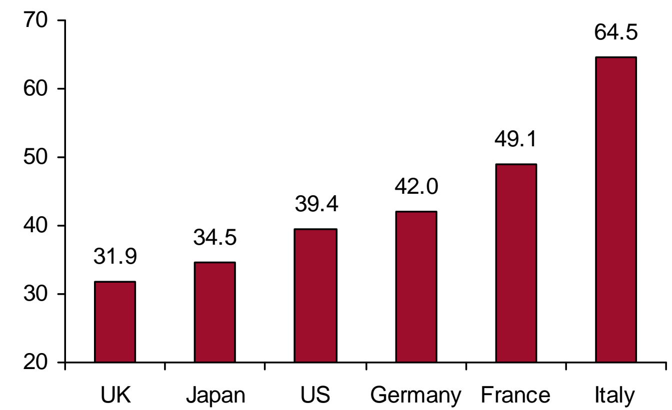
Mid-2000s



Source: OECD, Credit Suisse

Exhibit 102: Gross pension replacement rates for the average male earner

Gross pension entitlement divided by gross pre-retirement incomes, 2008



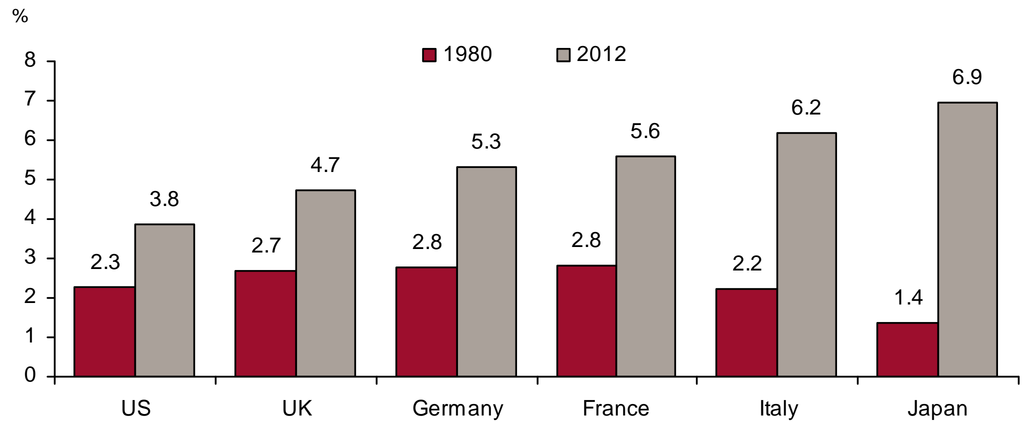
Source: OECD, Credit Suisse

The fastest-growing segment of the world's population is that aged 80+. At nearly 110 million (out of a total of nearly seven billion), it has quadrupled in numbers since 1970. We also show in Exhibit 103 the proportion of the population that is 80+ across the G6, which shows that these countries have seen very different rates of growth in the relative size of their 80+ populations. This directly and very non-linearly affects the expenditures incurred in different countries on public health for the very old.

Health expenditures are more problematic than pensions given uncertainty about longevity and higher benefits promised in boom period of 1980s and 1990s

Exhibit 103: Growth in share of 80+ aged population – the G6

%

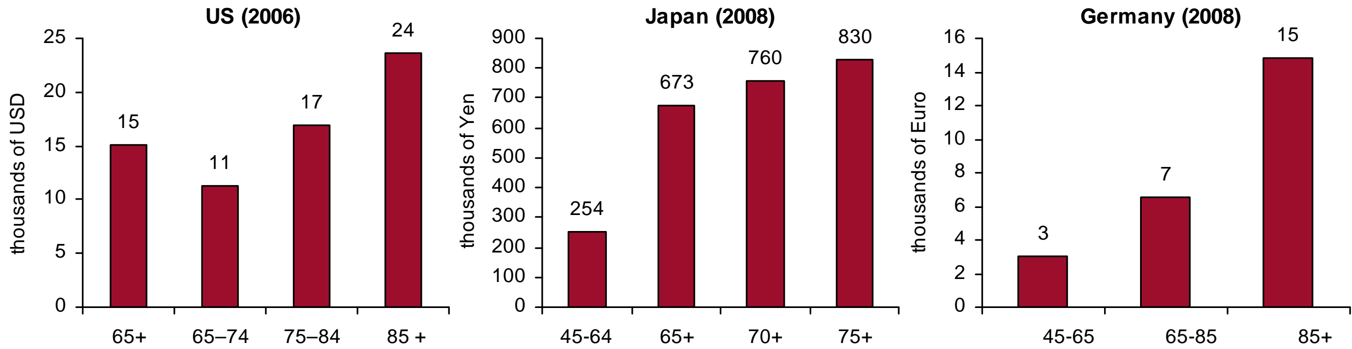


Source: UN, Credit Suisse

In Exhibit 104, we show the disproportionate increase in health care expenditures in these countries directed at the very old. This is one of the largest burdens that advanced societies have had to cope with in conjunction with smaller, younger populations, with higher taxes, lower benefits, delayed retirement, and more active lifestyles in combination providing at least a partial and more acceptable solution in these societies.

Exhibit 104: Healthcare expenditure by age

US: average annual health care costs for Medicare enrollees aged 65+; Japan: national health care expenditure per capita; Germany: cost of illness per capita



Source: The Federal Interagency Forum on Aging Related Statistics, Japan Ministry of Health, Labor and Welfare, Federal Health Monitoring System of Germany, Credit Suisse

The bottom line is that these promises are burdensome and that countries need to understand the true worth and cost of such promises before renegotiating them. The renegotiations should be part of a rethinking of holistic policy reforms covering labor markets, education and retraining, pensions, health care, and taxes.

Fixed Income Research: 2012 Core Views & Trade Ideas

2012 Core Views

Product Area	2012 Core Views
Macro Trade Risk/Reward [S. Shepley, D. Homan]	• Europe remains the focus in 2012. We look for trades that could benefit from adoption of non-conventional easing by the ECB. • Cross-asset correlation is at extremes, driven by this year's de-risking, and could moderate in 2012. This skews our choice of assets to those likely to be driven by the ECB's policy response: specifically, we favor selling EURUSD calls to buy SPX calls. • While waiting for a policy response, money market and generic equity downside appear better risk/reward than downside in bank equities as portfolio protection.
Commodities [R. Deverell]	• Over the next 12 months, we expect many industrial commodities to recoup some of the losses experienced over the second half of this year. • In the short term, however, pricing is likely to continue to be driven primarily by macro sentiment, with the risks to the downside. • If the troubles in Europe are not contained, prices for many industrial commodities are likely to fall as we enter the new year, potentially heavily.
European Credit Strategy [W. Porter]	• The current situation is unsustainable, and events are accelerating fast. On current trends, we are headed to a major redesign of the capital markets. • There is a "bezzle" of approximately €1 tn in the euro. Until it is acknowledged and eliminated, stability is likely to be elusive. Bank capital market instruments look to be in line for a substantial contribution. • The situation has closed the credit markets in many important respects, particularly for banks. In one good case, there would be a defining crisis by the end of 1Q 2012, followed by a recovery on different terms for the rest of the year; winning banks would be likely to win big eventually. There are likely to be bad cases as well.
Global Leveraged Finance Strategy [J. Blau]	• As macro concerns have increased, the high yield market has become more correlated with economic measurements (e.g., GDP growth, inflation expectations). • Spread compensation above default loss has increased dramatically since the end of 2008. • Default rates should be low in 2012, despite a weak economy. However, we expect default rates to increase slightly above 2011 levels and to continue to rise in 2013.
EM Strategy [K. Bartholdy]	• In the face of rising risk of a very bad euro-zone scenario, we currently approach both the EM rates market and EM sovereign credit with a high dose of caution • We think that spreads for EM sovereign debt and similarly rated US corporate debt will widen in parallel as and when the euro-zone crisis escalates. In a deep crisis, we believe that high-yield debt is likely to underperform high-grade debt, not only in terms of absolute increases in yields but also in terms of percentage spread widening. • Currency-hedged EM local rates receiver positions offer some inbuilt protection and are likely to outperform long credit positions in a crisis, but they are still subject to substantial risks after their strong performance since late 2008.
Latin American Corporate Credit [J. Nicholson]	• The outlook for Latam economic growth and corporate operating performance appears to be relatively resilient, but selectivity will be key. • In general, Latam credits have good liquidity and only minimal upcoming debt maturities, although some sectors are now facing negative credit trends. • Valuations in Latam credit continue to be attractive, in our view.
Emerging European Credit [J. Nicholson]	• We prefer high-grade (HG) to high-yield (HY) credit as a result of euro area growth concerns and increased market volatility. • We remain bearish on the Kazakh and Ukrainian banking systems given their weak asset quality, lack of growth opportunities, and structural legacy weaknesses. • The healthy credit fundamentals of our corporate universe, in our view, are likely to justify spread tightening should risk sentiment improve.

2012 Core Views

Product Area	2012 Core Views
FX Strategy [P. von Maydell]	• We expect higher yield currencies to underperform, as flight-to-quality favors the USD and the JPY, reflecting the historically narrow yield spreads and elevated event risks. • EMFX performance in the short run remains sensitive to the downside skew on the global growth outlook. • However, we have a more positive long-run outlook for the non-commodity EM plays than for the G10 periphery.
European Rates [H. Haworth]	• Pressures on Germany are likely to lead to higher Bund yields on 12-month horizon, but the path is unlikely to be smooth. • We expect central banks to remain accommodative – with rates lower for longer, leading to a curve that is flatter out to five years and steeper thereafter. • In the UK, we expect gilt yields to remain low with an expansion of QE and low growth expectations.
US Rates [C. Lantz]	• US rates are likely to remain low throughout 2012 as a result of growth concerns, resilient commodity prices, costly regulatory reforms, shrinking safe assets, and easy monetary policy. • QE3 is likely to begin in the first half of the year, focusing on the belly of the curve in Treasuries and current-coupon MBS.
Japan Rates [K. Kawano]	• The structural part of the macro economy continues to be a focal point, and we expect 10yr JGB yields to stay in a 0.8%-1.5% range throughout 2012. • Although we do not expect substantial yield increases, temporary upward pressure should strengthen in 1H 2012 after the prolonged low volatility environment in 2011. • Key issues when constructing trade ideas include range-bound trading, the continuing appetite for stability over growth, the VAT debate, and normalization of excess moves.
AUD/NZ Rates [J. Kerr]	• Solid momentum in economic growth remains intact, but Australia's biggest strengths are also the nation's biggest weaknesses. • Threats to Asian growth (compounded by sharp declines in commodity prices) and/or a prolonged seizure in funding markets are likely to determine the severity of any downturn. • Monetary policy has been eased back to a "more neutral" setting. The asymmetrical risk is toward an assertive easing in policy to (and through) the lower bound.
Securitized Products [D. Westhoff]	• MBS should outperform rates based on strong supply/demand, contained prepays, and attractive carry. Banks, money managers, REITs, and the Fed should be buyers. • Non-agency RMBS remains one of the cheapest asset classes, in our view. However, headline risk and weak technicals should drive performance in the medium term . • For 2012, we have a more balanced but still constructive view on CMBS performance and value. Wider spreads are a positive, but economic and other headwinds persist.
Alpha Strategies [B. Smith]	• Extremely low interest rates in the developed world have created significant challenges to investors focused on earning stable, current income. • We explore how alpha strategies across major asset classes can be an attractive alternative for income-oriented investors. • Low correlation among strategies yields significant benefits to combining indices.
Technical Analysis [D. Sneddon]	• Global Risk Appetite medium-term "buy" signal is likely to be maintained into 1Q/2Q 2012. • 10yr German yields are at risk to 2.55%, then 2.80/90%. • The 5yr US swap spread is likely to widen, and the 10s30s US bond curve is likely to flatten to 79/77bp. • We are bearish NZD and AUD in the FX risk complex and favor shorts, preferably versus the GBP, but also versus USD and EUR.

2012 Thematic Trade Ideas

Product Area	2012 Thematic Trade Ideas
Commodities [R. Deverell]	• Buy Dec 13 WTI call options, capturing tail risks on supply disruptions. • Buy six-month XAUEUR 25 delta risk reversals (buy call, sell put) to gain exposure on gold, assuming further euro weakness.
European Credit Strategy [W. Porter]	• Short bonds on basis on the "AAA tranche": Sell DBR Jul16 versus receiving matched maturity swap and selling CDS. • Build short in credit, particularly financials and high yield, during rally we expect into 9 December meeting as part of the disappointments cycle, ahead of a very difficult Q1.
Global Leveraged Finance Strategy [J. Blau]	• For US high yield for 2012, we project total returns to be 6%-9% and defaults 1%-3%. For US leveraged loans, we project total returns to be 2%-5% and defaults 1%-2%. • We prefer higher-rated bonds, such as Split BBs (bonds rated BB by one agency and B by the other).
EM Strategy [K. Bartholdy]	• Those EM sovereign dollar debt investors who share our bearish euro-zone view should expect general spread-widening and should especially shy away from overweight positions in the highest-yielding sovereigns. • In EM rates, we recommend a payer position in Russian local currency rates. We find it instructive to remember the recent crisis experience: Russia saw severe currency depreciation pressure and sharp local market yield increases in late 2008.
Latin American Corporate Credit [J. Nicholson]	• As a result of current global market volatility, we recommend a balanced strategy with a mix of liquid HG and HY names: investors are currently defensive, but meaningful total return performance will need to be generated by select higher-yielding credits. • We continue to prefer domestic consumption, infrastructure, and certain low-cost commodity plays. • We favor credits in Peru and, more selectively, credits in Mexico and Brazil. We are increasingly cautious about Argentina and the impact that high inflation and currency vulnerability can have on domestic focused corporates.
Emerging European Credit [J. Nicholson]	• We like the HG/ quasi sovereign names in Russia especially at the shorter end of the curve. • Well positioned HG issuers outside Russia include, in our view, KazMunayGas (BBB-), Garanti Bank (BBB-), Akbank (BBB-), and Development Bank of Kazakhstan (BBB-). • We also like well positioned HY issuers with solid liquidity in the BB range.
FX Strategy [P. von Maydell]	• We favor being long SGD against a 70/30 basket of USD and AUD. • We recommend bullish USDCHF seagull structures. • We recommend selling USDJPY-USD/G10 correlation via dual digitals. • To position for a further breakdown in EUR-based correlations, we favor EUR worst-of options.
European Rates [H. Haworth]	• We recommend receiving EUR 1yr1yr/2yr1yr versus GBP. • We recommend receiving EUR 2s5s10s 1yr forward. • We recommend paying EUR 10s30s 2yr forward.
US Rates [C. Lantz]	• We recommend receiving the 2yr rate, 3yr forward, which appears cheap based on the likely path of short rates.

2012 Thematic Trade Ideas

Product Area	2012 Thematic Trade Ideas
Japan Rates [K. Kawano]	• We recommend barbell longs on the 5yr/7yr/10yr butterfly trade. • We like JPY 10yr/20yr conditional bear flatteners. • We recommend normalization trades, such as long swap spreads in the super-long sector and/or paying USDJPY basis.
AUD/NZ Rates [J. Kerr]	• The supply of "safe" AAA assets is diminishing, and Australia is increasingly seen as a viable alternative. Our global view of lower-for-longer yields translates to AUD. • Heightened fear should continue to drive front-end pricing, and volatility is likely to remain elevated until the European situation is resolved, one way or another. • We recommend a long duration bias, favoring short-end flatteners, and FRA-OIS and swap spread wideners and received cross-currency basis as hedges to systemic risks.
Securitized Products [D. Westhoff]	• We recommend being long FN 4 hedged with 10yr swap, structurally long IOS, short 15/30 basis, and long GN/FN 3.5 swap. • We recommend an overweight on high-coupon Prime and Alt-A fixed and long-term ARMs, a barbell portfolio risk profile via POA dupers and Subprime LCF, and an underweight on Subprime current pays. • In CMBS, to protect against some of the downside risks, we advocate staying relatively high up in the capital stack until there are clearer signs of a more robust economic recovery.
Alpha Strategies [B. Smith]	• Novel carry strategies in commodities (Custom 88 Long/Short Index) and interest rate markets (Adaptive Term Premium Index) offer attractive risk-adjusted return profiles. • Adaptive volatility strategies in equities (Global Carry Selector, CS ACE) and rates (CSAVI) have delivered solid performance in the face of challenging markets.
Technical Analysis [D. Sneddon]	• Short 10yr Germany on a break above 2.35%, for 2.80/90%. • 5yr US swap spread widener. 10s30s US bond flattener. • Buy GBPNZD for 2.29/33; buy GBPAUD for 1.8145; buy EURNZD for 1.95/98; buy EURAUD for 1.5463; sell NZDUSD for .6560/6405; sell AUDUSD for .8050/7950.

Macro Trade Risk/Reward

Cross-asset trading in a time of uncertainty

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2012 Core Views

- Europe remains the focus in 2012. We look for trades that could benefit from adoption of non-conventional easing by the ECB.
- Cross-asset correlation is at extremes, driven by this year's de-risking, and could moderate in 2012. This skews our choice of assets to those likely to be driven by the ECB's policy response: specifically, we favor selling EURUSD calls to buy SPX calls.
- While waiting for a policy response, money market and generic equity downside appear better risk/reward than downside in bank equities as portfolio protection.

As argued throughout this *Outlook*, the European debt crisis remains central to our thinking on market outturns in 2012 and in the near term represents a very real threat to valuation of assets and market functioning. Our EUR rate strategists set out the expected reaction to the introduction of a broader ECB QE program [see European Rates] while here, we present a number of cross-asset ideas that build on our core views for 2012. Given the high degree of uncertainty in markets, we explore both ideas with a bullish bias on risky assets as well as ideas designed to protect portfolios should conditions deteriorate further. Our framework attempts to identify trades, often structured for zero initial premium, where the structure and pricing of volatility markets provide favorable risk-reward for large directional market moves. Indicative pricing for these structures was calculated the week of November 28, and is likely to move substantially in the current volatile environment.

Trading for recovery

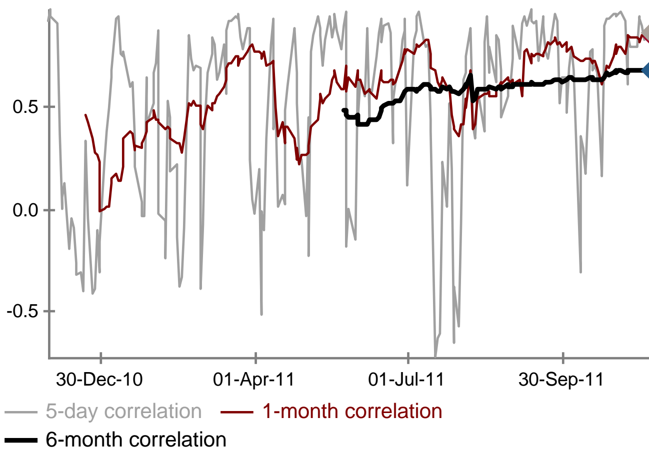
Over the past few months, capital markets have been held hostage to the unfolding debt crisis in Europe. The violent gyrations across nearly all markets since August have been characterized by declining trading volumes and liquidity, and increased correlation across asset classes. Increasingly, trading days are characterized as "risk-on" or "risk-off", with very few periods where one asset class stands out as a clear outperformer.

This market behavior is not surprising, and has indeed been a characteristic of crisis periods in modern financial markets. At the same time, however, the extreme sensitivity of markets to a one-factor "risk-on/risk-off" world is unlikely to persist for an extended period of time. Unless the global economy plunges into a deep recession, not our base case, but certainly a tail risk, assets are likely to show signs of differentiation in 2012.

Indeed, some assets are already showing signs of decoupling. Anecdotally, many of our colleagues and customers have noted the recent tendency for both 10yr US rates and EUR/USD, two popular "risk" hedges, to fail to respond meaningfully when risky assets sell off. As Exhibits 105 and 106 illustrate, these anecdotes are correct over the very short term, where five-day correlations of EUR/USD and 10yr Treasury returns to the S&P 500 have eased from the highs, but longer periods of observation show a heightened level of correlation versus recent history.

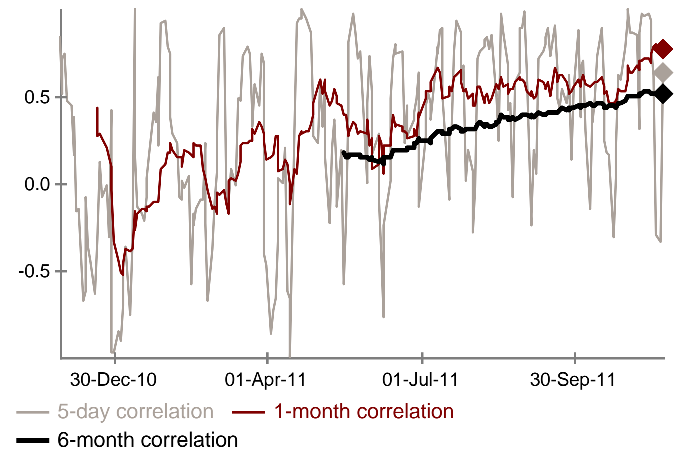
Exhibit 105: Correlation S&P 500 to 10yr Treasury

Correlation of returns



Source: Credit Suisse

Exhibit 106: Correlation S&P 500 to EUR/USD



Source: Credit Suisse

One way to position for an eventual breakdown in correlation across assets is to simply position long of one asset and hedge the position with a beta-weighted short in another asset that exhibits a high degree of correlation. To achieve success, such trades need to be constructed with consideration to underlying fundamentals. For example, an investor who was long in US equity markets, hedged with a beta-weighted short in European equities from July 2011, would have fared quite well in the second half of this year.

We prefer to structure cross-asset growth trades where implied betas run much higher than historical betas

Option markets provide another mechanism to express the view, and in many cases, allow investors the opportunity to enter cross-asset spread trades at implied correlations (or by extension, implied betas) that are higher than historical correlations (or historical betas).

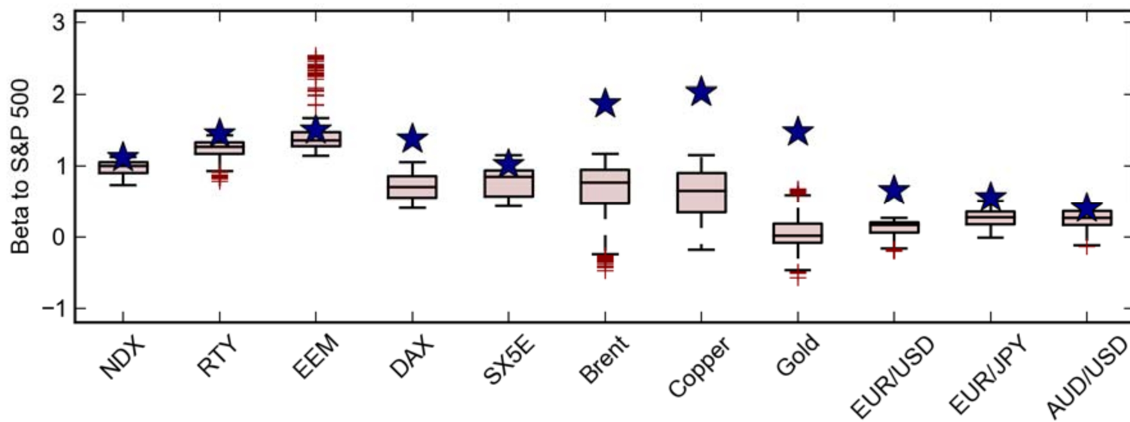
Exhibit 107 illustrates this analysis by comparing a selection of assets to the S&P 500. The boxplots show the historical beta relationship between the asset and the S&P 500, indicating the median, inner quartile, 25%-75% range and outlying points. Meanwhile, the blue stars indicate the current implied beta between the assets using 6-month, 30-delta call options. In the case of Brent crude, for example, the graph would show that although Brent trades with an average beta of about 0.75 to the S&P 500, an investor who buys 30-delta calls on the S&P and funds them through a sale of 30-delta calls on Brent would obtain an implied beta of about 1.90.

In our opinion, the most interesting opportunities are ones where implied betas are significantly far away from the historical beta and outlier points. Specifically, in the context of this analysis, buying upside in the S&P 500 appears to be attractive versus selling upside in the DAX, Brent oil, Copper, Gold, and EUR/USD.

These opportunities exist largely because of the relative pricing of optionality in the two markets. Specifically, S&P 500 call volatility tends to trade at a discount to at-the-money volatility, while volatility in the DAX, commodities, and EUR/USD markets reflects the macro “jump” risks that can result in the current environment.

Exhibit 107: Cross-asset beta to S&P 500

Implied by 30-delta options (blue stars) and historical (red box plot)



Source: Credit Suisse

As an indication of where these trades can currently be executed, we present zero-cost combinations for the most promising opportunities below in Exhibit 108. Trades are sized assuming the investor spends $25mn in premium on six-month, 30-delta S&P 500 calls and makes a corresponding sale of 30-delta calls in another asset to fund the purchase. All of these trades have unlimited loss exposure, should the call option sold appreciate significantly in value versus the S&P 500 calls, but in our opinion, the strikes are attractive and justify the risk. At the same time, it is likely the case that a severe "risk-off" episode from current levels would result in all options expiring out of the money, in which case the investor would realize no profit or loss. For the interest-rate payer swaptions, we present the implied betas as the number of basis points that interest rates can sell off through their strikes to offset a 1% increase of the S&P 500 call option through its strike. For example, the value of 7.5 bp for US 10yrs would imply that a sell-off of 10yr swaps to 2.758% at expiration (a 7.5 bp move beyond the strike of 2.683%) would be offset by a move of the S&P 500 to 1340 or higher (a 1% rally through its strike of 1327).

From a fundamental perspective, the trades are most attractive for investors who believe that the US economy can continue to decouple from Europe (in the case of S&P 500 versus Dax or EUR/USD options), or those who believe that a services-led recovery in the US can continue while commodity-driven growth moderates. Investors who believe quantitative easing and other measures by central banks will keep interest rates low for the foreseeable future may choose to express those views by funding risky asset upside through the sale of interest rate payer swaptions.

Exhibit 108: Zero-cost outperformance combinations versus S&P 500 calls

Indicative pricing on 6-month, 30-delta options

Underlying	Quantity	Notional (USD)	Call/Put	Expiration	Spot Ref	Moneyness	Strike	Vol	Price	Premium (USD)	Implied beta vs. S&P 500
S&P 500	673,631	893.8mn	Call	15-Jun-12	1193.8	111%	1327	24.76%	37.11	25mn	1.00
Nasdaq	326,277	813.0mn	Call	15-Jun-12	2224.67	112%	2492	26.08%	76.62	25mn	1.12
Russell 2K	856,238	685.6mn	Call	15-Jun-12	696	115%	801	32.52%	29.20	25mn	1.45
EEM	15,555,970	684.0mn	Call	15-Jun-12	37.74	117%	43.97	33.75%	1.607	25mn	1.50
DAX	93,372	615.2mn	Call	15-Jun-12	5723	115%	6589	27.81%	267.75	25mn	1.38
SX5E	222,989	544.2mn	Call	15-Jun-12	2210	110%	2441	29.53%	112.11	25mn	1.02
Brent (CON2)	54,336	676.8mn	Call	11-Jun-12	105.1	119%	124.6	35.62%	4.60	25mn	1.87
LME Copper	863	730.1mn	Call	11-Jun-12	7265	117%	8465	32.10%	289.85	25mn	2.03
Gold		740.0mn	Call	15-Jun-12	1712	115%	1971	29.36%	3.38%	25mn	1.47
EUR/USD		1230.0mn	Call	15-Jun-12	1.3342	107%	1.4278	15.30%	2.03%	25mn	0.65
EUR/JPY	(USD terms)	1465.0mn	Call	15-Jun-12	104.12	106%	110.14	15.84%	2.33%	25mn	0.55
AUD/USD		1170.0mn	Call	15-Jun-12	0.9910	105%	1.0384	15.96%	2.13%	25mn	0.40
Terminal Risk (USD/bp)											**Bp per 1% S&P 500**
EUR 5yr	1.474mn	3120mn	Payer	15-Jun-12	2.311%	0.320%	2.631%	46.65%	0.80%	25mn	6.1bp
EUR 10yr	1.371mn	1560mn	Payer	15-Jun-12	2.862%	0.390%	3.252%	41.44%	1.60%	25mn	6.5bp
US 5yr	1.420mn	2925mn	Payer	15-Jun-12	1.622%	0.195%	1.817%	52.29%	0.85%	25mn	6.3bp
US 10yr	1.189mn	1300mn	Payer	15-Jun-12	2.363%	0.320%	2.683%	47.29%	1.93%	25mn	7.5bp

Source: Credit Suisse

Protecting the downside

We believe that the current course of euro area policy will cause substantial and unnecessary economic hardship. The destruction in collateral values across the financial system – and particularly in EUR sovereigns – is very likely to create extreme challenges for bank solvency in some areas.

Money markets are stressed, but LIBOR spreads can continue to widen

Hence, even though money market bases have widened sharply in recent weeks, we continue to see value in seeking portfolio protection in short-dated LIBOR structures. As a simple expression of that view, Exhibit 109 shows the different dynamics in short-dated LIBOR futures and options.

Exhibit 109: Selected front-end LIBOR futures and cost of OTM put options

Pricing as of 9am, 25 November; put options are selected to be close to 30 bp OTMF

	3m fix	Jan	Jan put options	Mar	Mar put options
EUR	1.41	1.285	1.50% 6.5 ticks; 1.625% 4.75 ticks	1.22	1.625% 9.25 ticks
USD	0.51	0.70	1.00% 10 ticks	0.81	1.00% 14.5 ticks
GBP	1.03	1.09	1.375% 6 ticks	1.19	1.375% 11.5 ticks; 1.50% 9 ticks
JPY	0.33			0.34	0.375% 4 ticks

Source: Credit Suisse

In particular, we highlight the striking difference in 3m roll for EUR versus the other major markets – reflecting the market's expectation of an ECB rate cut in December, Euribor is priced to decline by 19 bp by March in contrast to a 30 bp rise in USD LIBOR and a 16 bp rise in GBP LIBOR. JPY TIBOR (where the 3m fixing has been unchanged since late August in contrast to other LIBOR fixings) is priced to be just 1 bp higher by March.

As a result, when we consider the cost of buying OTM puts to protect against an extreme deterioration in bank funding, the relative value in structures in Euribor stands out. For instance, at expiry, a rise in 3m USD LIBOR of 59 bp from the spot fixing is required for a January 30 bp OTMF 1.00% put to break even, whereas the break-even rise in 3m Euribor on a January 34 bp OTMF 1.6275% put is 26 bp. Given that it is euro area collateral that is at the heart of the current value destruction, we think that this offers attractive risk/reward.

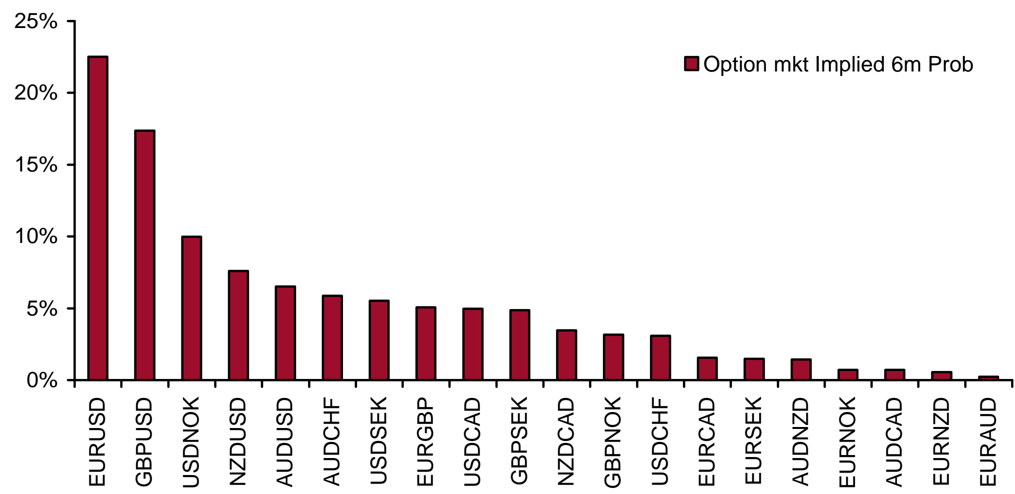
In each case, the risk for an investor is limited to the premium paid.

In FX, as one indication of relative value in different currency pairs, our derivatives strategist Aditya Bagaria takes as a benchmark the extremes in different currency pairs reached following the Lehman failure and considers the market pricing of the probability of reaching those levels during the next six months. To do this, he takes the premium on various digital options in the various currency pairs as an indication of the probability distribution.

Look to USDSEK and USDCAD for value in risk-off FX trades

Exhibit 110 shows the result for the G10 currencies and Exhibit 111 for selected EM currency pairs.

Exhibit 110: Implied probability of hitting post-Lehman lows within 6m: G10 FX (%)

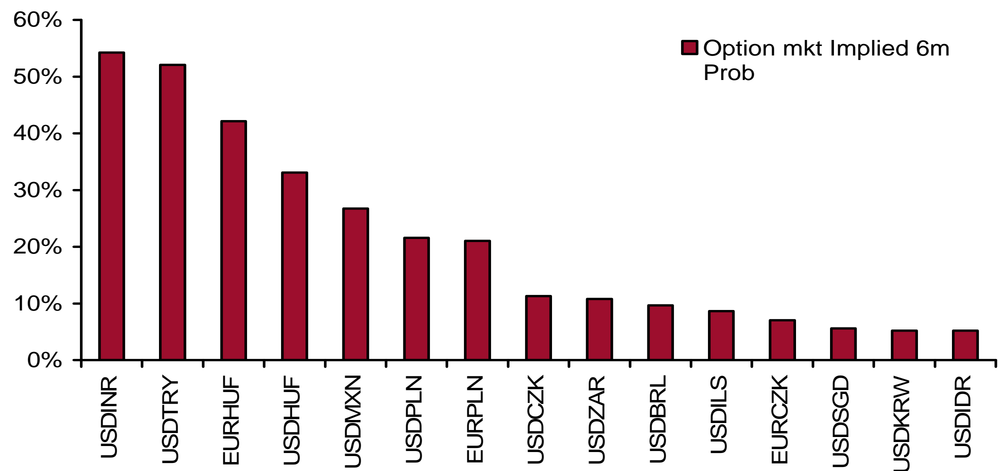


Source: Credit Suisse

The analysis shows that, unsurprisingly, EURUSD options discount a relatively high probability of finishing below the post-Lehman lows (just below 1.20) in six months' time, while in EM, INR, TRY, and HUF are all priced at a greater than 40% chance of breaching their post-Lehman lows in six months' time.

The analysis also highlights the relative cheapness of USDSEK and USDCAD in particular for investors expecting a generalized phase of risk aversion.

Exhibit 111: Implied probability of hitting post-Lehman lows within 6m: EM FX (%)



Source: Credit Suisse

Cross-asset comparison of downside structures

Generic index downside structures represent the best value for downside protection

As a final gauge of the risk/reward in different assets to express a view of generalized risk aversion, we evaluate downside option strategies for a group of risky assets across equities, commodities, and FX. We use the 6m beta to SPX as a way of estimating the required exposure to each underlying asset and then calculate the cost of buying this exposure in 25-delta puts.

Exhibit 112 displays the results, summarizing the comparison across assets in the form of the net premium the investor must spend for equivalent risk exposure.

Exhibit 112: Beta-weighted downside option strategies

25-delta, 3m put options of exposure equivalent to 100mm SPX. 6-month betas used to calculate equivalent notionals.

Product	Beta vs SPX	Notional	Spot	Strike	Forward	% OTM (vs fwd)	Vol	Option price	Net premium
Russell 2k	1.36	73.5mn	676.80	592.95	674.93	-12.1%	47.03%	25.27	3.13mn
SPX	1.00	100.0mn	1,168.60	1,047.67	1,164.71	-10.0%	36.72%	33.04	3.15mn
Nasdaq	0.95	105mn	2,170.75	1,954.39	2,169.60	-9.9%	36.73%	62.44	3.36mn
XLF	1.35	74.1mn	11.73	10.15	11.67	-13.1%	52.51%	0.50	3.65mn
EEM	1.24	80.6mn	36.22	31.51	35.91	-12.2%	49.96%	1.49	3.82mn
EWZ	1.16	86.2mn	54.99	47.92	54.05	-11.3%	50.99%	2.29	4.11mn
SX5E	0.86	116mn	2,856.00	1,875.00	2,110.47	-11.2%	42.88%	72.27	4.48mn
EUR/USD	0.23	435mn	1.34	1.27	1.34	-5.5%	18.63%	1.506%	5.16mn
HG Copper	0.62	161mn	392.30	294.50	330.95	-11.0%	40.98%	11.38	6.23mn
WTI Crude	0.72	139mn	96.71	85.20	97.20	-12.3%	48.28%	4.05	6.61mn
XPD	0.58	174mn	590.55	528.00	591.86	-10.8%	39.66%	20.98	6.90mn
SX7P	1.00	100.0mn	117.26	99.67	117.15	-14.9%	66.56%	7.13	7.15mn
AUD/USD	0.25	400mn	0.9773	0.910	0.969	-6.1%	21.08%	1.744%	7.67mn
HSI	0.16	625mn	17,935.10	16,141.59	17,921.28	-9.9%	36.86%	553.89	21.45mn

Source: Credit Suisse

Exhibit 113 offers a graphical representation of the results, showing the net premium required for exposure to each asset along with the difference between the forward and the strike of the put option purchased.

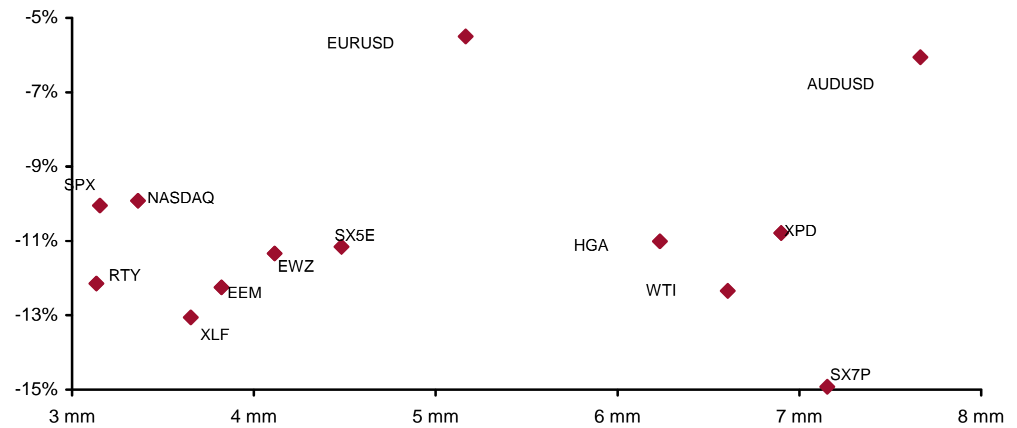
It highlights that most equity assets are concentrated toward the southwest corner, indicating a low premium cost but a relatively high distance from the forward. Exposure to commodities is achieved at similar levels from the forward to equities, but at a cost typically at least 50% higher. EURUSD and AUDUSD, with lower implieds but also lower betas, offer strikes closer to the forwards (6% OTM), with AUD being the more expensive.

SX7P – the Euro Stoxx banks index – stands out as an outlier. Over the last six months, it has a beta of 1 versus SPX, but, at 66.5%, implied vols are far higher than for the other assets we consider.

At this stage, we think that investors are likely to find better value in having exposure to generic risky asset downside through SPX and use the premium saved compared with SX7P options to purchase puts in LIBOR product or on USD calls, as shown above.

Exhibit 113: Cost of premium (x-axis) versus strike less forward (y-axis)

25-delta puts, Feb-2012 expiration



Source: Credit Suisse

Commodities

Living in a macro world

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2012 Core Views

- Over the next 12 months, we expect many industrial commodities to recoup some of the losses experienced over the second half of this year.
- In the short term, however, pricing is likely to continue to be driven primarily by macro sentiment, with the risks to the downside.
- If the troubles in Europe are not contained, prices for many industrial commodities are likely to fall as we enter the new year, potentially heavily.

Thematic Trade Ideas

- Buy Dec 13 WTI call options, capturing tail risks on supply disruptions.
- Buy six-month XAUEUR 25 delta risk reversals (buy call, sell put) to gain exposure on gold, assuming further euro weakness.

Despite macro clouds, physical markets generally remain tight

Fundamentals likely to reassert themselves

As with most risk assets, industrial commodity prices have generally moved in lock-step with global risk appetite over the past six months, despite significant variations in the underlying fundamentals. While this pattern is likely to continue until we get a clearer idea of the likely path in Europe (with views on the probability that the profound issues facing Europe will drag down growth in North America and China changing daily), at some point the fundamentals should begin to reassert themselves (hopefully sooner rather than later).

Once this process begins, markets should once again turn their focus to the micro fundamentals of individual commodities. Or, to put it another way, once the panic begins to subside, markets should begin to assess to what extent the falls over August and September reflected fears about what might happen, rather than what has actually happened.

To this end, it is worthwhile stepping back from the daily fray and forming an assessment of where we actually stand in terms of supply and demand. As we discussed in *A Macroeconomic Proxy for Basic Materials Demand*, when assessing the price of industrial commodities, on the demand side it is both the level of activity and the rate of change in consumption that ultimately drive price. While much market focus remains on North Atlantic GDP, for basic materials, global measures of industrial production and fixed asset investment are the key drivers.

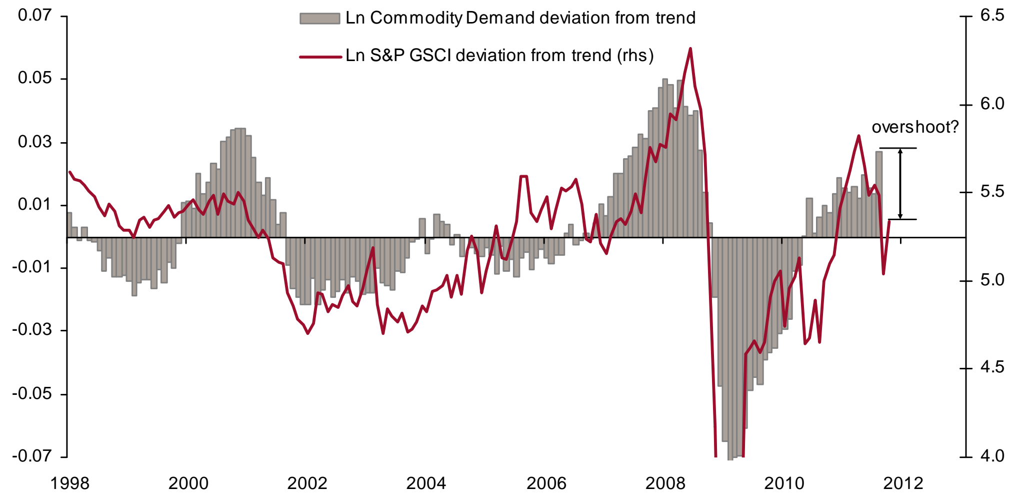
Despite the continued (and well founded) fears of economic collapse, the data to date provide strong support to the anecdotal evidence that continues to suggest that many micro fundamentals are stronger than recent pricing. Notwithstanding the slowdown in the North Atlantic countries early in the year, and the recent very weak data in Europe, the level of both global fixed asset investment and industrial production remains high, with both at or slightly above trend.

When these measures are aggregated, and adjusted for the scrap intensity of production in EM and developed economies (the Credit Suisse macro proxy for basic material demand), it is clear that rather than being weak, the level of demand for basic materials at a global level has remained relatively strong through 2011 (Exhibit 114).

- Given the relatively stable relationship between our proxy for basic material demand and broad measures of commodity prices (Exhibit 114), we continue to believe that the fall in many prices in August and September may have been more a reflection of fears about what might happen than a function of current weakness.
- In part, the fall in August and September was probably driven by a general withdrawal of risk capital from financial markets.

Exhibit 114: Macro proxy for industrial commodity demand

Levels, March 1980 = 100



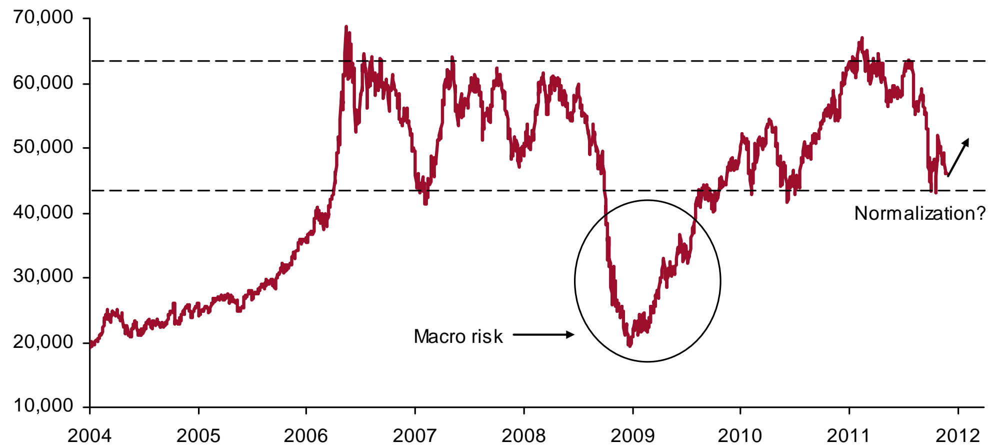
Source: the BLOOMBERG PROFESSIONAL™ service, Credit Suisse Global Strategy

In line with this, although many commentators have questioned whether the current price of many commodities is reasonable given the macro uncertainties, we believe that the weakness in recent months is suggestive of much worse economic outcomes than have actually occurred to date. For example, as seen in Exhibit 115, the price of copper in RMB has essentially traded sideways in a stable range since 2005, with the current price at the bottom of that range.

In our view, global growth would need to weaken noticeably for the price of copper to fall substantially on a sustained basis from the current level (the only time this occurred in the past six years was in the free-fall seen post Lehman). If global growth stabilizes, as our economists expect, we believe that the most likely outcome would be for copper to move back toward the middle of this range by the end of 2012.

Exhibit 115: Is copper really expensive? Not to us...

LME copper price in RMB

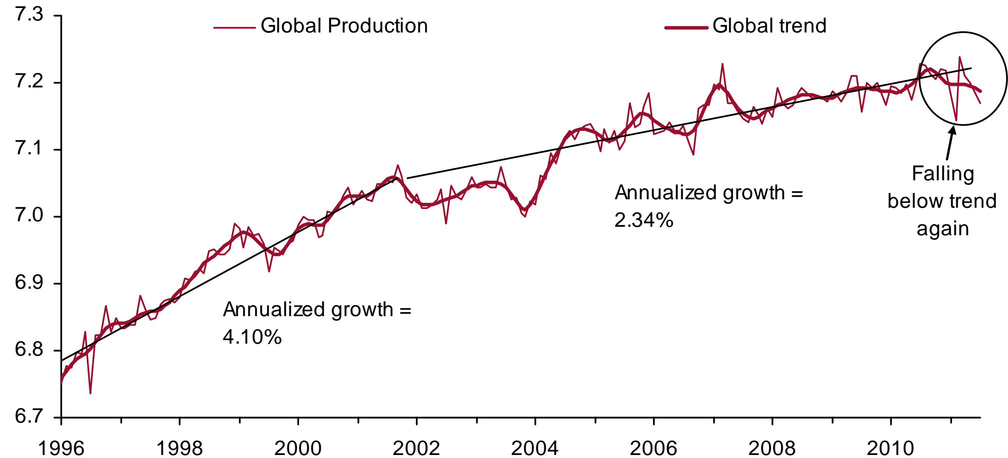


Source: the BLOOMBERG PROFESSIONAL™ service, Credit Suisse

With underlying demand still strong, it is noticeable that for several commodities (copper, and oil are the standouts), supply has continued to struggle over the past year, contributing to still very tight markets (see Exhibit 116 and *Oil From 30,000 Feet: Structurally Tight*).

Exhibit 116: Global copper ore production

Natural logs, Kt



Source: the BLOOMBERG PROFESSIONAL™ service, WBMS, Credit Suisse

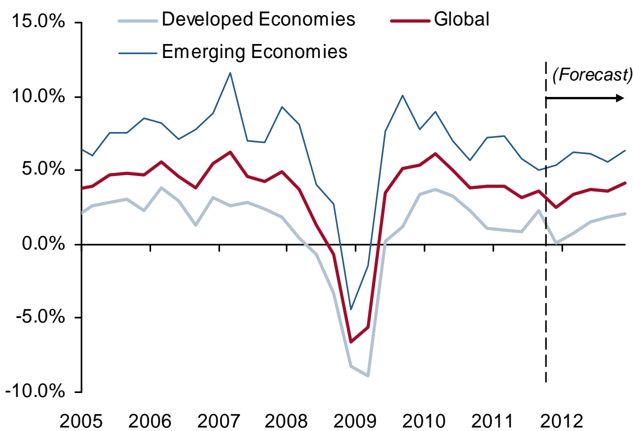
The outlook

Although we believe that the starting point for many commodities remains positive, with the fall in prices over recent months greater than warranted by the backward-looking fundamentals, pricing will ultimately be driven by what happens next, with the outlook highly uncertain on both the demand and supply sides.

On the demand side, despite substantial risks, it is reassuring that our global economic research team continue to expect global GDP to grow at around its long-run average in 2012.

Exhibit 117: Global GDP growth and forecast

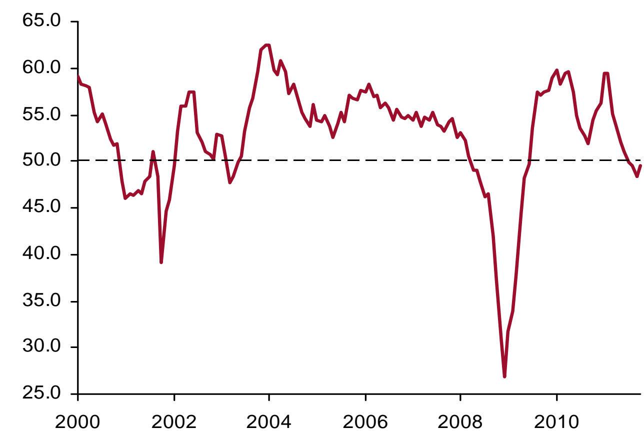
qoq SAAR



Source: the BLOOMBERG PROFESSIONAL™ service, Credit Suisse estimates

Exhibit 118: Global manufacturing PMI new orders

Level



Source: Markit Economics

We expect a similar performance for fixed asset investment and industrial production. Although IP growth has slowed over the most recent period, it is notable that the new orders component of the global PMI in October appeared to be suggesting that the global IP slowdown may be coming to an end, with the US improving modestly despite weakness in Europe, while the much-sought-after policy-driven Chinese "soft landing" looks to be occurring.

Although the risks on the demand side are, in our view, clearly to the downside, as outlined in the economics section of this publication, it is notable, that this is also the case on the supply side, where large tail risks remain. This is particularly the case for those commodities, such as oil and copper, for which supply has struggled to keep up over recent years. Although not part of our central scenario, the possibility of further disruptions to supply – whether through geopolitical disturbances, strikes and breakdowns, or weather-related disruptions – remains a possibility.

Notwithstanding the high level of uncertainty, our central scenario is broadly unchanged from that outlined previously (see *Commodity Forecasts: "A Dangerous New Phase…"*), although the timing of any recovery is likely to have been pushed toward the second half of 2012. In particular, we continue to expect many of the commodities that have fallen significantly over recent months to recoup some of those losses in the second half of next year – note that prices are likely to remain highly volatile over the next few months, with the risks in the first half of the year to the downside (see *Living in a MAD world*).

- If, however, events in Europe continue to spiral out of control, with growth in the rest of the world slowing materially, commodity prices are unlikely to be immune, with prices likely to slump (possibly substantially) from current levels.

Trade ideas

Oil: Buy call options on the December 2013 WTI futures contract. Strike of $130/b at cost of ~$4/b (first published in November 2010). Downside risk is limited to the cost of the premium paid. This trade

- Provides upside tail risk in the case of a supply disruption;
- Captures the implied value of supply and demand trends, which emerge as system risk recedes; and
- Adds a kicker from any further normalizing of the Brent/WTI spread.

Gold in euros: Buy six-month XAUEUR 25 delta risk reversal (buy call, sell put). Risk are for losses should skew shift to the left (put vol rises more than the call and/or gold drops and euro rallies). This trade

- Provides upside exposure to risks in the euro area, taking advantage of volatility skew.

Credit

European Credit Strategy

The lessons of (very recent) history

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2012 Core Views

- The current situation is unsustainable and events are accelerating fast. On current trends, we believe that we are headed to a major redesign of the capital markets.
- There is a "bezzle" of approximately €1 tn in the euro. Until it is acknowledged and eliminated, stability is likely to be elusive. Bank capital market instruments look to be in line for a substantial contribution.
- The situation has closed the credit markets in many important respects, particularly for banks. In one good case, there would be a defining crisis by the end of 1Q 2012, followed by a recovery on different terms for the rest of the year; winning banks would be likely to win big eventually. There are likely to be bad cases as well.

Thematic Trade Ideas

- Short bonds on basis on the "AAA tranche": Sell DBR Jul16 versus receiving matched maturity swap and selling CDS.
- Build short in credit, particularly financials and high yield, during the rally we expect into 9 December meeting as part of the disappointments cycle, ahead of a very difficult 1Q.

It's only a stupid trillion euro (again…)!

This year has come to be dominated by macro risk imposed by the euro crisis. Our contribution to the debate, going back 18 months, has been simple. Namely, that government bonds in the euro area were becoming credit assets. Therefore, they need analysis with credit tools, in particular, CDO valuation techniques, where value is spread between different tranches according to correlation methodologies well understood in the credit markets.

The corollary was that the mistake made in many instruments in the credit markets in 2007-2009 looked capable of a repeat. That mistake had been to underestimate how high correlation could go as loss experience rose, imposing tremendous negative leverage on the senior tranches.

We will not labor the whole argument here (that was it really!) but on the basis that we may be reaching a new audience used to rates forms of analysis, correlation is the key driver and it has always been our view that there were strong reasons to expect it to rise in the euro area. Once Greece had not independently defaulted in May 2010 as private sector creditors reviled, it became clear that the crisis was in some way systematic (higher correlation). We always felt that the pressure would fall most strongly on Italy as the crisis started to become systematic and in July 2011, that indeed emerged. So what we are seeing is, in our strong view, not contagion but correlation. Various mechanisms exist for systematizing the crisis, with the Eurosystem's galloping exposure to the periphery playing a key role. But additionally, cross-exposures in the banking system make an idiosyncratic crisis (e.g., an isolated Greek default) impossible. Again, this is not a matter of contagion but of correlation, e.g., pressure on the German banking system from such a default. This is why the core has started to show distress, in our view.

The lesson from recent history, as a "little difficulty in the equity tranche" is properly recognized, is very worrying, as the "CDO parallels" chart in the bank deleveraging piece above shows.

The euro area is not politically ready for a systemic sharing of the costs of this episode and the need for such sharing is not widely appreciated, in our view. This concerns us.

In our simple view of the world, the numbers are obvious. A counterfactual ERM would be due for about a 30% realignment on 30% of the area. Such a realignment would, depending on the multiple used, transfer some fraction or multiple of a trillion euro (30% of 30% of a ten trillion economy) from creditors to debtors. Largely painlessly (viz the UK in 2008). But that mechanism is broken and we have to do it the painful way. Since this trillion (or so) has built up via the euro being all things to all areas, it is a bezzle that has to be unwound now that it has been detected. And in our view, the periphery has absorbed as much cost as it is going to (viz Ireland's call for debt relief). So for us, the acid test, failed by all rescue mechanisms except the ECB's deteriorating balance sheet, is "does this help transfer costs to the core?"

Essentially therefore, since no-one is volunteering a trillion euro but it will emerge in one form or another and grow over time (closed markets impose additional costs), the choice is between a manageable systemic crisis earlier or a bigger one later. It seems to us that the political setup makes the latter much more likely; the historical parallel is ugly and hopefully we can learn from it, which is the advertised function of the EU.

To explain one term that we have used regularly in connection with the bailouts: "Need Marshall, get Dawes." Germany's first reparations default in 1923 was followed by the Dawes Plan. The amounts were in real terms very comparable to the trillion euro we discuss now (Germany owed 269 bio Gold marks, about $70 bio). The plan, rather similar to current European bailouts, focused on the money and the debt, not on the future (this is easier to say in hindsight about 1923 but 2011 excuses are weaker). 24 catastrophic years (and a complete systemic failure, resolved by external intervention) later, we reached the Marshall Plan, which, to simplify, threw away the book-keeping and focused on the growth and conditions. What would be our excuse this time, given the intense effort given to avoiding a repeat? Need Marshall, get Dawes.

"Ctrl-Alt-Del" or just "Esc"? The former on current trends

Unfortunately, the outlook for the credit markets is wholly dependent on developments in the euro area. For example, if confidence spontaneously returns (which is not our core expectation), then there is tremendous pent-up issuance demand in bank capital and it is a structural view of ours that, given half a chance, non-financial issuance will continue to grow substantially.

But without such a return, the negative scenarios come to the fore and we have pointed out in the past that a process of simple elimination suggests that in a real emergency, bank resolution regimes (some of which have yet to be put in place) become a likely tool for moving costs to the core, with all (non-deposit) parts of the bank liability structure at risk.

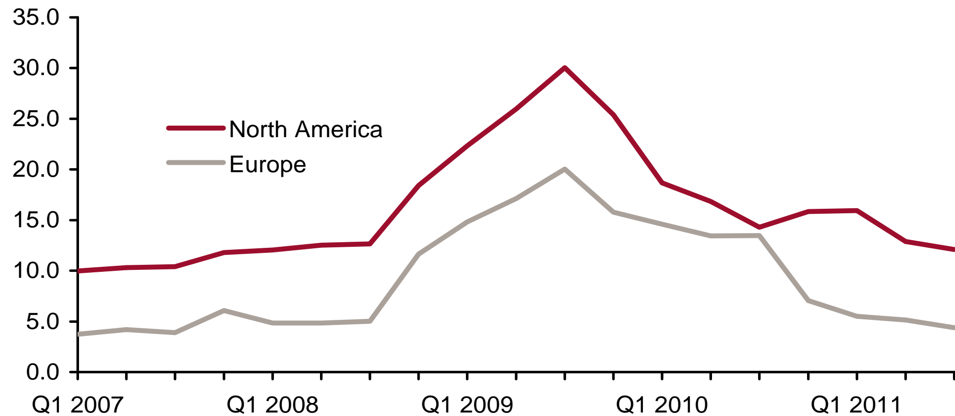
The strongest arguments against involving senior bond-holders in particular have come from the ECB, who sees it closing off a key form of funding (see earlier article on bank deleveraging for how key), leaving the ECB in the frame. As that has happened anyway, and as the Eurosystem sees its balance sheets deteriorating rapidly in the face of periphery funding concerns, this objection could melt away in such a radical scenario. In this case, issuance (other than by a few of the utmost credit-worthy names) will be effectively nil ahead of a radical restructuring of the European (sic) banking sector, which on current trends seems to be the most likely case.

There are two pieces of good news but we are hesitant, as in 2008, the financial stress overwhelmed similarly positive fundamentals.

Corporate profits remain robust, and the proportion of companies losing money remains under good control, consistent with a continuing low default rate. (The two are related but not identical; the proportion of companies losing money is more dependent on the distribution than on the level.) See chart below.

Exhibit 119: Credit cycle continues to improve for now

Percentage of non-financial companies over 500 mio ($ or €) market cap that are losing money on an LTM basis for US and W. Europe

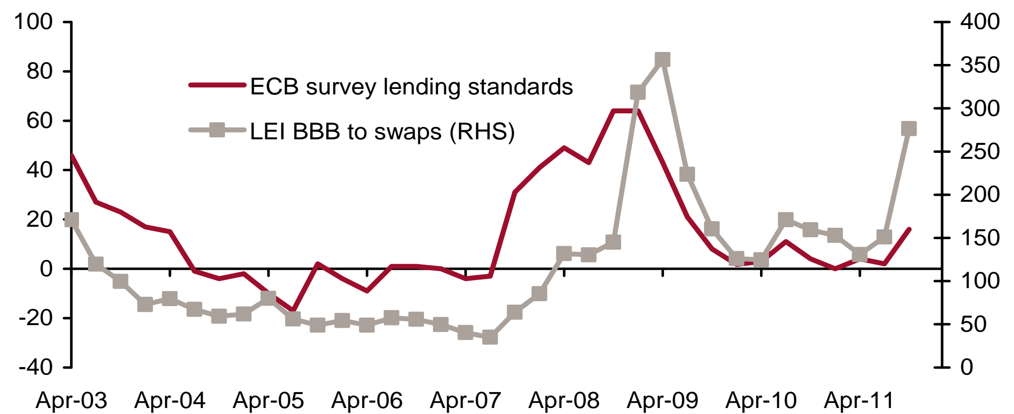


Source: Credit Suisse

The further good news is that, as we state in the deleveraging article, pressures on banks have not fully transmitted into corporate lending intentions, at least to the extent that corporate spreads have run well ahead of the tightening in intentions. Equally, however, intentions have obviously lagged behind the surge in financial spreads (not shown, but financials have underperformed recently.) So the expected transmission from financial to non-financial spreads is out of line with the plausible ultimate (as opposed to short-term sentiment) transmission mechanism, which is bank lending intentions. We do not want to rely on that too much; the line of least resistance would seem to be that intentions will follow borrowing costs.

Exhibit 120: Spreads have run ahead of currently planned bank deleveraging

ECB survey lending standards to large entities and Credit Suisse LEI BBB spread to swaps



Source: Credit Suisse

So these are thin reeds; we simply do not know how 2012 will look for credit, but the close of 2011 suggests that it will be very challenging, certainly in terms of issuance. Years tend to fall into two parts, the first quarter and the rest; hopefully 1Q 2012 sees a defining crisis in the euro area that lays the ground for the rest of the year.

Maybe, but only if that trillion is owned up to first. And that may be at the expense of the credit market, so recovery may be from another level.

Global Leveraged Finance Strategy

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2012 projections for the US high yield and leveraged loan markets

2012 Core Views

- As macro concerns have increased, the high yield market has become more correlated with economic measurements (e.g., GDP growth, inflation expectations).
- Spread compensation above default loss has increased dramatically since the end of 2008.
- Default rates should be low in 2012, despite a weak economy. However, we expect default rates to increase slightly above 2011 levels and to continue to rise in 2013.

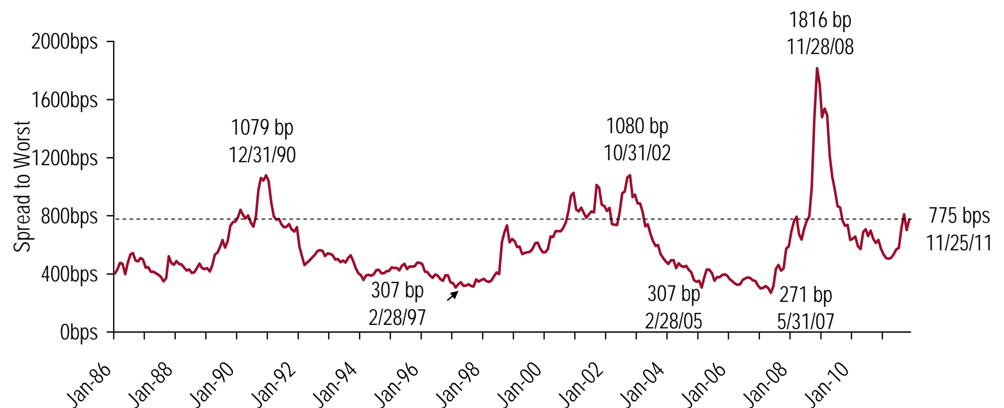
Thematic Trade Ideas

- For US high yield for 2012, we project total returns to be 6%-9% and defaults 1%-3%. For US leveraged loans, we project total returns to be 2%-5% and defaults 1%-2%.
- We prefer higher-rated bonds, such as Split BBs (bonds rated BB by one agency and B by the other).

For US high yield for 2012, we project the total return to be 6%-9% and defaults 1%-3%. For US leveraged loans for 2012, we project the total return to be 2%-5% and defaults 1%-2%. These return projections equate to average yields of 8.5%-9.3% for high yield and 7.5%-8.6% for loans.

At 775 basis points, high yield spreads are at levels that have been associated historically with recessions. Credit Suisse economics research projects GDP growth of 2.2% for 2012, with downside risk to 1.5% from possible US fiscal tightening. Those growth rates have been historically associated with 617 bp and 678 bp spreads, respectively.

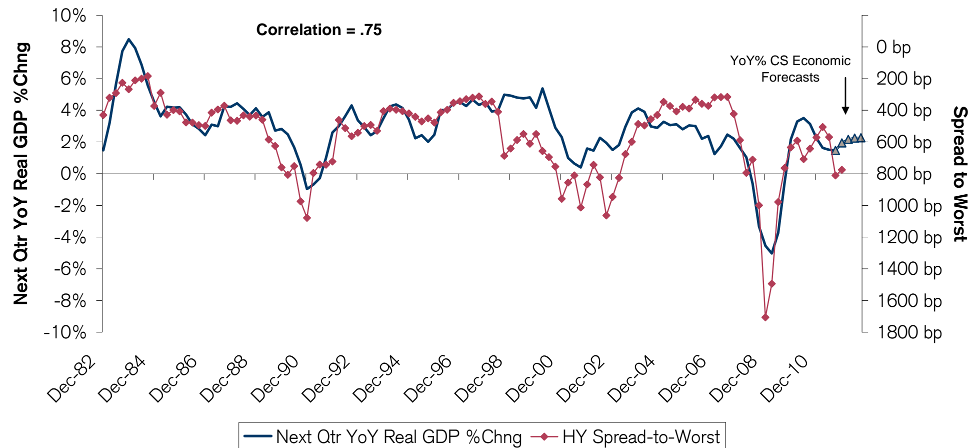
Exhibit 121: CS High Yield Index: spread-to-worst



Source: Credit Suisse

High yield spreads are correlated with year-over-year GDP growth during the following quarter. The following exhibit compares the spread (inverted on the right-hand scale) to next quarter's GDP. For 4Q11 forward, we are using Credit Suisse economics research forecasts. The CS High Yield Index spread is 775 bp as of 25 November 2011, which is historically equivalent to sub-1% future growth. Current spreads seem to be slightly more pessimistic than the economic forecasts, and if the economy does indeed settle in at 2.2% growth, we would expect spreads to tighten back toward 600 bp.

Exhibit 122: Next quarter real GDP yoy% change vs. CS HY Index spread

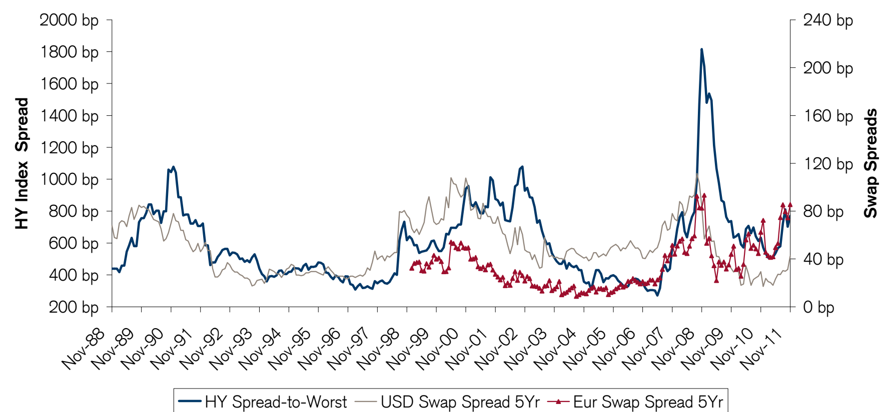


Source: Credit Suisse, the BLOOMBERG PROFESSIONAL™ service

Though the base case forecast is for 2.2% growth, Credit Suisse economics research also estimates a 10% probability of a US recession in 1H 2012. This probability has fallen from a peak of 35% in September. However, euro area recession probability is now 100%. Thus, a belief in continued US growth relies on a decoupling from Europe. As reflected by the current spread widening, the high yield market appears to be skeptical.

Funding spreads, such as the 5yr swap spread, used to lead high yield spreads, though the correlation was somewhat weak. But recently these spread movements have become coincident and strongly correlated. Also, the high yield spread has become highly correlated with the euro 5yr swap spread since June 2010. The shift in European sovereign debt is increasing the global supply of risky assets while simultaneously shrinking the pool of "safe" assets, causing all risk spreads to widen.

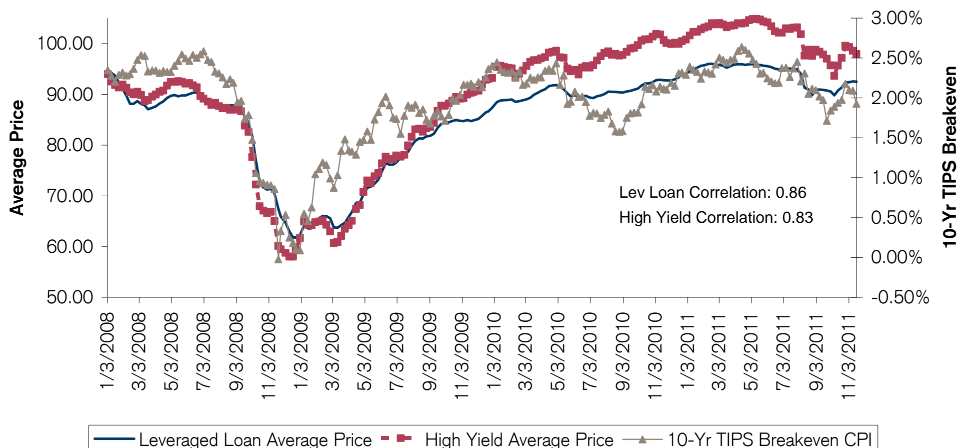
Exhibit 123: High yield spread-to-worst versus 5yr swap spreads



Source: Credit Suisse, the BLOOMBERG PROFESSIONAL™ service

The decline in bond and loan prices in 2011 coincided with a decline in inflation expectations. Loans and bonds have 0.86 and 0.83 correlations, respectively, with the 10yr TIPS breakeven rate since 2008. Recent movements in the TIPS breakeven rate have coincided with shifts in Federal Reserve policy. For example, from August 2010 through April 2011, the 10yr TIPS breakeven rate rose from 1.5% to 2.5% as the Fed announced and executed the bulk of QE2.

Exhibit 124: High yield bond and leveraged loan average price versus inflation expectations



Source: Credit Suisse, the BLOOMBERG PROFESSIONAL™ service

As macro concerns have increased, the high yield market has become more correlated with economic measurements such as GDP growth, inflation expectations and other risk spreads. We compare the correlations from 1998-2008 versus 2009-2011 in the following exhibit. One can object that it is unfair to compare correlations from a three-year period to a ten-year one. However, when we compared the past three years against all prior three-year periods, we find that the current high correlations are at levels rarely seen in the past.

Exhibit 125: Correlation summary of economic variables with CS High Yield Index

Correlation w/ HY	Aug 98 - Dec 08	Jan 09 - Nov 11
Inflation Expectations [1]	0.68	0.83
5-Yr Swap Spread [2]	0.48	0.94
Real GDP [3]	-0.31	-0.87
S&P 500 [2]	0.63	0.63

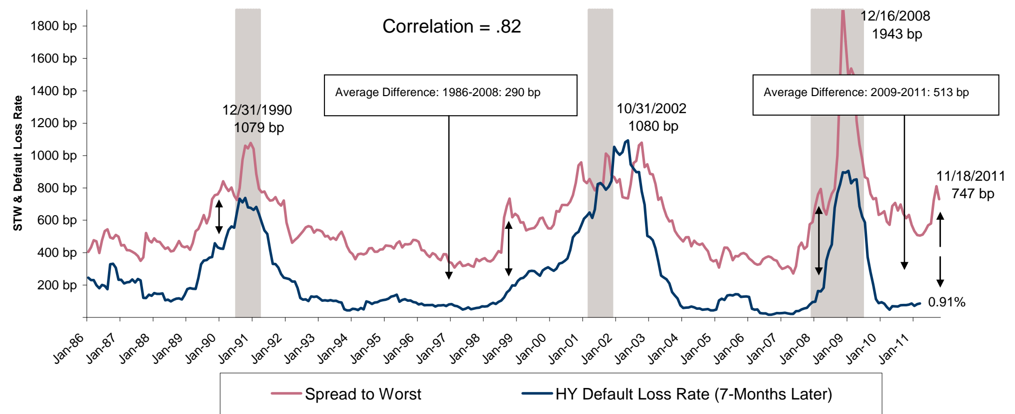
(1) Weekly Data
(2) Monthly data
(3) Quarterly Data

Source: Credit Suisse, the BLOOMBERG PROFESSIONAL™ service

High yield spreads are strongly correlated with the level of default loss seven months later. Historically, the difference between spread and forward default loss has averaged 290bp. However, this difference has averaged 516 bp since 01 January 2009. This elevated difference has several possible contributing factors that are difficult to quantify:

- Dealer de-risking and wider bid-ask spreads, resulting in lower liquidity.
- Increased economic volatility.
- Fears of euro financial contagion.
- Unknowns such as the Volcker Rule.

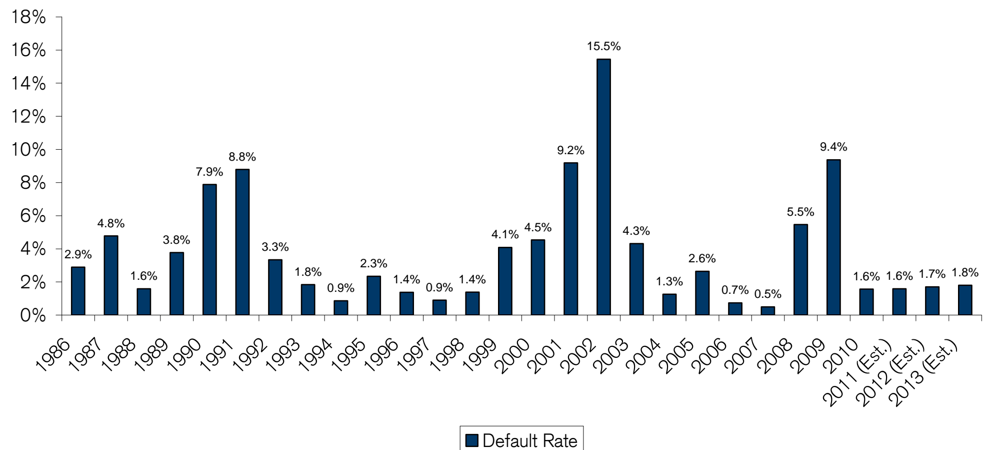
Exhibit 126: High yield default loss rate vs. spread to worst



Source: Credit Suisse

We project a 1%-3% default rate for high yield bonds in 2012. Most of the large high yield capital structures (as measured by total debt) have refinanced over the past two years, and most companies are very liquid, with significant cash and revolver availability. This means default rates will be low in 2012, despite a weak economic outlook. However, we expect default rates to increase slightly above 2011 levels and to continue to rise in 2013. The primary risk in 2013 stems from several very large LBOs with maturities in 2014 that appear unable to refinance.

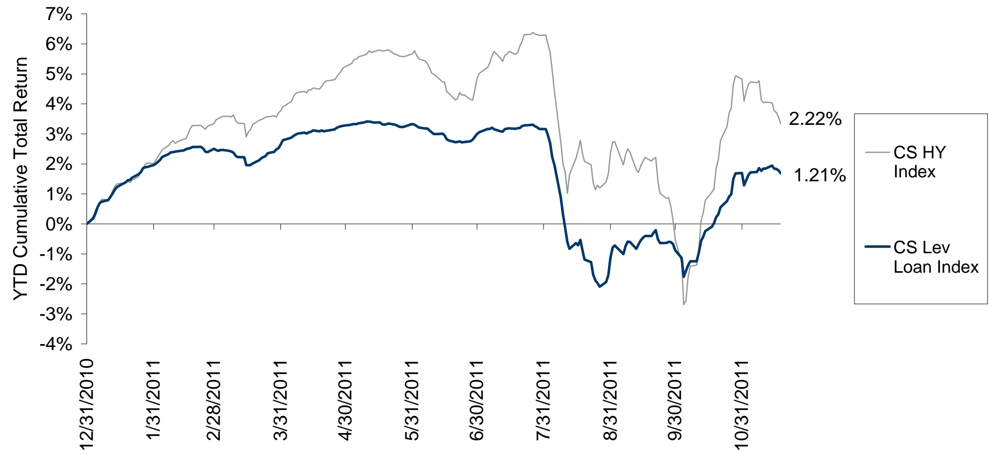
Exhibit 127: Historical and projected high yield default rates



Source: Credit Suisse

Year to date, leveraged loans have gained 1.21% total return compared to 2.22% for high yield bonds.

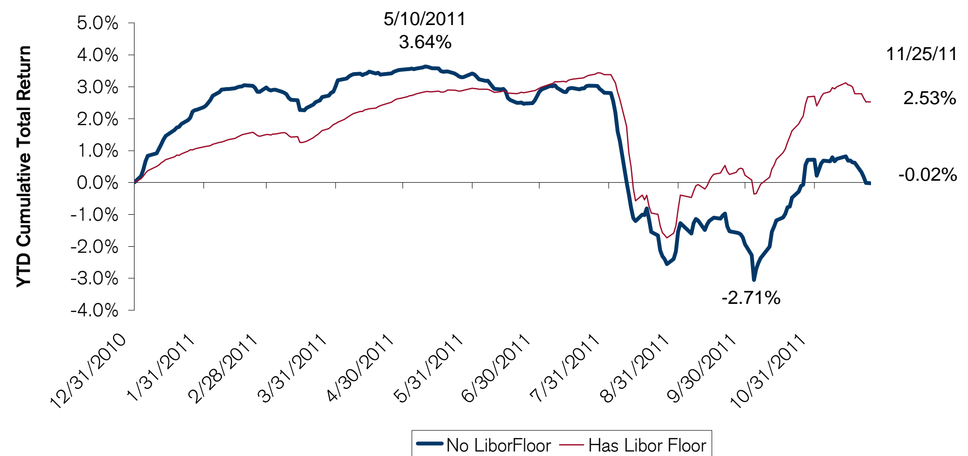
Exhibit 128: 2011 year-to-date returns



Source: Credit Suisse

The underperformance of loans can be traced back to loans without LIBOR floors, which have returned -0.02% in 2011. Leveraged loans with LIBOR floors have returned 2.53%, slightly better than high yield. Loans with floors also have been very efficient, with a year-to-date Sharpe ratio of .50, nearly double the .30 ratio for high yield.

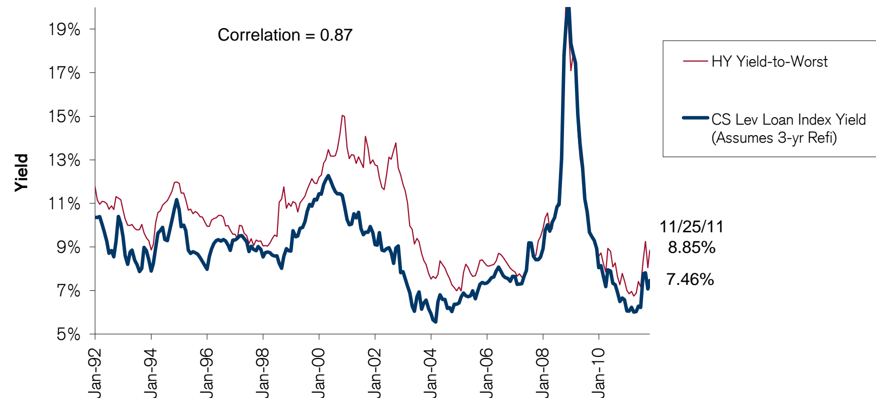
Exhibit 129: 2011 year-to-date returns for leveraged loans with and without LIBOR floors



Source: Credit Suisse

Loan yields (calculated to a three-year refinancing) are 7.46%, 139 bp tighter than high yield bond yields of 8.85%. This is larger than the average difference of 100 bp since December 2010.

Exhibit 130: Leveraged loan yield versus high yield bond yield



Source: Credit Suisse

When comparing yields, an important consideration is that some loans have bonds below them in the capital structure while others don't. Similarly, some bonds have loans above them in the capital structure while others don't.

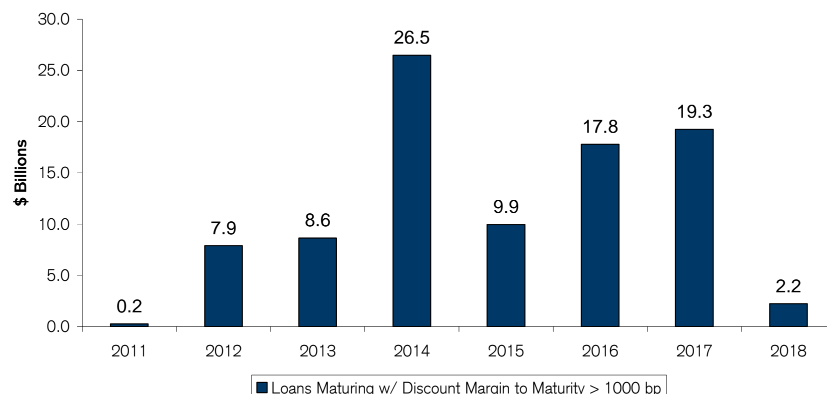
Exhibit 131: Leveraged loan Yields versus high yield bond yields

Yields	30-Jun	6-Sep	25-Nov
Loans w/ Bonds	5.89%	7.48%	7.19%
Bonds w/ Loans	7.59%	9.22%	9.69%
Difference	1.70%	1.73%	2.49%
Loans w/out Bonds	6.70%	8.02%	7.63%
Bonds w/out Loans	6.77%	7.71%	7.99%
Difference	0.07%	-0.32%	0.36%

Source: Credit Suisse

We project a 1%-2% default rate for leveraged loans in 2012. The following exhibit shows that few loans maturing by 2013 have a discount margin to maturity wider than 1000bp. However, defaults may start to increase in 2013 as distressed loans with 2014 maturities begin to restructure.

Exhibit 132: Leveraged loans maturing by year: discount margin > 1000bp



Source: Credit Suisse

Latin American Corporate Credit

Mixed outlook for Latam Credit – selectivity will be key

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2012 Core Views

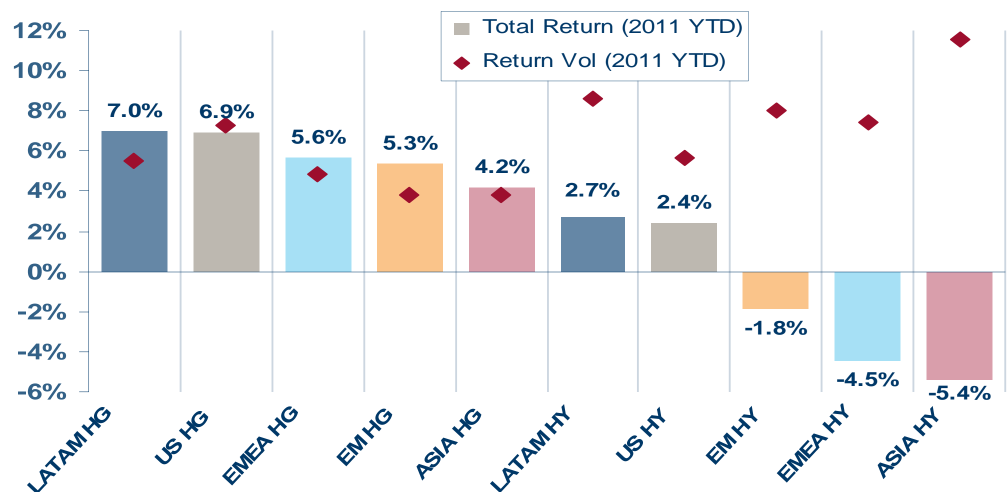
- The outlook for Latam economic growth and corporate operating performance appears to be relatively resilient, but selectivity will be key.
- In general, Latam credits have good liquidity and only minimal upcoming debt maturities, although some sectors are now facing negative credit trends.
- Valuations in Latam credit continue to be attractive, in our view.

Thematic Trade Ideas

- As a result of current global market volatility, we recommend a balanced strategy with a mix of liquid HG and HY names: investors are currently defensive, but meaningful total return performance will need to be generated by select higher-yielding credits.
- We continue to prefer domestic consumption, infrastructure, and certain low-cost commodity plays.
- We favor credits in Peru and, more selectively, credits in Mexico and Brazil. We are increasingly cautious about Argentina and the impact that high inflation and currency vulnerability can have on domestic focused corporates.

Latam corporate credit generally performed well in 2011 year to date. Through mid-summer, Latin American corporates outperformed US benchmarks, with generally higher total return performance and lower volatility, but re-correlated with the risk-aversion sell-off beginning in August. As seen in Exhibit 133, Latam total return year to date slightly outperformed US HG and US HY and significantly outperformed Asia EM (which was affected by governance issues and China slowdown concerns, especially in the property sector) and EMEA EM (which was affected by spill-over concerns from the euro zone). Risk aversion and the strong Treasury rally supported HG outperformance over HY. Given current global economic uncertainty and market volatility, we believe that investors will continue to prefer HG credits and more defensive sectors, at least in the near term.

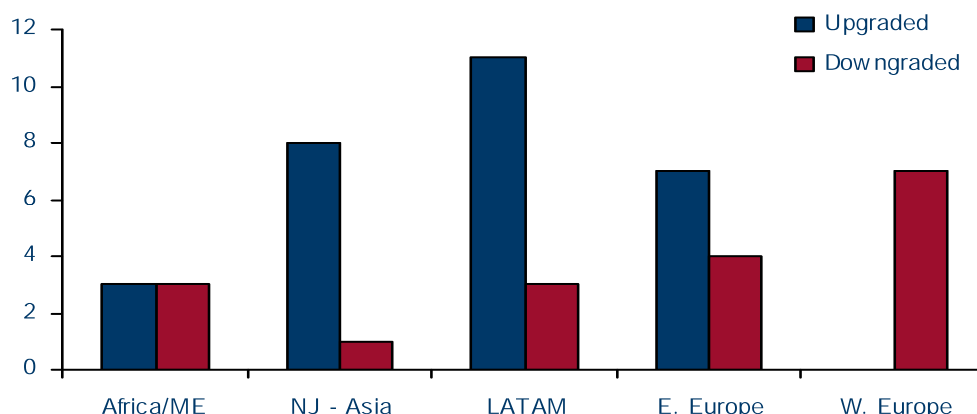
Exhibit 133: Latam corporates generated solid returns in 2011 year to date



Source: Credit Suisse. Credit Suisse indices through 28 November 2011.

Latam corporate performance was supported by solid earnings and ratings upgrades in some cases, offset in part by some significant underperformers. Despite the challenging macro backdrop, many Latam corporates generated solid earnings year to date in 2011 (especially many of the Mexican credits). Our main concerns in 2011 were potential margin pressure from strong currencies and inflation, which have mitigated. Additionally, strong performance was supported by ratings upgrades for Brazil, Chile, Colombia and Peru, which led to many corporate upgrades in these countries (see Exhibit 134). We note, however, that positive ratings momentum has slowed, and more companies in our universe are now on negative ratings watch than positive ratings watch. Furthermore, we have seen a number of recent corporate ratings downgrades, which highlights the need to be selective, especially among HY credits.

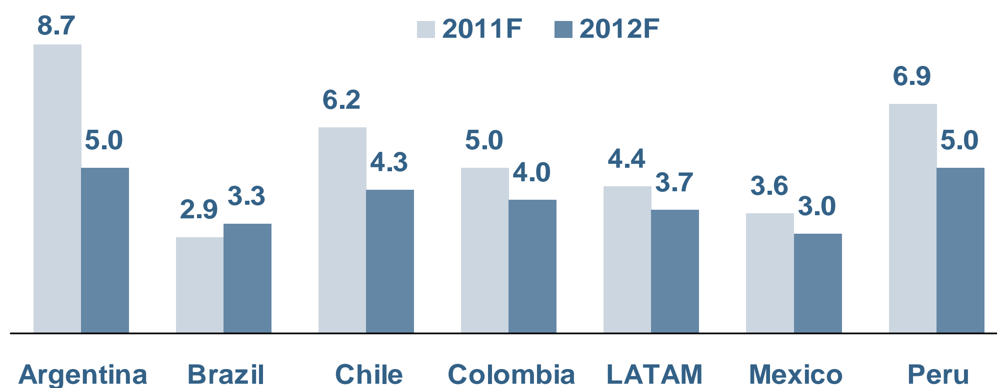
Exhibit 134: LTM sovereign ratings changes



Source: the BLOOMBERG PROFESSIONAL™ service. Countries that have had one or more ratings changes in the last 260 business days through 29 November 2011.

Latam economic growth slowed in 2011, especially in Brazil, but the outlook remains relatively resilient (see Exhibit 135). We believe that a generally favorable economic backdrop in the region should be broadly supportive of Latam corporate credit in 2012. Additionally, we believe that Latam banking systems are strong and should further support a favorable credit environment. We favor credits in Peru (given the country's strong growth outlook and attractive valuations) and, more selectively, credits in Mexico and Brazil. We are increasingly cautious about the Argentine macro environment, particularly ongoing high inflation and currency vulnerability.

Exhibit 135: Solid GDP growth prospects for Latin America



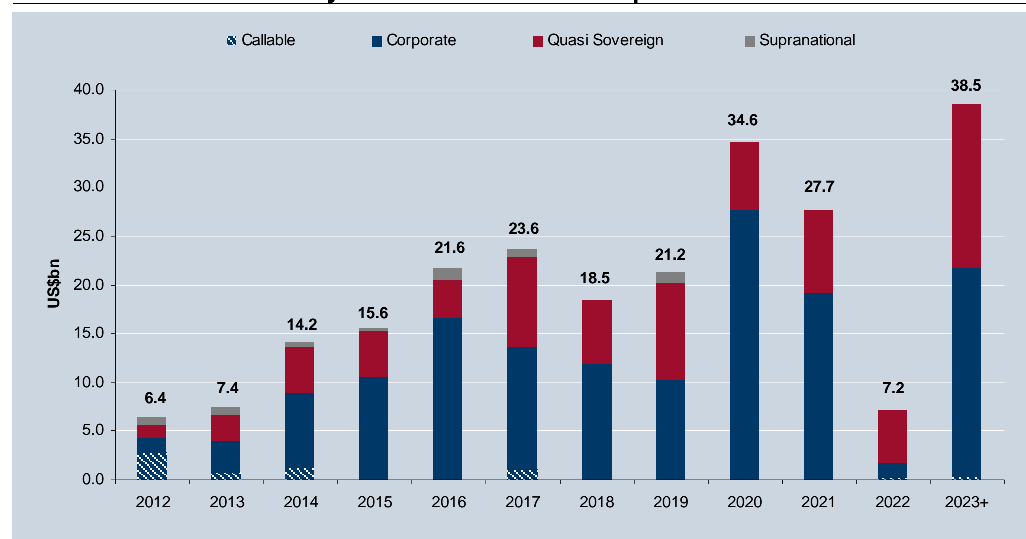
Source: Credit Suisse; annual average % change in GDP.

We continue to prefer domestic consumption, infrastructure, and certain low-cost commodity plays, but selectivity is key. We believe that generally solid domestic economies, continuing favorable consumption trends, and growing infrastructure spending will benefit credits in these sectors. We also believe that low-cost commodity producers in iron ore (Vale) and copper (SCCO) will continue to be strong credits as a result of their low-cost positioning and low leverage despite the uncertain outlook for commodity pricing. Selectivity is key: within these highlighted sectors, we prefer companies with strong management, good credit metrics, and strategic focus.

We prefer a balance between Latam HY and HG. Given significant global market uncertainty, we believe that investors should stay defensive, at least in the near term, with a focus on liquidity (both corporate and trading). Nevertheless, given the current low-rate environment, meaningful total-return performance will need to be generated by the higher-yielding names. We see a number of interesting Latam HY opportunities that offer attractive spread pick-up over similarly rated US corporates, with minimal default risk in the near term given extended debt maturity schedules (see Exhibit 136) and/or solid liquidity positions.

In general, Latam credits have good liquidity and only minimal upcoming debt maturities. Latam credits generally hold high cash balances (especially Brazilian credits) to mitigate the historical dearth of committed credit lines. More recently, however, bank lending has picked up, and many corporates additionally have access to local market funding. As a result, we believe that the current liquidity position of most Latam credits should be resilient to global funding challenges. One sector on which we are cautious, however, is mid-tier Brazilian banking, which is dependent on wholesale funding.

Exhibit 136: Debt maturity schedule of Latam corporates

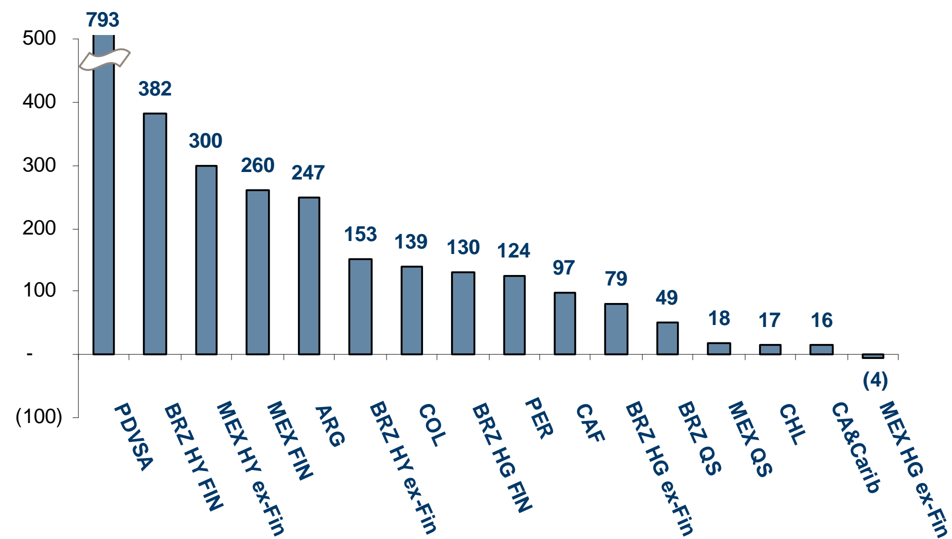


Source: Credit Suisse, company reports.

Valuations in Latam credit continue to be attractive, in our view. Despite higher regional economic growth and generally lower leverage than similarly rated US credits, Latam corporates still trade at a spread pick-up to their US peers. We believe that this offers attractive relative value opportunities, especially among higher-rated credits, for which there is less need for a premium for bankruptcy regime issues. Exhibit 137 shows the attractive spread pick-up to equivalent-rated US corporates for various categories of Latam corporate debt.

Exhibit 137: Latam corporates offer positive spread pick-up to US corporates

I-Spread differential to similarly rated US corporates (bp)

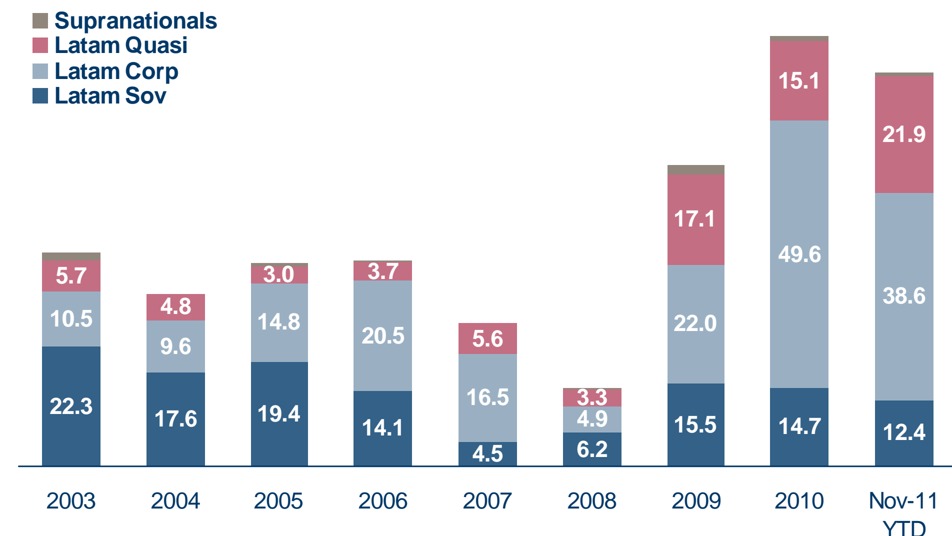


Source: Credit Suisse, The BLOOMBERG PROFESSIONAL Service™. As of 25 November 2011.

We expect strong new issuance to continue, subject to market conditions. Latam corporate new issuance has been strong since 2009 (see Exhibit 138), with companies refinancing existing debt and funding growth plans. Although near-term refinancing needs are minimal, companies are likely to begin to refinance 2014 maturities if market conditions are favorable. Additionally, we expect inaugural new issuers to look to come to market.

Exhibit 138: Strong new issuance trend for Latam corporates

New USD-denominated issues (in US$ billions)



Source: Credit Suisse. As of 28 November 2011.

Emerging Europe Corporate Credit

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Attractive valuations but a cautious outlook for 2012

2012 Core Views

- We prefer high-grade (HG) to high-yield (HY) credit as a result of euro area growth concerns and increased market volatility.
- We remain bearish on the Kazakh and Ukrainian banking systems given their weak asset quality, lack of growth opportunities, and structural legacy weaknesses.
- The healthy credit fundamentals of our corporate universe, in our view, are likely to justify spread tightening should risk sentiment improve.

Thematic Trade Ideas

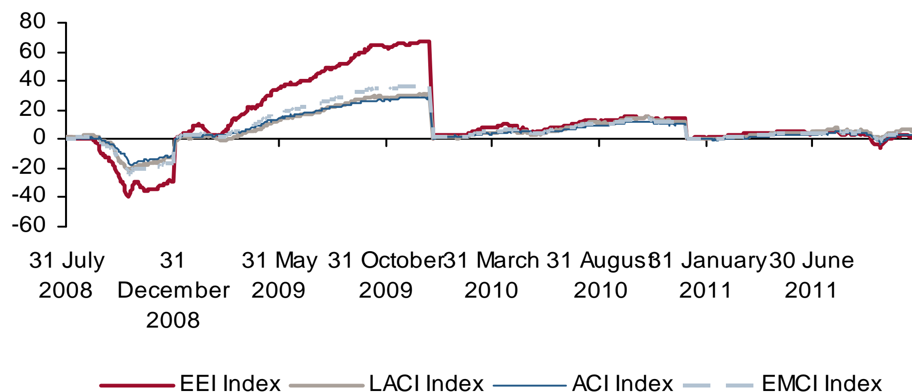
- We like the HG/ quasi sovereign names in Russia especially at the shorter end of the curve.
- Well positioned HG issuers outside Russia include, in our view, KazMunayGas (BBB-), Garanti Bank (BBB-), Akbank (BBB-), and Development Bank of Kazakhstan (BBB-).
- We also like well positioned HY issuers with solid liquidity in the BB range.

CS-EEI corporate bond index: rally until 1H 2011 but a sharp reversal in 2H 2011

When market sentiment was still positive in 1H 2011, CS-EEI outperformed the CS broad EM corporate bond index (EMCI) as well as the CS Latam (CS-LACI) and the CS Asian (CS-ACI) indices. However, the sharply deteriorating economic backdrop in the second half of 2011 resulted in a heavy sell-off in September-October, hitting hard the total return year to date on the CS-EEI vis-à-vis the return of the US and Latam credit indices. Similarly, in the 2008 severe global sell-off, CS-EEI substantially underperformed both CS-LACI and CS-ACI but rebounded more strongly in 2009. Exhibit 139 illustrates the substantial volatility experienced by the European EM corporate bonds during various market cycles.

Exhibit 139: CS major EM bond indices

% YTD total return for the period 31 July 2008- 21 November 2011



Source: Credit Suisse

In 2012, we expect continued volatility in the performance of the CS-EEI index, depending on how the macroeconomic backdrop plays out. If risk sentiment in Europe worsens, we expect continuing underperformance of the European EM corporate bond universe versus Latam, the Middle East, and the Asian corporate credit markets. However, if investor confidence strengthens, we believe that we are likely to see a strong reversal and a better performance of the CS-EEI, in line with trends during previous recovery periods.

We prefer high-grade to high-yield credits

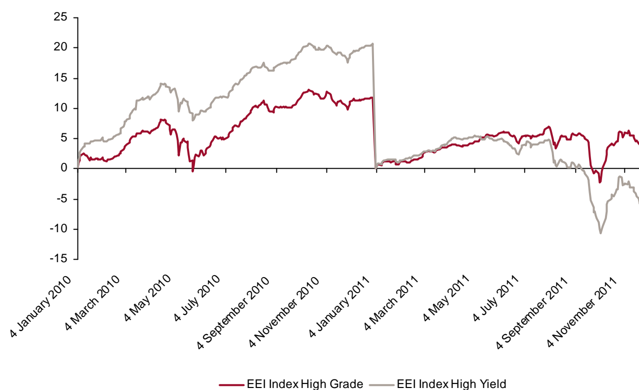
Given euro zone uncertainty, we prefer high-grade and/or quasi-sovereign names, that are generally more resilient in a risk-off scenario

Given the uncertainty regarding the euro zone and the resulting weak investor confidence, we prefer high-grade and/or quasi-sovereign names that are generally more resilient in a risk-off scenario. From the sub-investment-grade credits, at this point in time, we like credits in the BB range. With respect to high-beta names at the lower rating spectrum, we suggest waiting for a better entry point once risk appetite starts to turn a corner.

As illustrated in Exhibit 140 , within the CS-EEI index, we note a marked outperformance of the high grade segment during the October sell-off versus the high yield segment. However, when there is a reversal in risk appetite, we expect a window of opportunity for tactical trades involving higher-beta names.

Exhibit 140: CS-EEI – HG outperformed HY in 2H 2011

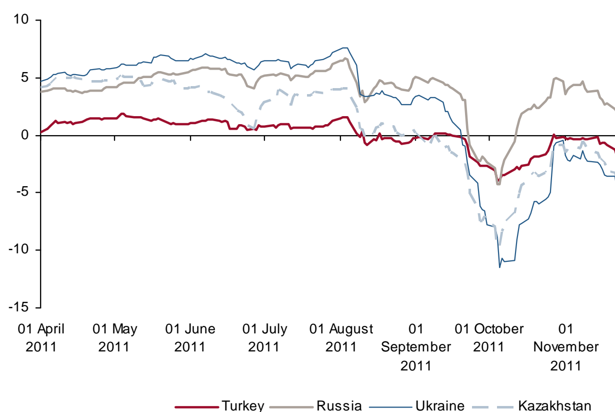
% YTD total return for the last 12 months



Source: Credit Suisse

Exhibit 141: CS-EEI – Russia outperformed in the October 2011 sell-off

% YTD total return



Source: Credit Suisse

Solid credit fundamentals going into 2012

When markets stabilize, investors are likely to return to credit fundamentals to pick the winners

Credit fundamentals mattered very little in the recent sell-off environment. EM flows were directed toward the perceived “safe haven” corporates and banks, usually of quasi-sovereign nature or toward those with a critical mass in their respective sectors. The top performers that emerged were not necessarily the strongest from a credit point of view. Yet we expect that when normality returns, investors are likely to go back to fundamentals, and consequently, credit analysis will play a more important role in spotting winners in 2012.

The vast majority of our EMEA corporates are entering 2012 with stronger balance sheets, lower leverage, and overall healthy credit metrics, particularly the EMEA metals and mining and oil and gas sectors. Across the universe, we have seen good performance year to date driven by high commodity prices. In the Credit Suisse commodities team's section of this report, Commodities: Living in a macro world, the team forecasts a cautious outlook for both demand and prices of major commodities in 2012. As a result, in 2012, we expect some pressure on the CIS commodity exporters.

Nevertheless, we believe that these credits in general have relatively low leverage and that any commodity price retrenchment is unlikely to be as severe as the collapse of 2009.

With respect to the European EM banking sectors under our coverage, we remain bearish on Ukrainian and Kazakh banks (except for state-owned Development Bank of Kazakhstan), as a result of their high stock of legacy non-performing loans, lack of loan growth opportunities, depressed margins, limited funding opportunities, unfavorable corporate governance, and related party lending practices. In the Credit Suisse economics team's section of this report, The Economic Outlook for 2012, the team forecasts a difficult 2012. We, therefore, view the aforementioned banking sectors as particularly vulnerable to the spillover effect of a potential global economic slowdown.

We view the Russian banking system as generally resilient to a global downturn and thus we like the quasi sovereign Russian bank credits

We like the quasi-sovereign Russian banks, and we view the Russian banking system as somewhat more resilient to a global downturn vis-à-vis its regional peers. Although we do recognize certain challenges faced by the Russian banks (such as pressure on margins, tight liquidity in the local market, and weak corporate governance), we are comforted by the firm support and decisive stance taken by the Central Bank of Russia in recent crisis periods. We tend to like banks with state ownership, given their critical mass, importance to the Russian economy from a support point of view, and substantial re-pricing power.

Our 2012 outlook for the Turkish banks is highly dependent on the Central Bank of Turkey's (CBT) policy direction. At present, CBT's tightening policy approach in an attempt to curb the current account deficit is likely to result in lower loan growth and pressure on margins for the Turkish banks in 1Q 2012. However, CBT recently confirmed that it will be monitoring the credit markets closely, therefore providing a "timely adjustment" to its policy rate should pressure on the banking sector intensify. On a purely fundamental basis, we believe that the Turkish banks have the strongest balance sheets among our coverage universe, characterized by low non-performing loans, robust loan growth, low loan/deposit ratios, and high capitalization.

In summary, although we view current valuations as attractive, we prefer HG credit and take a more cautious approach toward less liquid HY names on the back of very weak risk appetite.

Opportunistic issuance by the "national champions"

EMEA Eurobond issuance in 2011 was volatile, with a strong first half of the year and a weak second half. Total EMEA corporate bond issuance (including financials) as of 29 November amounted to US$59.5 billion year to date, down from US$69.3 billion corporate issuance in 2010, according to Bloomberg data. EM dedicated bond funds saw a net inflow of US$9.3 billion year to date , which suggests that EM credit continues to be an attractive asset class.

EM dedicated bond funds saw a net inflow of USD 9.3 billion year to date, which suggests that EM credit continues to be an attractive asset class

In 2012, we expect to continue seeing volatile trends in tapping the Eurobond markets, as issuers take advantage of short windows of opportunity whenever macro conditions permit. In such a difficult environment for primary issuance, we have seen mainly the high-grade issuers in our coverage universe opportunistically printing new deals. The Eurobond funding markets remain largely closed for higher-yielding names. Most of the refinancing occurs at a local bond market level or through bank lending. However, we believe that a pipeline of deals is building up, and we expect that in late 1H 2012, issuers will come back to the market as long as pricing becomes more favorable. In our view, the majority of corporate new issuance is likely to come from Russia and Turkey, while new deals from Kazakhstan and Ukraine are likely to be more sporadic and restricted to higher-rated issuers.

EM Sovereign Debt and Local Currency Rates

The EM world offers no easy place to hide

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2012 Core Views

- In the face of rising risk of a very bad euro-zone scenario, we currently approach both the EM rates market and EM sovereign credit with a high dose of caution
- We think that spreads for EM sovereign debt and similarly rated US corporate debt will widen in parallel as and when the euro-zone crisis escalates. In a deep crisis, we believe that high-yield debt is likely to underperform high-grade debt, not only in terms of absolute increases in yields but also in terms of percentage spread widening.
- Currency-hedged EM local rates receiver positions offer some inbuilt protection and are likely to outperform long credit positions in a crisis, but they are still subject to substantial risks after their strong performance since late 2008.

Thematic Trade Ideas

- Those EM sovereign dollar debt investors who share our bearish euro-zone view should expect general spread-widening and should especially shy away from overweight positions in the highest-yielding sovereigns.
- In EM rates, we recommend a payer position in Russian local currency rates. We find it instructive to remember the recent crisis experience: Russia saw severe currency depreciation pressure and sharp local market yield increases in late 2008.

Summary

Escalating risk of a severe euro-zone crisis warrants a high dose of caution and a bearish approach to the credit market

EM investors face two-way risk from the euro zone, but a very bad euro-zone scenario is, in our view, currently sufficiently probable to warrant a high dose of caution and a bearish bias on the part of EM credit investors.

If the euro-zone crisis were to spin out of control, the markets for both EM sovereign credit and US corporate credit would see large-scale spread widening, which would only partially be offset by a fall in UST yields. The 2008 experience suggests that high-yield debt would underperform high-grade debt, not only in terms of the absolute spread widening but also in terms of the percentage widening of spreads.

Don't be deceived by the temporary underperformance of the EM sovereign bond index at times of stress

EM sovereign bond indices have tended to underperform US corporate bond indices (in terms of percentage spread widening) at the height of the most recent risk market sell-off episodes. But we think that the spread comparison across markets becomes deceptive in periods of market stress. The appearance of EM underperformance in crisis situations is, in our view, likely to reflect stale corporate bond prices at times of extreme market illiquidity. The relatively liquid EM sovereign bond index picks up the underlying downward pressure on bond prices more quickly than the less liquid US corporate bond indices, and this is why the EM sovereign debt index appeared to underperform briefly at the worst point of the crisis in late 2008. We suspect that it really – in an underlying sense – performed in line with the US corporate debt indices, and we suspect that it will do so again in a possible future crisis.

EM local currency rates will probably perform better than EM credit if the global crisis deepens…

If indeed the global risk market sell-off accelerates, as we suspect, investors will probably find it more comfortable to sit on currency-hedged local EM rates receiver positions than to be exposed from the long side to the EM sovereign or corporate credit market. In the immediate aftermath of Lehman's default in 2008, local interest rates spiked only in a few of the large EM markets, and yields declined in most cases in the subsequent months. Even in Russia, where rates spiked sharply in late 2008, they declined steadily in 2009.

…but they are still subject right now to risks that warrant more-than-usual caution

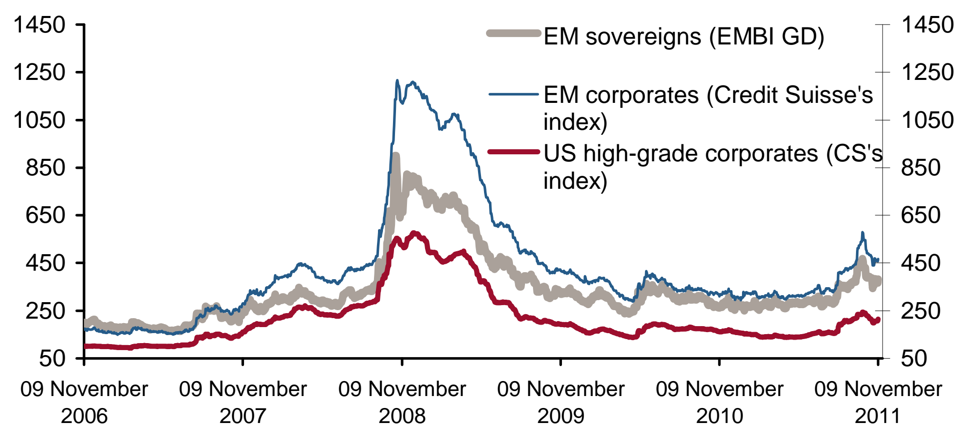
However, both EM yields and the spread between EM yields and US yields currently hover at levels that are very low by historical standards, in part under the influence of large financial flows that have moved from the developed countries into the EM local rates markets in recent years and that could, at least temporarily, shift direction in the context of a deep global crisis. Against that background, we find it sensible to be light on risk – even when it comes to currency-hedged EM rates positions – and to steer clear right now of long positions in those rates markets, notably the market in Russia, that suffered particularly badly in September and October 2008.

Crisis behavior of EM sovereign dollar debt

Exhibit 142 below shows the behavior of EM sovereign and US corporate debt spreads since November 2006. Given the risks that currently emanate from the euro zone, we focus in the present section especially on the extremely severe spread widening in late 2008 and on the less extreme spread widening in late September and early October of 2011.

Exhibit 142: A big sell-off in 2007-2008 and a smaller sell-off in 2011

Index spreads in basis points



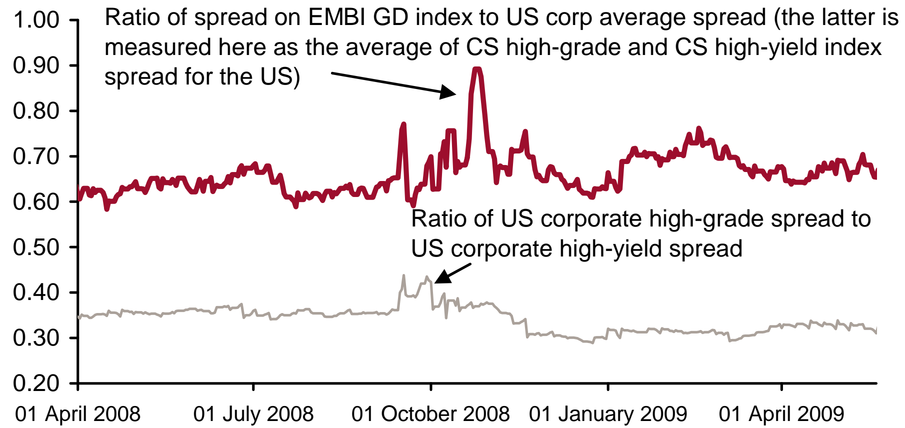
Source: the BLOOMBERG PROFESSIONAL™ service, Credit Suisse

EM sovereign debt temporarily underperformed US corporate debt in September/October 2008, with high-yield underperforming high-grade

Exhibit 143 looks specifically and in greater depth at the credit market crash in the last four months of 2008. The exhibit shows the evolution over time in the ratio between EM sovereign spreads and US corporate spreads. An up-move in the chart represents EM underperformance. The exhibit points to two short bouts of large EM sovereign underperformance in the second half of 2008. The first took place right at the time of Lehman's bankruptcy in September 2008 and the other (larger one) at the height of the credit market sell-off in October 2008. Exhibit 143 also illustrates that US high-grade credit outperformed US high-yield (not only in absolute spread-terms but also in terms of the percentage change in spreads) during the peak sell-off period in 4Q 2008. We are currently at a point at which US corporate high-grade has significantly outperformed US corporate high-yield bonds (on the measure used in Exhibit 143). Given the 2008 experience, we think that it makes sense to expect the recent high-yield outperformance to be reversed if the euro-zone crisis intensifies, and given the linkages between the US and EM credit markets, we see this as a good reason right now to stay clear of long exposure to the EM high-yielders.

Exhibit 143: Very pronounced EM sovereign spread underperformance at the height of the global credit market sell-off in October 2008

An up-move in the top line implies EM underperformance (larger percentage spread-widening for EM sovereigns than for US corporates); an up-move in the bottom line implies outperformance of high-yield against high grade (in the US)

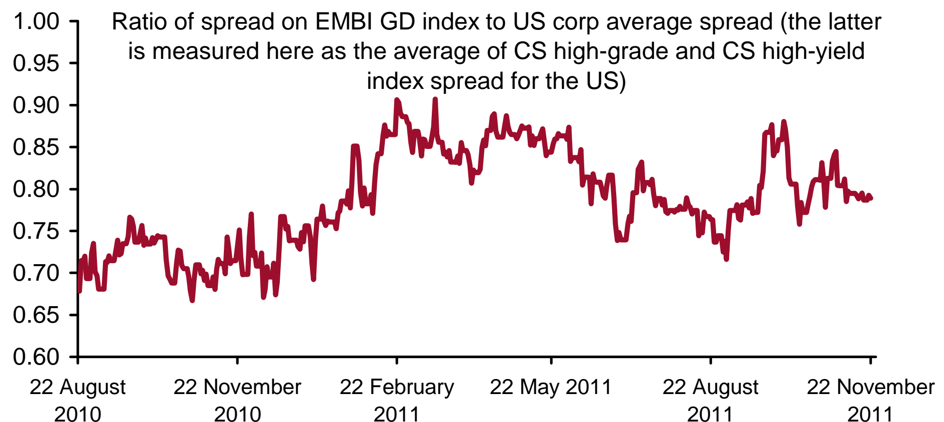


Source: the BLOOMBERG PROFESSIONAL™ service, Credit Suisse

A similar (albeit much less dramatic) bout of EM sovereign underperformance took place in late September and early October of the present year. That is illustrated in Exhibit 144 below. EM sovereign spreads outperformed US corporates in the first three weeks of August but underperformed US corporates when the crisis became more severe in late September and early October. Conversely, EM sovereigns outperformed in the subsequent week when investors' crisis concerns tapered off somewhat.

Exhibit 144: EM sovereign spread underperformance at the height of the global credit market sell-off in late September and early October 2011

An up-move in the chart implies EM underperformance (larger percentage spread-widening for EM sovereigns than for US corporates)



Source: the BLOOMBERG PROFESSIONAL™ service, Credit Suisse

The two bouts of EM sovereign under-performance in 2008 and 2011 probably mainly reflected bad price signals rather than anything "real"

We do not see a good fundamental reason why EM sovereign bond spreads should generally tend to underperform for a brief period just when extreme market stress sets in and then outperform immediately afterward. We suspect that the bouts of brief EM sovereign underperformance that appear in the exhibits above are not "real" and that they probably reflect superior EM sovereign bond index liquidity in periods of extreme stress. The EM index will probably tend to be less affected (than the corporate indices) by stale prices at the height of crisis. If this is right, the appearance in the exhibits above of EM underperformance in periods of stress may simply reflect the tendency of the EM sovereign index to pick up the bond price declines in the stress scenario more reliably and quickly than the less liquid corporate bond indices.

On this view, the more significant observation in Exhibits 143 and 144 is that the ratio of EM sovereign spreads to US corporate spreads tends to move back quickly to the level that prevailed just before the extreme stress sets in. We consider it reasonable to assume that the same will be the case in a possible forthcoming scenario of extreme stress that could emerge soon if the euro-zone crisis spins out of control.

Crisis behavior of EM local currency debt

It is better to be in rates than credit in a bad global scenario

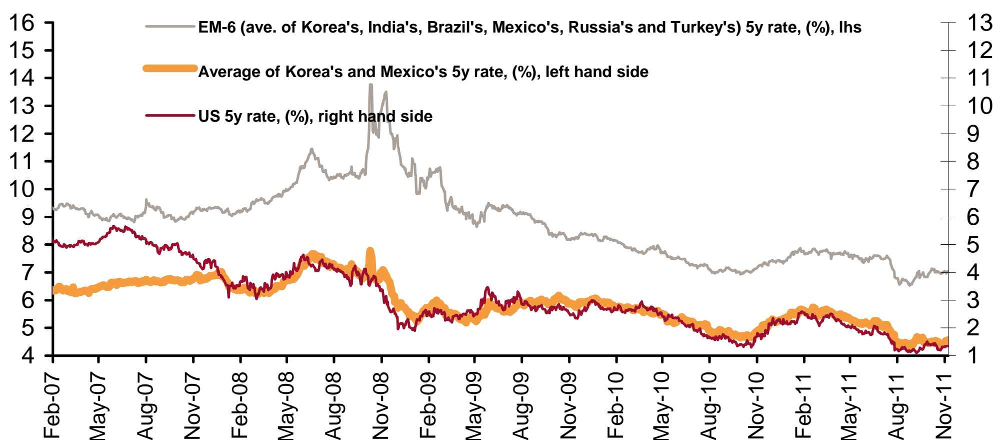
A number of the largest EM rates markets performed relatively calmly when turmoil in the credit markets erupted in September/October 2008. Thus, we find it highly probable that pure long EM rates positions (with no currency exposure) will – in a possible escalation of the current euro-zone crisis – perform better than long EM sovereign index exposure, especially if investors stay clear of the most vulnerable EM rates markets.

EM rates and US rates have recently been highly correlated

EM local currency rates markets have become highly correlated with the US rates market in the most recent 18 months. That is clear from Exhibits 145 and 146 below.

Exhibit 145: EM rates have moved broadly in line with US rates since May 2010

The left hand scale measures the "EM-6 rate", defined as the simple average of percentage 5yr swaps rates for Russia, Turkey, Brazil, Mexico, India and Korea. The right hand scale measures the US 5yr swaps rate



Source: the BLOOMBERG PROFESSIONAL™ service, Credit Suisse

The two exhibits convey a couple of interesting messages. First, there was little stability in the correlation between US and EM rates markets prior to the spring of 2010. Second, the swaps markets of different EM countries performed very differently in the crisis in 2008. That is clear from a comparison of the top thin line in the exhibit above, with the same exhibit's bottom thick line. The thin line at the top shows the average 5yr swaps rate of six large EM economies. The thick line shows the corresponding average for Korea and Mexico only. It is clear from the exhibit that Korea's and Mexico's swaps rates were able quickly to latch on to the US rates rally in the immediate aftermath of the Lehman default. Korea's swaps rates did not rise at all, and Mexico's rose only modestly and briefly in

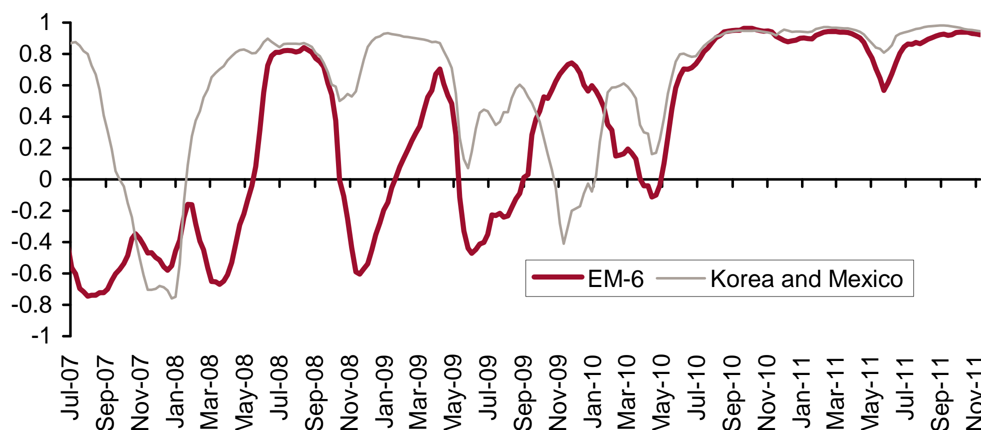
September/October 2008. In the same period, however, Russia's 5yr swaps rates rose dramatically (by more than 6 percentage points) and Brazil's substantially (by more than 2 percentage points). India's, which had spiked a few months earlier, were already falling rapidly when Lehman defaulted and continued to decline in the subsequent months. A similar story applies to Turkey, although Turkish 5yr rates did rise moderately in October 2008 before re-embarking on a rapid decline.

The 2008 experience flags the vulnerability of Brazil's and Russia's rates markets

What this shows is that Russia's and Brazil's rates markets proved particularly vulnerable when the global crisis became intense in 2008. We suspect that the macro-economic conditions and positioning in Russia's and Brazil's rates markets are sufficiently similar today to suggest that these markets will be particularly vulnerable again this time around if the euro-zone crisis worsens significantly (which currently looks likely).

Exhibit 146: Correlation between US and EM 5yr swaps rates

The chart shows 26-week rolling correlation between the US 5yr swaps rate and the "EM-6 rate" (we define the latter as the simple average of percentage 5yr swaps rates for Russia, Turkey, Brazil, Mexico, India, and Korea). It also shows the 26-week correlation between the US 5yr swaps rate and the average of the 5yr rates in Korea and Mexico.



Source: Credit Suisse, the BLOOMBERG PROFESSIONAL™ service

As the exhibits demonstrate, the correlation between 5yr rates in the US and the EM universe has been high, positive, and stable since the euro-zone crisis intensified in the spring of 2010. This may be because the onset of the euro-zone crisis landed EM local currency bonds with a new "relative safe-haven status" – similar to that held by US Treasuries – and because Russia-specific and Brazil-specific investor concerns faded sharply during the course of 2009. Investors will not have failed to notice the relatively strong fiscal performance of many EM countries at a time of increasing concern about the fiscal outlook for the euro zone.

There are likely to be good reasons to be long EM rates if global risks subside

If we could safely assume that the correlation between US rates and EM rates would remain high and stable in the future, several conclusions could follow:

- Investors that borrow at the 5yr point in the US dollar market to fund 5yr EM rates exposure do not need to worry much about interest rate risk.
- In the absence of major shifts in the EM/dollar exchange rates, dollar-funded investors holding EM debt will continuously earn a large carry (the carry averages about 5-6 percentage points for a maturity of five years for the six EM countries that are taken into account in Exhibit 145).

If the crisis in the euro zone blows over in the coming months, investors will probably quickly come around to seeing these arguments as good reasons to continue to add exposure to the market for EM local currency rates.

EM rates will not be a safe haven if the euro-zone crisis worsens

Dollar-based long-only investors will, however, be reluctant to do so as long as the risk of a major meltdown in the euro zone continues to intensify, as they will continue, in those circumstances, to be concerned about EM currency risk. Moreover, even currency-hedged rate receiver positions will be subject to substantial risk: (1) large-scale EM currency depreciation may incentivize some EM central banks to consider pro-cyclical tightening of policy. (2) There is no guarantee that the correlation between US rates and EM rates will remain high and positive in a severe global crisis (see in Exhibit 147 how low the correlations were in the Lehman crisis period). (3) Severe weaknesses in the global risk market would lead to distressed sales of EM local currency paper – in particular, some of those large pools of funds that have flowed from developed countries into EM local currency debt in recent years may be pulled back. (4) EM yields and the spread between EM yields and US yields are currently very low by historical standards (see Exhibit 145), which arguably adds to the upside yield risk.

… but even those EM local currency interest rates that spiked in late 2008 subsequently quickly fell back to their starting point

However, as we showed above, the Lehman default actually triggered rate spikes only in a select group of EM countries, and even in the case of those countries, investors who dared (and had the financial ability) to hang on to fully currency-hedged long EM rates positions in the immediate aftermath of the Lehman default did well in the slightly longer run, as EM rates plummeted between late October 2008 and the end of the first quarter of 2009. They did so in good part because many EM central banks ending up surprising the market in 2009 by opting to cut their policy interest rates even though the currencies in many cases failed to recover much.

Given the low current yield level and the mentioned uncertainties about the market's behavior if and when the euro-zone crisis deepens, we consider it sensible for EM rates investors to be relatively light on risk right now, and we consider it sensible to steer clear right now of receiver positions in Russia and other markets that suffered particularly badly in September/October 2008. But we still find it probable, in a world that will probably be flooded with liquidity, that EM rates will in most cases tag on to a fall in US rates (from already-low levels) if the euro-zone crisis intensifies.

Exhibit 147: EM/US rates correlations in the 2008 crisis, by EM country

Correlations between 5yr rates in the US and individual EM countries – computed on the basis of all available observations weekly changes in 5yr rates for the period between 1 June 2008 and 1 March 2009

Source: the BLOOMBERG PROFESSIONAL™ service, Credit Suisse

FX Strategy

Policy reconvergence favors the USD and the JPY

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2012 Core Views

- We expect higher yield currencies to underperform, as flight-to-quality favors the USD and the JPY, reflecting the historically narrow yield spreads and elevated event risks.
- EMFX performance in the short run remains sensitive to the downside skew on the global growth outlook.
- However, we have a more positive long-run outlook for the non-commodity EM plays than for the G10 periphery.

Thematic Trade Ideas

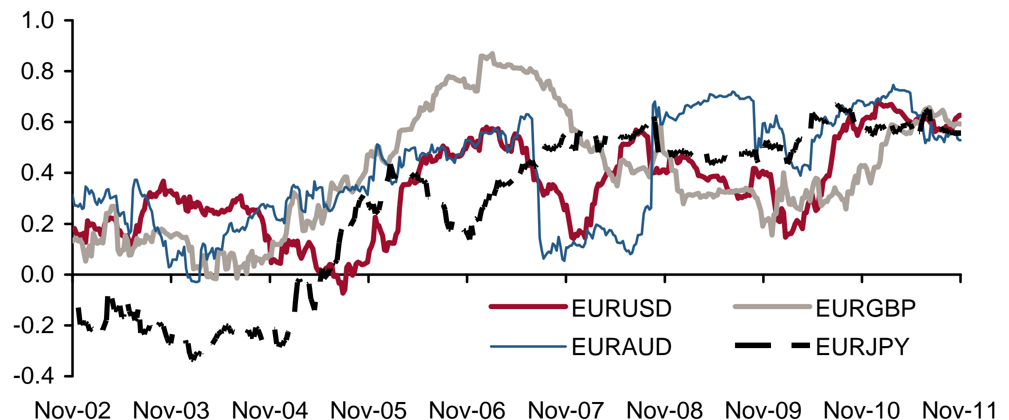
- We favor being long SGD against a 70/30 basket of USD and AUD.
- We recommend bullish USDCHF seagull structures.
- We recommend selling USDJPY – USD/G10 correlation via dual digitals.
- To position for a further breakdown in EUR-based correlations, we favor EUR worst-of options.

Relative shifts in central bank policy outlook remain a driver of FX performance

In spite of the euro zone crisis, the key driver of FX performance during 2011 has continued to be the relative shifts in central bank policy outlooks, as proxied by changes in 2yr yield spreads across the G10 matrix (Exhibit 148). Various other metrics that relate to sovereign default risk, balance of payment flows, or risk appetite have shown only episodic correlations with spot FX changes, despite the importance of these factors at different times.

Exhibit 148: Relative shifts in policy outlook continue to drive FX performance

12m rolling correlation between FX and 2yr swap rate differentials



Source: Credit Suisse, the BLOOMBERG PROFESSIONAL™ service

This FX-rates correlation helps to explain why the euro has performed relatively well since the sovereign crisis began in 2009. The Bund-T-Note spread has been relatively range-bound during this period, despite growing problems in the euro zone periphery and the successive rescue packages that have led to widening CDS spreads on the German sovereign.

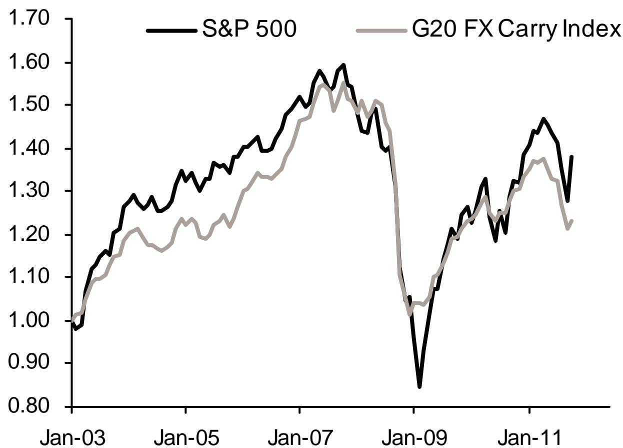
Our favored scenario is one of cyclical euro decline and some structural euro weakness

Clearly, there is room for yield spreads to undermine USD-EUR in 2012, if a euro-centric slowdown shifts the outlook for ECB policy relative to the Fed. Alternatively, there are a number of disruptive event scenarios, which could do damage to Europe's many inter-connected balance sheets, as well as Europe's real economy network of supply chains that depend on a frictionless payments and credit system. Even the possibility of a disruptive event could give rise to a risk premium on the euro and the instruments that underlie the currency (Euribor basis, Bunds, equities).

Our favored scenario for 2012 is, therefore, one of cyclical euro decline and some structural euro weakness to reflect higher risk premia.

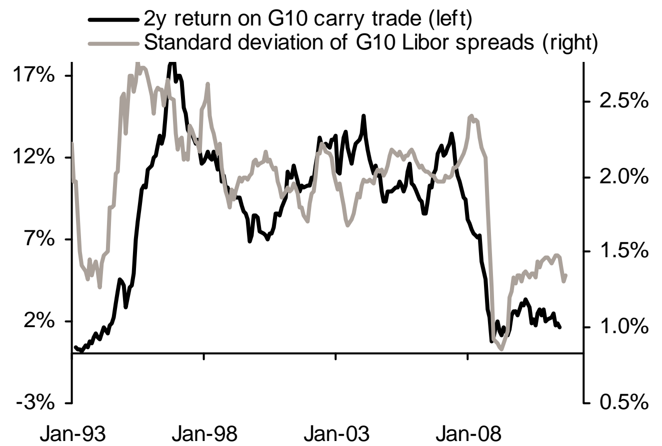
For the wider currency world, a euro-centric downturn and the growing possibility of a disruptive event should put pressure on currencies that depend on elevated commodity prices and steady global growth. This primarily includes the commodity-linked currencies of the southern hemisphere and the manufacturing-linked currencies of the Far East, Eastern Europe, and Scandinavia. These "high-beta" currencies are traditionally the underperformers in any risk unwind, as Exhibit 149 illustrates.

Exhibit 149: FX high yielders tend to underperform during risk unwind



Source: Credit Suisse, the BLOOMBERG PROFESSIONAL™ service

Exhibit 150: FX carry to remain under pressure due to low yield spreads



Source: Credit Suisse, the BLOOMBERG PROFESSIONAL™ service

Even in the absence of a disruptive EMU event, we expect high yield currencies to perform poorly in 2012, given the historically very narrow yield spreads across the matrix of G10 FX pairings (Exhibit 150).

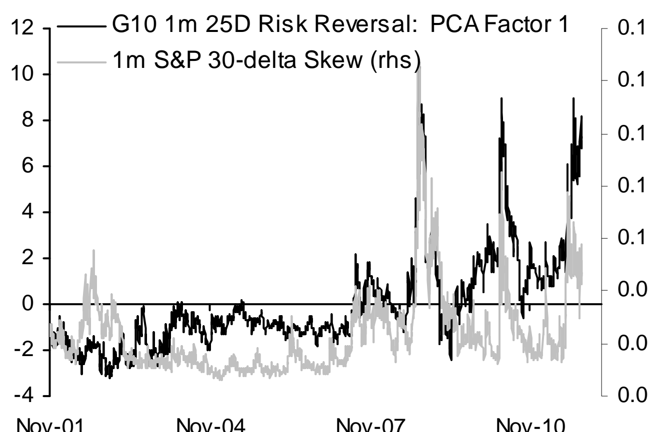
High yield currencies tend to depreciate following periods of spread narrowing

It is noteworthy in this regard that high yielders have recorded negative cumulative returns since the financial crisis began in July 2007, as yield spreads have narrowed dramatically. This marks the worst cumulative performance for FX carry since the post-ERM depreciation of high yielders during 1992-1995, which also coincided with very narrow spreads. In fact, this earlier period of carry unwind persisted for almost a year after spreads rewidened dramatically in 1994.

The conclusion for us is that high yield currencies tend to depreciate following periods of spread narrowing, especially during bouts of flight to quality and high volatility, more broadly.

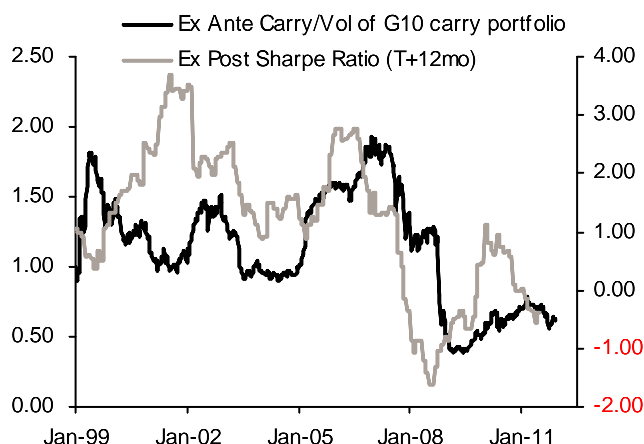
At present, volatility and skews are elevated in most markets, although slightly more so in FX than in equities, for example (see Exhibit 151). The source of current market volatility is less important than the fact that the near-zero carry/volatility ratios have made it less attractive than ever to reach for yield in G10 FX and less punitive than ever to shift into low yield “safe haven” currencies.

Exhibit 151: FX skews trading rich to equity skews



Source: Credit Suisse, the BLOOMBERG PROFESSIONAL™ service

Exhibit 152: Vol-adjusted carry has collapsed



Source: Credit Suisse, the BLOOMBERG PROFESSIONAL™ service

USD and JPY are the only remaining "safe haven" currencies, in our view

On a global basis, USD and JPY are the remaining "safe haven" currencies, now that CHF is prevented from appreciating by SNB policy, and the Deutschemark has long ceased to exist. The original "hard" currency is, of course, gold, and in a crisis it has tended to appreciate against non-USD currencies (e.g., XAU-SDR, XAU-SGD).

Within the major regions, there are relative "safe haven" currencies that tend to outperform their neighbors during risk unwind periods. SGD tends to outperform the rest of non-Japan Asia during such regime shifts, while GBP tends to outperform Scandinavia and the CE4 currencies during risk unwinds.

Exhibit 153: G10 FX forecasts

	3 mth	12 mth
EURUSD	1.25	1.26
USDJPY	74.00	75.00
USDCAD	1.10	1.09
AUDUSD	0.90	0.91
NZDUSD	0.71	0.72
EURGBP	0.85	0.86
EURCHF	1.23	1.23
EURNOK	8.20	8.15
EURSEK	9.75	9.55

Source: Credit Suisse

Emerging FX

More positive on non-commodity EM currencies than G10 periphery

Looking through the current risk environment, we would draw a distinction between high yielders in EMFX and in G10. EMFX economies do not have impaired balance sheets, unlike the four biggest G10 economies. Partly for this reason, the EM economies were able to produce sustained V-shaped recoveries after the 2008 crisis, using very conventional policy tools. As a result, EM real yields today compare very favorably to the negative real rates in USD, GBP, and EUR. This relationship is likely to be a lasting one given what inflation-linked bond yields imply for the next decade.

There is a further distinction between leveraged and unleveraged high-beta currencies (e.g., AUD versus BRL or SEK versus PLN). Household leverage in Scandinavia, Canada, and Australia is at or beyond its all-time peak, making these countries vulnerable to potential negative shocks to income or asset prices. Unlike the unlevered EM currencies, the G10 periphery could end up like the G-4, with impaired balance sheets and negative real interest rates for a very long time. That leaves us with a less positive long-run outlook for the G10 periphery than for the non-commodity EM currencies.

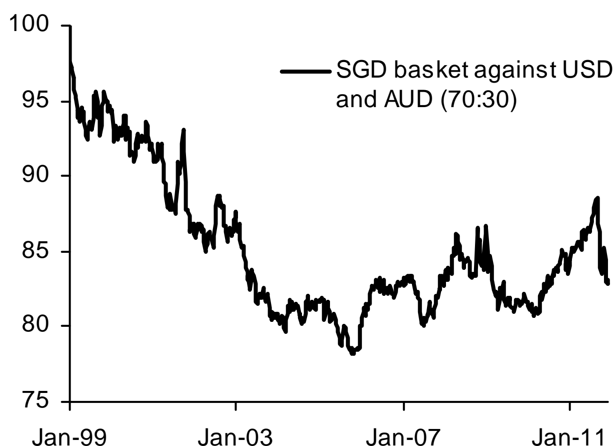
Trades

Long SGD against a 70/ 30 basket of USD and AUD

As discussed, we expect high-beta currencies in EMFX to outperform high-beta G10 currencies even in a risk-off scenario, after adjusting for relative volatility against USD. Our preferred trade in this regard is to go long SGD against a 70/30 basket of USD and AUD. This is a volatility-weighted assumption that SGD will outperform AUD, after neutralizing the effect of USD movements on the AUDSGD cross rate. Exhibit 154 shows how this basket has performed, net of carry, since 1999. It shows no particular correlation to USD cycles or the broader risk-on/risk-off dynamic during 2004-2011.

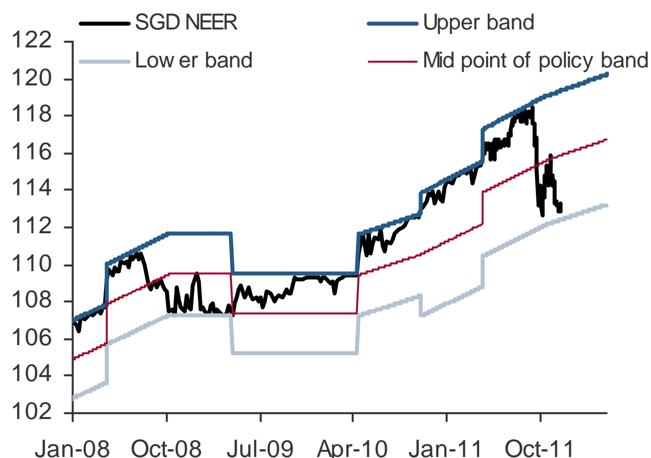
At present, SGD is arguably at the cheap end of fair value against AUD, and the broader SGD NEER basket is also near the bottom of the perceived MAS target bands (see Exhibit 155). In a risk-off event, we would expect AUD to sell off proportionately more than SGD on a vol-adjusted basis and for SGD NEER to remain relatively steady given the MAS intervention potential at the band-lows.

Exhibit 154: SGD basket against AUD and USD



Source: Credit Suisse Locus

Exhibit 155: SGD NEER at the bottom of the MAS band



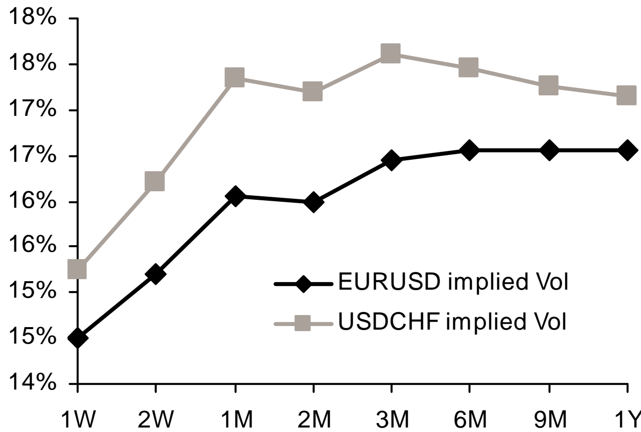
Source: Credit Suisse

Bullish USDCHF seagulls

Given the negative-implied CHF rates and our expectation for the SNB to maintain the EURCHF floor, we think that the CHF is an attractive funding vehicle for USD longs. To the extent favorable policy news supports the EUR broadly, gains in EURCHF can also help limit downside in USDCHF. This means USDCHF vol is likely to underperform EURUSD vol. However, USDCHF-implied vols are trading significantly above EURUSD vols. At the same time, even though USDCHF topside skews are cheap compared to EURUSD downside skews, USDCHF flies (or implied vol of vol pricing) are at very elevated levels. We recommend taking advantage of the rich vol pricing in USDCHF to express a bullish USDCHF view via three-month USDCHF topside seagulls – buying 1x1 call spread partly financed by selling OTM USDCHF puts.

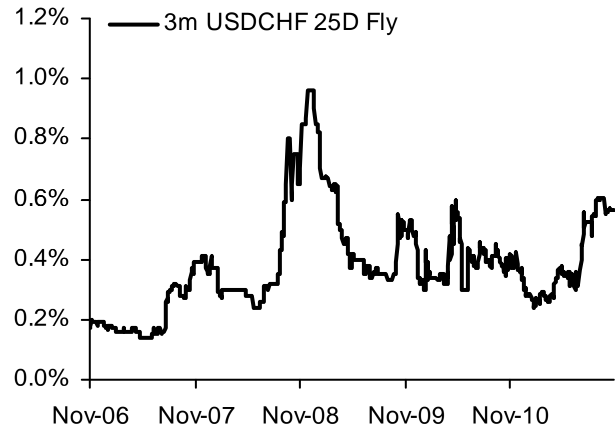
A three-month USDCHF 0.95/0.98 1x1 call spread versus selling a three-month 0.8350 put currently costs 0.28% of the USD notional (spot ref: 0.9185). The structure offers a maximum leverage of 11.2x premium. The risk to the trade is potentially unlimited the further USDCHF trades below 0.8350 at expiry. However, assuming the EURCHF 1.20 floor holds, we think that EURUSD can rally up to 1.4370 before triggering losses on the trade.

Exhibit 156: USDCHF vols trading over EURUSD vols



Source: Credit Suisse Locus

Exhibit 157: USDCHF wing pricing looks elevated

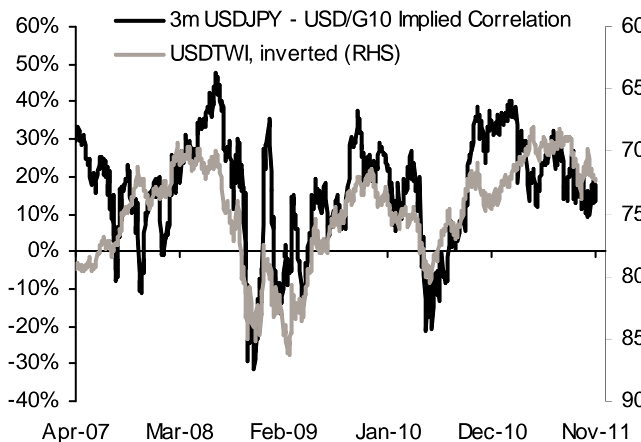


Source: Credit Suisse Locus

Sell USDJPY-USD/G10 correlation via dual digitals

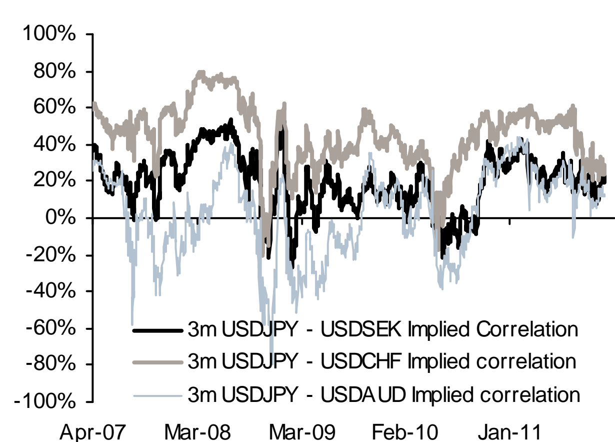
With the rising risk premium in the FX market, implied USD-based correlations have moved higher. Interestingly, however, USDJPY correlation to other USD pairs continues to trade in positive territory. Exhibit 158 illustrates that USDJPY correlation to other USD pairs historically weakened during periods of USD strength. This argues in favor of selling USDJPY correlation to other USD pairs, especially relative to the growth-sensitive and commodity currencies. In Exhibit 161 we look at exploiting this via dual-digital structures that benefit from a move lower in USDJPY and USD outperformance versus the AUD, SEK, and CHF. The risk to these structures is the loss of premium paid.

Exhibit 158: USDJPY-USD/G10 correlation versus the USD



Source: Credit Suisse Locus

Exhibit 159: USDJPY correlation to select USD pairs



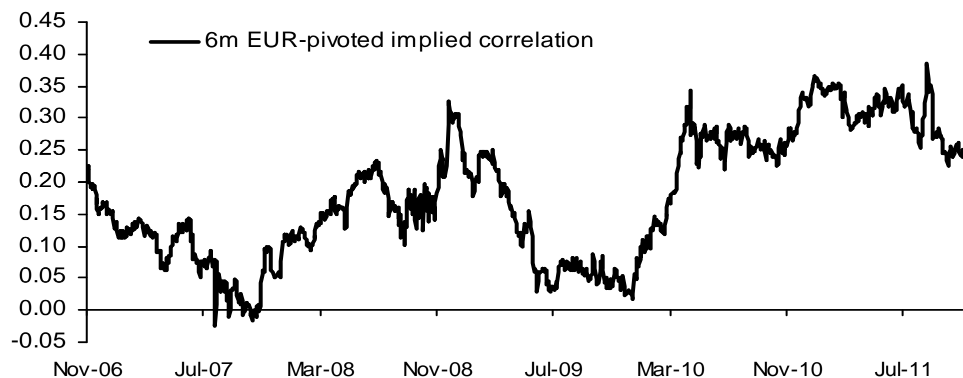
Source: Credit Suisse

EUR worst-of options

While USD-based implied correlations have converged at a higher level, EUR-pivoted correlations have broken down as global slowdown risks have taken precedent over euro-centric risks. In a prolonged period of risk aversion and rates convergence, we expect EUR-based correlations, especially the EURUSD correlation to risk-sensitive pairs such as EURAUD and EURCAD, to break down further. Despite our bearish view on the euro, we think that the euro can outperform the higher-beta currencies within the G10 and EM during risk unwind periods. We look at two worst-of structures to express this view in Exhibit 162. The risk to these structures is the loss of premium paid.

Exhibit 160: EUR-pivoted correlations likely to fall further

Average of 6m EURUSD implied correlation to EURAUD, EURNZD, EURNOK, EURSEK and EURGBP



Source: Credit Suisse Locus

Exhibit 161: Dual digitals

Dual digitals		USDJPY lower, AUDUSD lower	USDJPY lower, USDSEK higher	USDJPY lower, USDCHF higher
Strikes	3m maturity	USDJPY: 76	USDJPY: 76	USDJPY: 1.75% OTMS
		AUDUSD: 2.25% OTMS	USDSEK: 3.00% OTMS	USDCHF: 1.75% OTMS
	6m maturity	USDJPY: 76	USDJPY: 76	USDJPY: 2.60% OTMS
		AUDUSD: 5.00% OTMS	USDSEK: 8.00% OTMS	USDCHF: 2.60% OTMS
Offer (% USD notional)		12.50%	12.50%	12.50%
Leverage		8:1	8:1	8:1
Spot reference		USDJPY: 77.70	USDJPY: 77.70	USDJPY: 77.70
		AUDUSD: 0.9870	USDSEK: 6.9415	USDCHF: 0.9275

Payout: If both individual digital options are in the money at maturity

Risk of trade is loss of premium paid

Source: Credit Suisse

Exhibit 162: Worst-of options

Worst-of options 6m maturity	EURUSD put, EURCAD call, EURSEK call	EURGBP put, EURSEK call, EURCZK call
Strikes	EURUSD: 2.25% OTMS	EURGBP: ATMS
	EURCAD: ATMS	EURSEK: 2.50% OTMS
	EURSEK: 2.25% OTMS	EURCZK: 2.50% OTMS
Offer (% EUR notional)	0.28%	0.27%
Average price of vanillas	3.20%	2.54%
Cheapest vanilla	2.21% (EURSEK)	2.11% (EURSEK)
Spot reference	EURUSD: 1.3350	EURGBP: 0.8594
	EURCAD: 1.3842	EURSEK: 9.2599
	EURSEK: 9.2599	EURCZK: 25.9331

Payout is worst of the three intrinsic option values at expiration

Risk of trade is loss of premium paid

Source: Credit Suisse

Global Interest Rate Strategy

European Rates

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2012 Core Views

- Pressures on Germany are likely to lead to higher Bund yields on 12-month horizon, but the path is unlikely to be smooth.
- We expect central banks to remain accommodative – with rates lower for longer, leading to a curve that is flatter out to five years and steeper thereafter.
- In the UK, we expect gilt yields to remain low with an expansion of QE and low growth expectations.

Thematic Trade Ideas

- We recommend receiving EUR 1yr1yr/2yr1yr versus GBP.
- We recommend receiving EUR 2s5s10s 1yr forward.
- We recommend paying EUR 10s30s 2yr forward.

We expect that 2012 developments in the political and economic landscape in Europe will be more radical and far-reaching than anything currently in mainstream discussion, with commensurate implications for the rates markets. 2011 has seen huge changes – both in the political domain and financial infrastructure of the euro area, but despite the fact progress has been faster and more extensive than many could have imagined, policymakers have been very visibly completely unable to contain the remorseless march of the sovereign debt crisis from the periphery into the core of the euro area.

Ultimately, we currently see three potential outcomes for the euro area: (1) full integration, (2) a move toward full integration which stalls once the markets ease, growth picks up or (3) the euro area breaks up. The latter we would expect would most likely be all or nothing – we leave a fuller discussion to another time, but if a country leaves the euro area, whether a weaker country or a stronger one, we believe it would be then a case of over what time period the rest of the currency union disintegrated.

Restoring confidence is going to require bold decisions and given the experience of the last few years, is unlikely to happen overnight. Time will be an essential element, but it is also running out – the financial sector is increasingly vulnerable and the deterioration in the growth outlook is becoming self-reinforcing. Investors have needed to completely re-evaluate the risks inherent in euro area debt. This year, not only has there been the need to assess and price default risk and loss-given default, but also the implications of correlation in tail-risk scenarios, raising the question of what, if anything, now constitutes a risk-free asset. The extent of spread moves and the volatility in even the safest markets have been extreme and while we would caution extrapolating rigidly from the most recent moves given the extremes in sentiment and low liquidity, it is clear that further policy initiatives are needed, and soon, to ensure funding markets remain open and able to cope with the heavy sovereign and financial issuance requirements in Q1.

In this environment, we expect that central banks will have to remain accommodative and that rates will have to remain low for a long time. We think that the EUR curve can flatten out to 5s and steepen further out as a bigger risk premium is priced in. We therefore think that EUR 2s5s10s 1yr forward is too high and will likely roll down to where spot is (and potentially even lower). We also think that EUR reds/greens can flatten and we like boxing this against GBP where our view is already priced in. Given the current levels, we think EUR 10s30s steepeners offer good risk/reward for a medium to long term horizon and recommend a 10s30s 2yr forward steepener.

We believe that German yields are likely to see further pressure in 2012 as costs are allocated increasingly to the core and investors act on fears of a potential break-up (see *EST: The power of contagion* for further discussion). However, the path is unlikely to be smooth and will be very dependent on the nature and timing of policy initiatives. This is even more the case for the countries most exposed to adverse developments: Italy, Spain, Belgium and increasingly, France. Political uncertainty and risk is high and the spread trajectory for these countries we expect to be highly volatile.

For now there is clearly the commitment among both policymakers and electorates toward the euro area, and we expect more announcements in coming days outlining further cooperation and fiscal discipline. Our European economists discuss some of the potential policy measures likely over coming weeks and months; *European Economics and Strategy: Game Over* provides a detailed analysis of the potential for QE by the ECB and its likely impact.

Exhibit 163: Potential impact of forthcoming policy initiatives

Forthcoming policy measures (by end Q1) are…		Germany (Holland, Finland)	Italy, Spain, Belgium, France	Probability
…sufficient to allow non-bailout sovereigns to fund in market	+ ease situation but don't fully restore confidence; buys time allowing muddle-through to continue	Short term may rally; ultimately sells off and curve steepens	Yields highly volatile. Short term may rally; ultimately further bear flattening	75%
	+ clear no longer any default risk; confidence returns	Depends on policy – extent of burden on Germany & how inflationary	Large rally, curve steepening	5%
…insufficient to allow non-bailout sovereigns to fund in market	+ large European sovereign default	Sell-off bear flattening of curve	Widespread defaults	5%
	+ bailout & possibly managed restructuring as per Greece	Sell-off	Sell-off, curve flattening, further bailouts likely	15%
	+ sovereigns fund through alternative means, manipulated markets	Sell-off	Artificial markets – likely highly volatile and prone to sharp sell-offs	

Source: Credit Suisse

In Exhibit 163, we approach the situation from a different angle: rather than a discussion of what measures might be implemented and whether they will work, we step back and assess the likelihood that in combination the measures implemented over coming weeks have a given market impact, outlining in each case the implications for the German and riskier bond markets and our assessment of relative probabilities. As a starting point we break this down into whether in aggregate policy measures are sufficient or insufficient to allow sovereigns to continue to fund in the market in 1Q, and then consider the range of outcomes that fall under each category. As we discussed in *EST: The power of contagion*, the issue is a lot broader than purely whether or not the sovereigns can continue to fund. The associated stresses, for example, are all too apparent in the banking sector. Implicitly in Exhibit 163, for the sake of simplicity of presentation, we are assuming that if policy measures are sufficient to allow the sovereigns to fund, they are also sufficient to alleviate stresses elsewhere in the system.

While we expect that policy initiatives introduced over coming weeks will be sufficient to ensure sovereigns and financials can continue to fund in 1Q, we don't believe they are likely to be bold enough in the near term to do more than buy time. In our opinion, policymakers do not yet appear to be at the stage where they are likely to act radically enough to restore confidence sufficiently to price out fears of a sovereign default or euro area break-up. In part this is a function of the political process playing out in 17 democracies, in part the restrictions of the Treaties (see *EST: Of Treaties and auctions*). If we are to avoid a break-up of the euro area, the question is at what stage policymakers realize that the critical nature of the situation requires them to forfeit national political concerns, and whether at that point they are in a position to act radically enough to avoid the ultimate outcome becoming inevitable. This we believe will continue to be the story for the European debt markets in 2012.

As the process plays out, we believe the pressures on Germany are likely to lead to higher Bund yields on a 12-month horizon. Near term, while the risks are increasing that yields rise significantly, we continue to expect them to remain relatively range-bound. The political nature of developments makes the outlook very uncertain, and there is always the risk that the time frame for expected moves can end up being significantly compressed. There is also the distinct possibility for further exogenous shocks to change the landscape further. We don't class it as an exogenous shock because the end-game has been playing out now for some time, but the situation in Greece we believe has the potential to cause further market disruption and warrants more focus than it's currently being given by many market participants.

UK outlook

The main themes remain weak growth prospects, poor credit transmission mechanism and ongoing asset-shedding both by the private sector and the public sector. And this is in the UK alone; when taken in conjunction of the knock on effects of the European sovereign crisis, the outlook for the UK economy deteriorates further.

Overall, for 2012, we expect

- **Further monetary stimulus in February:** We expect the BoE to continue the quantitative easing program with a further £75bn program in 1Q next year. We expect purchases to total £350bn by June next year, which would equate to 45% of (free-float) conventional gilts outstanding. This raises various questions on the functioning of the UK gilt market where the official sector holds close to half the outstanding stock and the more fundamental question on the effectiveness of QE in raising output.
- **Worsening growth outlook implies more slippage on fiscal measures:** Thus far the coalition government has grudgingly kept up the "Plan A" program of severe deficit reduction with the aim to bring the cyclically-adjusted budget back to balance by 2014-2015. 2011 is the first full year of austerity and our expectation, as discussed in *The Sterling Investor* (07 November 2011) is that the deficit will only be reduced to 8.2%, 0.3% higher than originally forecast by the OBR. So the fiscal slippage has begun. The question remains whether the coalition government will be allowed, by the electorate, to hold this line next year. Further slippage on the fiscal deficit also argues for further QE.
- **A Treasury-led credit easing program:** The Treasury announced a credit easing program of £40bn over two years at the Autumn Budget Review. This is to include up to £20bn through a loan guarantee scheme that is in aid of lowering borrowing costs for smaller businesses. For now, this form of credit easing does not require increased T-Bill issuance. For 2012, it is likely that the government is forced to expand the program and, hence, increase the borrowing requirement.
- **Increasing money market stresses – reintroduction of Credit Guarantee Scheme:** Dislocations in money markets have emerged in Short Sterling and the LIBOR/SONIA basis. Lack of resolution in Europe highlights once again the fragility of the banking system in the UK. We think it is highly likely that the government re-introduces the CGS or Special Liquidity Scheme (SLS) as was done in 2008. A reintroduction of government-guaranteed bank debt is likely to tighten front-end ASW spreads.
- **High inflation volatility:** Inflation expectations in the UK are to be driven mainly by commodity performance. Over a short to medium term, inflation is biased lower as the BoE has forecasted due to persistence of the output gap. Over a 12-month view, the outlook is less clear and highly dependent on the severity and length of the European sovereign crisis.

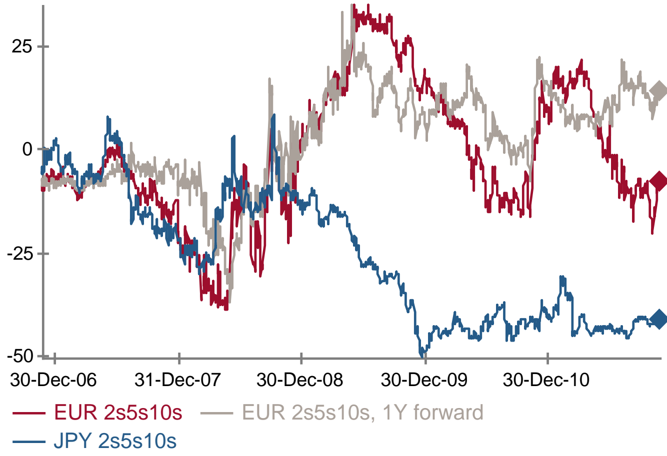
Top trade recommendations

Receive EUR 2s5s10s 1yr forward

Our view is lower for longer given the weak economic outlook for EUR. We think that there is plenty of scope for EUR 2s5s10s 1yr forward to move lower toward spot. In fact, we think that it can move even lower, perhaps closer to "Japanese" levels. The risk to the trade is a quick improvement in the economic outlook.

Exhibit 164: EUR 2s5s10s 1yr fwd has plenty of room to move lower in a lower for longer environment

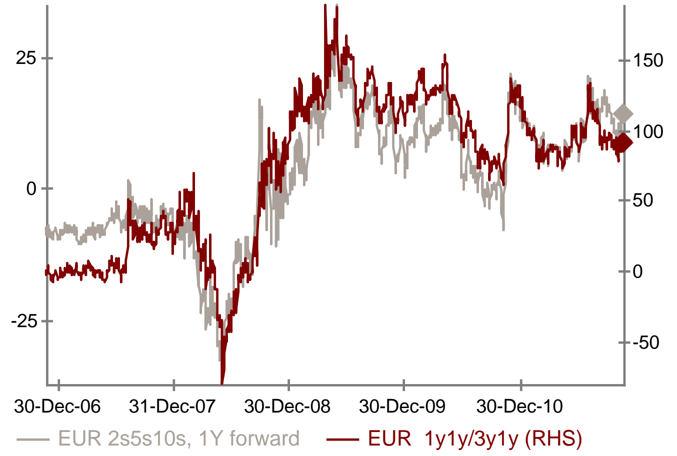
EUR 2s5s10s spot and 1y fwd, JPY 2s5s10s



Source: Credit Suisse Locus

Exhibit 165: EUR 2s5s10s 1yr fwd is too high versus the curve

EUR 2s5s10s 1y fwd, EUR 1y1y/3y1y



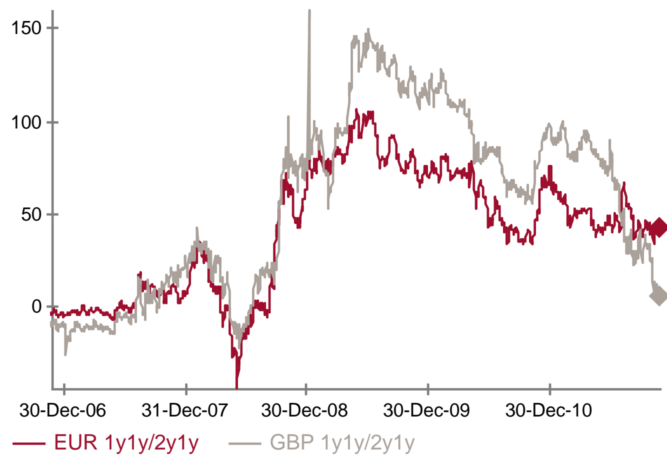
Source: Credit Suisse Locus

Receive EUR 1yr1yr/2yr1yr versus GBP

Our scenario of lower for longer seems to be already priced in the GBP curve, but not in the EUR curve. We think that the EUR curve would have to flatten relative to GBP, or if our view is wrong, then GBP is likely to out steepen EUR. We therefore recommend EUR reds/greens flatteners versus GBP steepeners. The box is too high relative to the 1yr spread. LIBOR-OIS poses some risk to the trade but the exposure is small given the trade is done as a box.

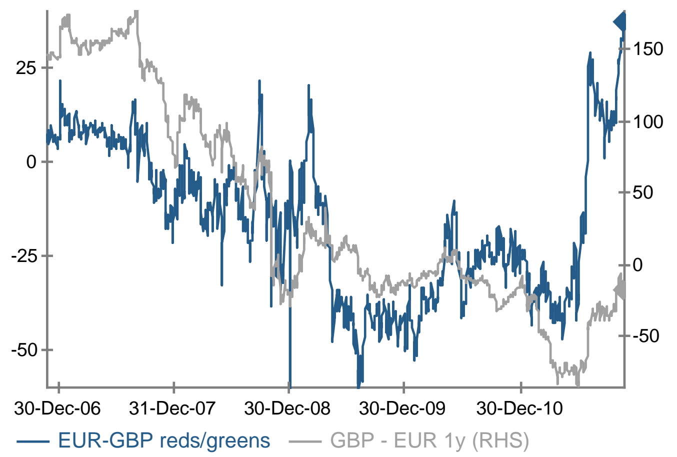
Exhibit 166: EUR reds/greens is too steep relative to GBP

EUR, GBP reds/greens



Source: Credit Suisse Locus

Exhibit 167: reds/greens box is too high relative to the 1yr spread



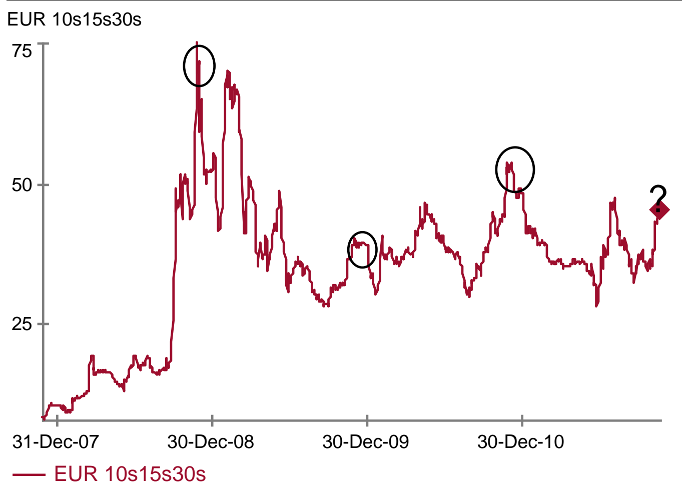
Source: Credit Suisse Locus

Pay EUR 10s30s 2yr forward

In recent years there is a strong seasonal pattern to the long end in EUR. 30yr tends to outperform into year end and underperform afterwards. The main reason for this pattern is asset allocation into 30yr by pension funds as we approach year-end while hedge funds sit on the sidelines. This can be seen in the 10s15s30s fly. We are so far following the script again this year, but given we are in a middle of a crisis, it is perhaps more complicated this time. While we acknowledge that 10s30s steepeners do not offer great risk/reward in the near term given the uncertain outlook, we think that they do over the medium and longer term. We therefore recommend EUR 2yr forward 10s30s steepeners for investors with the appropriate horizon. We recommend the position is scaled so as to be able to weather a minimum of a 30 bp loss while the upside is potentially at least 50 bp over the long term. The risk to the trade is near-term MTM loss related to flows.

Exhibit 168: Strong seasonality of 30yr; It outperforms into year-end and underperforms after

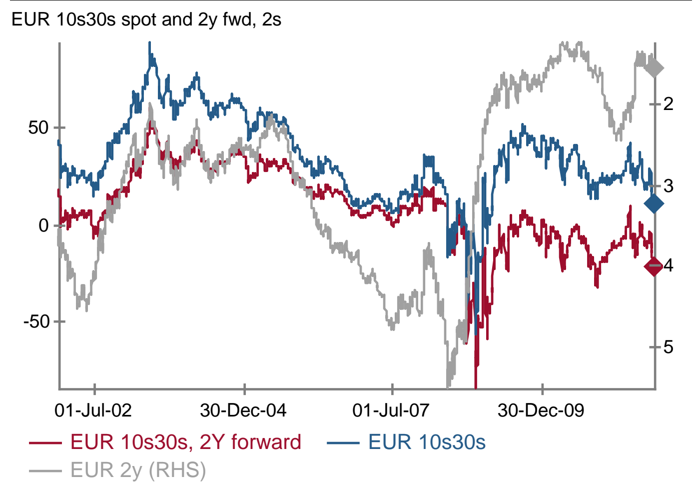
EUR 10s15s30s



Source: Credit Suisse Locus

Exhibit 169: EUR 10s30s is too flat relative to 2s; 10s30s 2yr fwd steepener offers good risk/reward

EUR 10s30s spot and 2y fwd, 2s



Source: Credit Suisse Locus

US Rates

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Looking for new yield lows

2012 Core Views

- US rates to remain low throughout 2012 as a result of growth concerns, resilient commodity prices, costly regulatory reforms, shrinking safe assets, and easy monetary policy.
- QE3 is likely to begin in the first half of the year, focusing on the belly of the curve in Treasuries and current-coupon MBS.

Thematic Trade Ideas

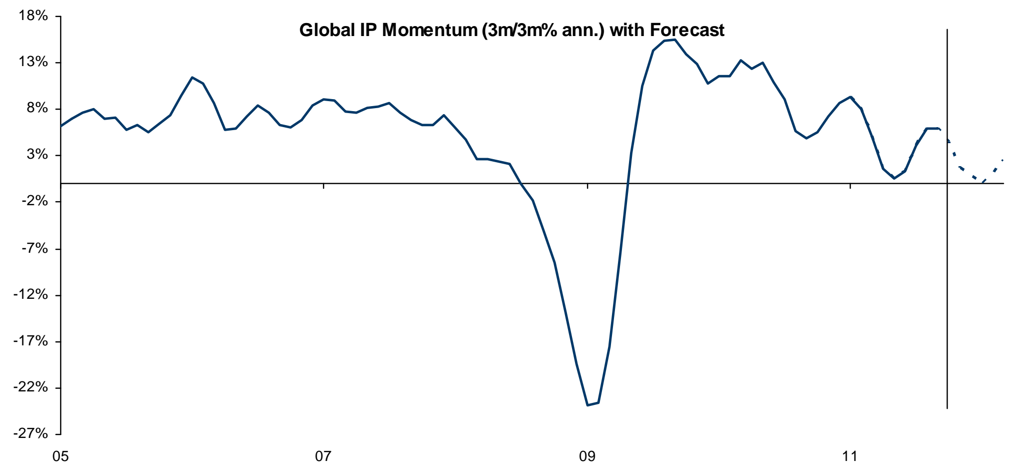
- We recommend receiving the 2yr rate, 3yr forward, which appears cheap based on the likely path of short rates.

Interest rates in the US are likely to remain very low throughout 2012 as our forecasts for the year suggest. We look for the benchmark 10yr government yield holding below 3% and ending next year closer to 2% but moving toward new all-time lows near 1.50% early in the year as the Fed embarks on a new round of quantitative easing and the European crisis enters its most acute phase. After hitting new lows, we see yields moving modestly higher toward our year-end forecast of 2.25% (see Exhibit 177 for details).

We see five major forces weighing on yields:

First, **concerns about the medium-term growth path** for developed economies are not likely to abate significantly. We fully expect the occasional speed-up scare to put the Treasury market on the back foot from time to time. However, the subsequent slowdown scares will likely continue to dominate investor psychology with the economy operating so far below trend.

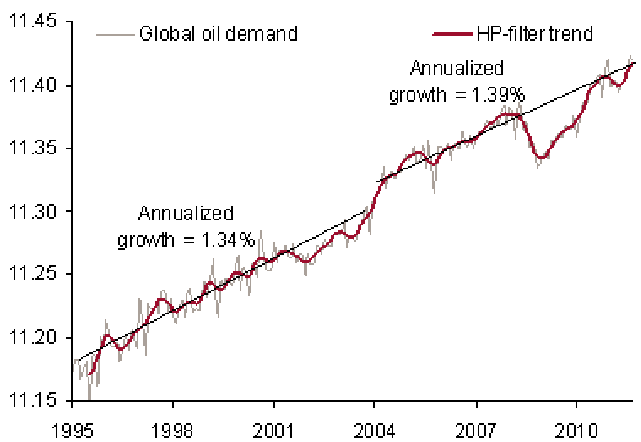
Exhibit 170: Global IP momentum with forecast



Source: Credit Suisse Global Strategy

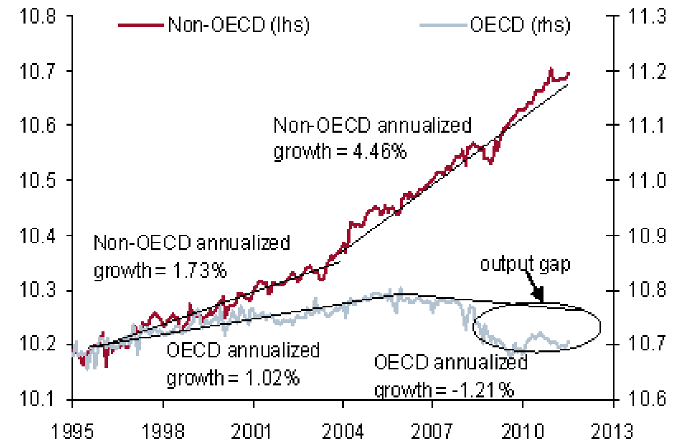
Second, we think that **commodity markets – particularly energy – will act as a speed brake on growth** that kicks in far before term interest rates rise meaningfully. China appears to be successfully engineering a "soft landing" and has scope for significant easing to promote continued robust growth. As and when developed market energy demand picks up against a backdrop of steadily rising developing world demand, the result should be relatively rapid appreciation of commodities like oil which remain, for now, in tight supply. Next year may resemble 2011 to the extent that a nascent recovery in the US is stalled by a rise in oil prices.

Exhibit 171: Oil demand back to trend



Source: Credit Suisse Commodity Strategy

Exhibit 172: … driven by non-OECD countries



Source: Credit Suisse

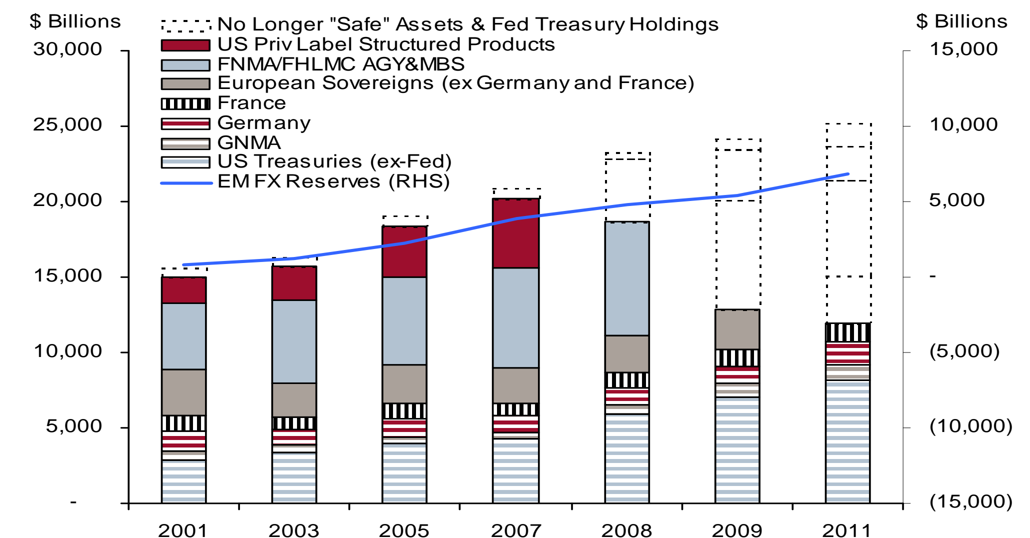
Third, **regulatory reform is raising the cost of financial intermediation**. This "tax" will fall not only on the banks but also on their customers. Most importantly, the need to hold more capital, and more expensive capital, will tend to raise borrowing costs. The Fed will need to hold real short rates at a lower level throughout the business cycle than we are accustomed to historically. We suspect that an average 2% real short rate will give way to an average closer to 1%. As a result, real yields on term inflation-linked bonds will stay in their recent range of 0.5%-1.5% versus their pre-2008 range of 1.75%-2.75%.

Exhibit 173: New range for forward real yields

Source: Credit Suisse Locus

Fourth, **the supply of "safe" assets has declined even as demand for them has increased**. Exhibit 174 shows the outstanding stock of USD- and EUR-denominated bonds with perceived very low risk. From 2005 to 2007, the stock of these safe assets increased about as fast, and for a time faster, than the FX reserves being accumulated in EM countries. Starting in 2008, this changed dramatically.

Exhibit 174: Shrinking universe of "safe" assets in the primary reserve currencies (USD and EUR)



Source: Federal Reserve, Haver Analytics®, Credit Suisse

The growth in EM reserves has been steady, but the supply of assets considered "safe" has contracted significantly. In 2008 the AAA-rated bonds tied to US real estate were shown to be far riskier than had been believed at the time of their issue. It was largely through the creation of these products that the demand for safe assets had been met, and the real estate bubble fueled. Next the debt of the US GSEs became too politically complicated for many reserve managers to continue buying. More recently Europe's sovereign issues have become risky assets in the eyes of the market with the exception of Germany and, for now, France. All the while the stock of US Treasury debt has increased but this has partly been offset by the Fed's purchase of a non-trivial sum of Treasuries and in any case has not been sufficient to keep up with demand. Exhibit 174 graphically depicts this reduction in "safe" assets available globally.

Fifth, and most importantly, **monetary policy looks set to remain very easy in the US**. The Fed will almost undoubtedly ease further in 2012. This easing will likely take two primary forms: Policy guidance and further asset purchases.

We expect the Fed to guide forward expectations even lower via enhanced commitment language. This might be accomplished by explicitly extending the timeframe of the current commitment. More likely, we think the Fed will move toward enumerated policy goals rather than dates. FOMC projections for the path of policy might soon be forthcoming. Fedspeak itself can be and has already been successful in lowering forward expectations. The message that the core of the Fed does not foresee hikes before unemployment drops below 7% and an interim period of mildly higher inflation would be tolerated is sinking in. This sort of target, even if it remains mostly implicit, will guide the markets to expect the funds rate to remain near zero for closer to five years than 18 months. This leaves plenty of room for intermediate term forwards to fall.

The second form of easing will come in the form of further asset purchases – e.g., QE3, in our view. **QE3 will likely focus on the belly of the curve in Treasuries and current coupon MBS** in order to have the maximum impact on mortgage rates. Operation Twist has focused a larger portion of purchases (30%) in the 30yr bond than was seen during prior asset purchase programs.

We think that this owes to the Fed's desire to match the Treasury duration impact of QE2 with dollar purchases limited to the cash they could raise through sales of their short-term holdings. Under QE3 the balance sheet will be expanded and funded with reserve creation, so there will be no such limit on the dollar value of purchases. Ahead of QE3 we think the scope for further "Twist"-induced flattening of 10s30s is limited as the market prepares for a shift in the composition of future, potentially larger, purchases in the belly. Meanwhile, the long end is likely to underperform as inflation expectations are boosted, at least for a time, on the balance sheet expansion.

QE3 will likely begin in the first half of the year before "Twist" purchases are finalized. As with prior purchase programs the bulk of the impact on market pricing is likely to occur ahead of the announcement as the market anticipates the action.

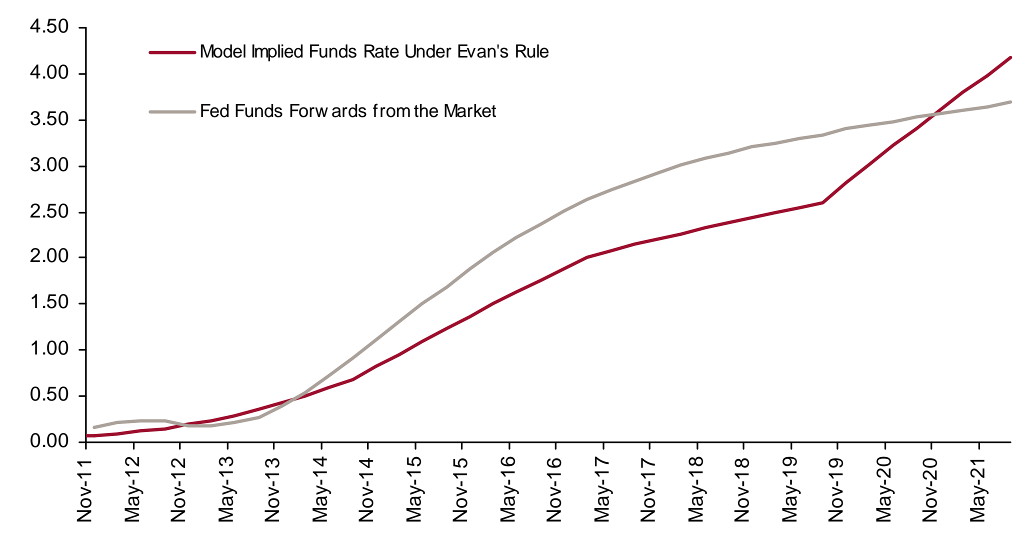
Core trade recommendation

Receive the 2yr rate, 3yr forward

The belly of the curve remains cheap to the likely path of short rates. We believe real money "sticker shock" at the low level of outright 5yr yields and a lack of leveraged money risk appetite versus steady supply have allowed intermediate forwards to remain cheap. In particular, we favor receiving the 2yr rate, 3yr forward (3yr2yr).

As we discussed in our 28 October 2011 *US Interest Rate Strategy Weekly*, the market is likely to price for a Fed following an "Evans Rule" (no hikes until 7% unemployment absent a significant rise in the medium-term inflation outlook to above 3%) even if the Fed does not make this policy explicit in the statement – and we suspect that it ultimately will.

Exhibit 175: Pricing an Evans Rule



Source: Credit Suisse

In Exhibit 176, we look at various points on the forward curve comparing their risk/reward characteristics under two scenarios. The first scenario assumes convergence to the model fair value under our Evans Rule assumptions. The second scenario assumes an unchanged yield curve in which case the full rolldown is earned but no more.

We compare the return, in running basis points, in each scenario to the level of 3m forward vol for each point. We can then present expected Sharpe ratios for each of the two scenarios.

On 1yr tails, the dislocation to the model increases as one goes further out the forward curve but so does volatility. The trade-off appears to be the best for the 4yr1yr point.

Even better, however, is the risk/reward for receiving 3yr2yr or 2yr3yr. The Sharpe ratios are virtually identical. Given the risk that FRA/OIS widening could propagate even further out the curve, we prefer, on balance, to receive in swaps that start 3-years forward or more.

The analysis leads us to favor receiving the 3yr2yr point (2yr rate, 3yr forward) at 2.02%. Fair value based on our Evans Rule analysis is 30 bp lower. Three-month rolldown is 16 bp. Implied three-month vol on the forward point is 125 bp annualized. The potential Sharpe ratio is 0.95 for a scenario under which the model is realized in three months. It is 0.51 if only the rolldown is realized. The risk of the trade is an increase in the 3yr2yr forward rate.

Exhibit 176: Which rate to receive?

Swap Rate	Market	Model	Deviation from model (bps)	Annualized Vol of Fwd (3m implied)	Sharpe Ratio if converge to model in 3m	3m Rolldown	Sharpe Ratio if realize rolldown over 3m	Avg of Sharpe Ratios
1y1y	0.83	0.81	1	62	0.08	0	0.00	0.04
2y1y	1.08	1.05	4	90	0.16	11	0.49	0.33
3y1y	1.69	1.47	21	134	0.63	16	0.48	0.56
4y1y	**2.35**	**1.96**	**39**	**170**	**0.92**	**17**	**0.40**	**0.66**
5y1y	2.74	2.34	40	203	0.78	8	0.16	0.47
2y2y	1.38	1.26	12	103	0.47	13	0.50	0.49
2y3y	**1.70**	**1.44**	**26**	**105**	**1.00**	**14**	**0.53**	**0.77**
3y2y	**2.02**	**1.72**	**30**	**125**	**0.95**	**16**	**0.51**	**0.73**

Source: Credit Suisse

Exhibit 177: 2012 US Treasury yield forecasts

Yields in percentages, spreads in basis point

	2011 Q1A	2011 Q2A	2011 Q3A	As of 11/22/2011	2012 Q1E	2012 Q2E	2012 Q3E	2012 Q4E
Fed Funds	0 - 0.25	0 - 0.25	0 - 0.25	0 - 0.25	0 - 0.25	0 - 0.25	0 - 0.25	0 - 0.25
2y	0.84	0.46	0.25	0.26	0.25	0.30	0.30	0.30
5y	2.28	1.76	0.95	0.91	0.60	0.90	1.00	1.10
10y	3.47	3.16	1.92	1.93	1.50	1.75	2.00	2.25
30y	4.51	4.37	2.99	2.88	2.50	2.90	3.20	3.50
2s-5s	144	130	71	65	35	60	70	80
2s-10s	263	270	167	167	125	145	170	195
2s-30s	367	391	275	262	225	260	290	320
5s-10s	119	140	96	102	90	85	100	115
5s-30s	223	261	204	197	190	200	220	240
10s-30s	104	121	108	95	100	115	120	125
2s-5s-10s	25	-10	-26	-38	-55	-25	-30	-35
2s-5s-30s	-79	-131	-133	-132	-155	-140	-150	-160
2s-10s-30s	159	149	59	72	25	30	50	70
5s-10s-30s	15	19	-12	8	-10	-30	-20	-10

Source: Credit Suisse

Japan Rates

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Rising yields in 1H should be a buying opportunity in 2H

2012 Core Views

- The structural part of the macro economy continues to be a focal point, and we expect 10yr JGB yields to stay in a 0.8%-1.5% range throughout 2012.
- Although we do not expect substantial yield increases, temporary upward pressure should strengthen in 1H 2012 after the prolonged low volatility environment in 2011.
- Key issues when constructing trade ideas include range-bound trading, continuing appetite for stability over growth, the VAT debate, and normalization of excess moves.

Thematic Trade Ideas

- We recommend barbell longs on the 5yr/7yr/10yr butterfly trade.
- We like JPY 10yr/20yr conditional bear flatteners.
- We recommend normalization trades, such as long swap spreads in the super-long sector and/or paying USDJPY basis.

Rising yields in 1H should be a buying opportunity in 2H

Noteworthy aspects of 2011 include very low volatility and a fairly steady and gradual decline in yields, in the absence of notable selling. We believe these two factors are very important for gauging the outlook for 2012.

No big rates move in 2011

The sharp decline in the global growth outlook and sluggish reconstruction demand after the 11 March earthquake have suppressed upward movements in yields, but there has not been a massive decline either. Volatility has been low, which would normally lead to moves to increase interest rate risk to benefit from greater carry and rolldown. Such moves have not materialized so far, however.

We think one major reason why we have not seen any substantial yield decline in 2011 has been the absence of credit costs arising from non-performing loans, which are normally a strong incentive for domestic banks to seek higher investment returns from

their bond portfolios. Japanese banks, which now appear financially sound, at least relatively, have had little incentive to try to substantially increase carry and rolldown profits, as they did in the early 2000s.

Meanwhile, we have not seen any meaningful improvement in the inflation environment in Japan, and the substantial increase in the deposit-loan gap on the domestic banks' balance sheets has strongly supported the JGB absorption in 2011.

While worsening Japanese debt dynamics are likely to become a market focal point from time to time, particularly in sell-off phases, we do not expect the fundamental structure of macro money flows to change and we believe trading in the JGB market will continue to be range-bound. We expect the JGB 10y yield to be contained in a 0.8%-1.5% range throughout 2012.

Turning to the outlook for 2012, we think there are eight key issues.

1) **What could happen after a prolonged period of extremely low volatility?**

Long positions have probably been established

As we have noted previously (please see the *Japan Interest Rate Strategy Weekly* of 6 October 2011), the market tends to be vulnerable to downward pressure after a prolonged period of low volatility. Even though we have not seen a substantial yield decline resulting from the massive accumulation by investors so far, it is reasonable to assume that the book values of their bond portfolios have become higher as they realized decent levels of profits in 1H 2011, according to their latest financial reports. Depending on market triggers and downward movements, we believe they will probably be forced to reduce interest rate risk.

2) **Deflationary pressure will likely persist along with the gloomy global growth outlook.** We expect core CPI inflation to remain in negative territory throughout 2012.

3) **Deposit-loan gap on banks' balance sheets could continue to grow.** While bank lending seems to have stopped declining, we do not expect it to grow meaningfully. With deposits continuing to grow at banks, the deposit-loan gap looks set to keep growing. We think domestic banks will continue to be a key market driver in 2012.

4) **Demand for over 10y JGBs should remain strong.** The data in the life insurance companies' latest financial results, for 1H FY2011, suggest they will continue to accumulate long JGBs (please see the *Japan Interest Rate Strategy Weekly* of 25 November 2011).

5) **We do not expect the BoJ to play a key role in yen rate developments.** As long as USDJPY hovers around its current level of 75, we do not believe the BoJ will introduce drastic easing measures beyond an increase in the asset purchase program.

6) **The debate about a consumption tax hike should become more realistic in 2012.**

Flattening pressures on the curve

The debate about a consumption tax increase will probably be a focal point in Japan in 2012. Specifically, it remains to be seen whether a preparatory bill will be passed. A consumption tax increase, which has been held at bay for more than 10 years and would take some time to put into effect, would considerably affect macro fund flows. Over the longer term, it is unclear whether a consumption tax increase would lead to a slowdown in growth, but initially expectations for low growth would probably strengthen. With Japan's economic growth and inflation unlikely to be very high in 2012, moves to raise the consumption tax would lower the fiscal risk premium and most likely affect super-long JGB yields.

7) **JGBs or, more precisely, the yen, could continue to attract global investors.** If the global market continues to focus on economic stability rather than growth, we believe foreign investors are likely to continue to accumulate JGBs at a high pace.

8) **We expect gradual normalization in spaces where we saw extreme moves after the European banking problems.** The JPY rates space, including USDJPY currency basis and long-end swap spreads, has been strongly affected by the funding stress surrounding the euro area banking sector. While we think it will take time to resolve the euro sovereign problems completely, extreme market moves are unlikely to continue and we expect a gradual normalization.

Australia/New Zealand Rates

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Down and under: diversifying from European implosion …

2012 Core Views

- Solid momentum in economic growth remains intact, but Australia's biggest strengths are also the nation's biggest weaknesses.
- Threats to Asian growth (compounded by sharp declines in commodity prices) and/or a prolonged seizure in funding markets are likely to determine the severity of any downturn.
- Monetary policy has been eased back to a "more neutral" setting. The asymmetrical risk is toward an assertive easing in policy to (and through) the lower bound.

Thematic Trade Ideas

- The supply of "safe" AAA assets is diminishing, and Australia is increasingly seen as a viable alternative. Our global view of lower-for-longer yields translates to AUD.
- Heightened fear should continue to drive front-end pricing, and volatility is likely to remain elevated until the European situation is resolved, one way or another.
- We recommend a long duration bias, favoring short-end flatteners, and FRA-OIS and swap spread wideners and received cross-currency basis as hedges to systemic risks.

Guilty until proven innocent: markets price in worst case until proven otherwise

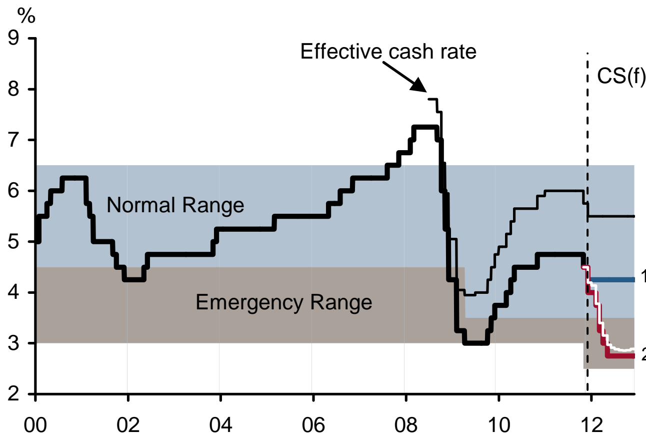
The macroeconomic backdrop remains one plagued by heightened uncertainty and disappointing nominal growth out of the North Atlantic. The age of deleveraging and systemic risks is likely to keep markets in a state of limbo for some time. Under our central scenario, global growth is likely to come at just 3.5%, with the lion's share of that growth emanating out of Australia's largest trading partners in the emerging world – particularly China. Our forecasts face asymmetrical risks to the downside. These asymmetrical risks are likely to continue to concern policymakers and traders alike.

Australia's medium-term growth prospects continue to be dominated by the extraordinary "once in a lifetime" mining boom, and growth is likely to continue around trend (3.25%). Mining investment as a percentage of GDP is at all-time highs (4.5%) and heading north (likely to hit 7% in 2013). The divergence within the economy is growing, however, with those sectors outside the mining boom expected to grow below trend as the deleveraging cycle continues and the strength of the structurally higher currency accelerates the economy's restructuring (see *Global Economy: De-synchronizing the global economy*).

The risks to Australia's growth trajectory stem from a sharp reversal in the terms of trade, postponement in large-scale mining projects, and tighter lending standards imposed by the financial system. We see these as risks for which the central bank and government have "ample policy ammunition" to respond – a scenario almost fully priced in by the market (Exhibit 178). Exhibit 179 shows the current pricing in the market per meeting.

Exhibit 178: RBA policy track priced for disaster

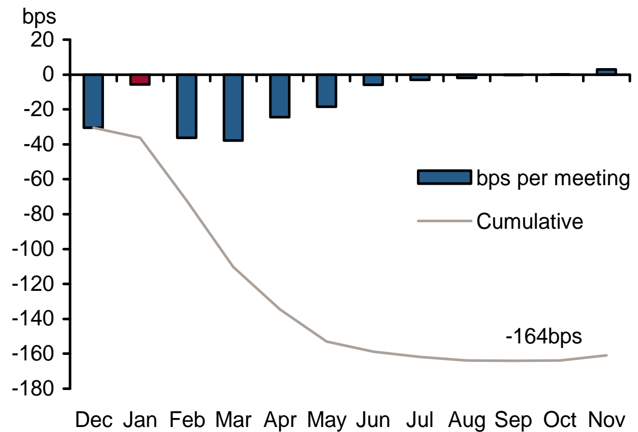
Two scenarios in binary world, market pricing (white line)



Source: RBA, Credit Suisse

Exhibit 179: A paid position in March offers value

The market is again flirting with an intermeeting cuts and has 113bp to March



Source: Credit Suisse

Our central scenario is the RBA will move policy to a neutral setting (4.25%), with a move to a mildly easy setting of 4% becoming increasingly likely to support confidence. Our downside scenario, the probability of which rises with the uncertainty in European politics, is highlighted in red (2) and involves a similar response to that seen in 2008/2009.

Lower bound no more; in an adverse scenario, we envisage the RBA cutting to 2.5%-2.75%

The main purpose of this illustration is to point out that the perceived lower bound could easily be broken. The RBA stopped at 3% during the 2008/2009 crisis, but as a result of the higher cost of bank funding, which would deteriorate further in another crisis, the RBA would have to cut a lot harder. In our second scenario, we would envisage the RBA cutting to 2.5%-2.75% to get lending rates down to 2009 levels.

Adding fuel to the fire, the marginal propensity to consume has diminished markedly following the Lehman crisis. The RBA has estimated a fall in the MPC from around 0.9 to 0.7. Another crisis would likely shatter confidence, accelerate deleveraging, and reduce the effectiveness of monetary and fiscal policy. War-gaming the likely response function of the government suggests that belief in Ricardian equivalence is likely to keep the fiscal barrels from being fired unless only to avert a severe recession. Such (relative) fiscal prudence has enabled yields down under to gap lower and supports our long duration bias.

Such a binary environment suggests that the market will remain in a state of limbo, trading between scenario 1 and scenario 2. Exhibit 180 highlights the greater volatility in the AUD front end and reflects the RBA's ability to respond. Volatility in front-end pricing is likely to remain elevated as the market jumps between scenario 1 and 2 and is likely to remain well above that seen in the US and Europe.

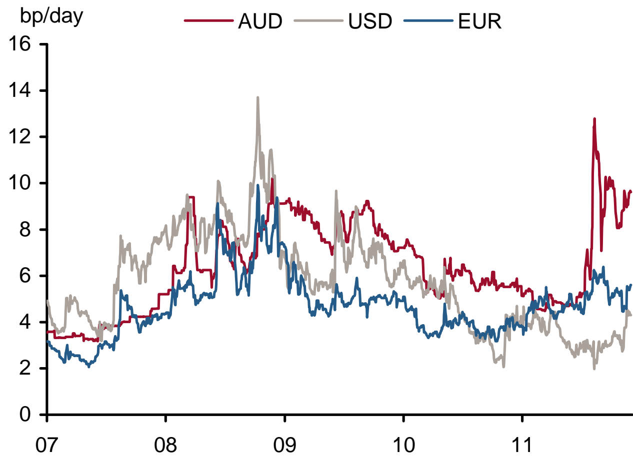
Additional policy easing in the North Atlantic is likely to drag yields lower down under

As a result of our lower UST forecasts, ACGB 10s may trade as low as 3.5% in 1Q

Yields are likely to remain lower for longer. Coupled with an increasing appetite for diminishing "safe" assets, we expect Antipodean rate markets to continue to benefit from increased allocation (especially out of euros). Our US strategy team expects the UST 10s to trade in a 1.8%-2.4% range near term, but with the growing likelihood of additional Fed easing, the team now expects a rally to 1.5% in 1Q, with yields remaining close to 2% over 2012. A lower-for-longer yield environment globally is clearly supportive for Australian government bond yields. As a result of our lower UST forecasts, ACGB 10s may trade as low as 3.5% in 1Q. Compounding the potential move, further RBA rate cuts could pull the spread between USTs and ACGBs lower and into a 150-175 bp range (from ~200 bp).

Exhibit 180: 6m1yr implied volatility – justifiably high

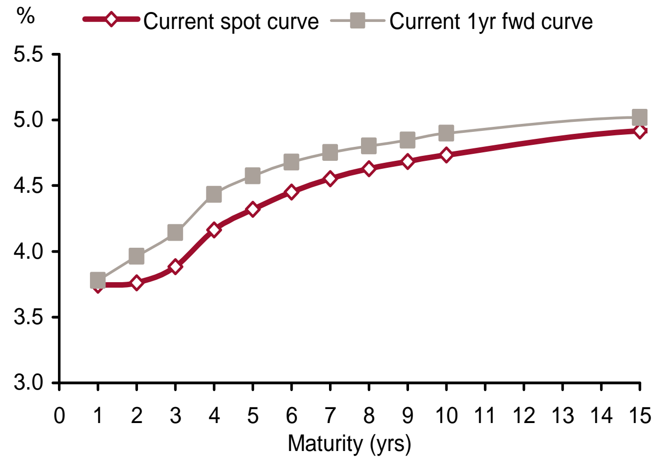
bp/day



Source: Credit Suisse

Exhibit 181: Australian IRS curve

Spread between 2s and 4s is too steep, in our view



Source: Credit Suisse

Core trades

Our European team expects longer-dated German bunds to come under further pressure, as a higher risk premium is priced in. Conversely, we expect ACGBs to gain from a greater scarcity premium, which is likely to eventuate from larger diversification flows into a market supported by the government's staunch commitment to returning to surplus (and a relatively strong AAA rating). Therefore, we recommend buying longer-dated ACGBs out to the new 15yr line and against short positions in German bunds. The risk to this trade is a substantial sell-off either through a repricing in premium or risk on.

In the front end, current market pricing remains rich to our core view, and the RBA seems likely to under-deliver against expectations in the near term. We recommend paying March OIS against short AUD currency or long 3yr bond futures. The risk to this trade is that the RBA cuts more aggressively than the 113 bp priced to March and the AUD currency outperforms or 3yr bond futures underperform.

Across the IRS curve, the 4yr node is cheap, in our view. We recommend establishing a paid 3m1yr versus a received 2y2y spread, at 85bps. The carry on the trade is attractive at ~10 bp per month. The spread should compress in a world where the RBA under-delivers and yields globally are pulled down. By extension, the 2s5s10s fly is also elevated in Australia and offers some protection against a sell-off in the long-end. The risk to these trades is an RBA emergency response by more than that currently priced.

As a hedge against European contagion, we recommend holding FRA-OIS wideners, received positions in cross-currency basis, and received 3s10s box EFP (which is likely to invert below -20 bp in a sustained panic). The risk to these trades comes from a strong and sustained "risk-on" rally that restores confidence in funding markets.

Securitized Products

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Bullish on Agency MBS, balanced on credit

2012 Core Views

- MBS should outperform rates based on strong supply/demand, contained prepays, and attractive carry. Banks, money managers, REITs, and the Fed should be buyers.
- Non-agency RMBS remains one of the cheapest asset classes, in our view. However, headline risk and weak technicals should drive performance in the medium term .
- For 2012, we have a more balanced but still constructive view on CMBS performance and value. Wider spreads are a positive, but economic and other headwinds persist.

Thematic Trade Ideas

- We recommend being long FN 4 hedged with 10yr swap, structurally long IOS, short 15/30 basis, and long GN/FN 3.5 swap.
- We recommend an overweight on high-coupon Prime and Alt-A fixed and long-term ARMs, a barbell portfolio risk profile via POA dupers and Subprime LCF, and an underweight on Subprime current pays.
- In CMBS, to protect against some of the downside risks, we advocate staying relatively high up in the capital stack until there are clearer signs of a more robust economic recovery.

Overview

The very wide distribution of potential outcomes that now exists in Europe should keep pressure on liquidity and prices in the credit-sensitive sectors of the securitized products markets until a definitive path of fiscal unity or dissolution is achieved

Despite constructive supply/demand fundamentals and attractive pricing in many segments of the Securitized Products markets, the escalating events in Europe and the fallout from new and existing policy initiatives should continue to be key drivers of risk, liquidity, and pricing as we enter 2012. We expect the first half of 2012 to be a very bumpy ride. The very wide distribution of potential outcomes that now exist in Europe will likely keep pressure on liquidity and prices in the credit-sensitive sectors of the SP markets until a definitive path of fiscal unity or dissolution is achieved. Within the weakest credit sectors, prices remain 30% to 40% below levels registered earlier in the year.

In addition to the events in Europe, there will be continued regulatory and capital pressures on banks as they transition to the new regulatory regimes established under Dodd-Frank, Volcker, and Basel III. Although the full ramifications from these transitions has yet to play out, it is safe to say that the banks will not be providing the same level of liquidity across the credit-sensitive parts of the SP markets as they have in the past. Front and center on the new policy docket is the likelihood of QE3. Although, like HARP, we believe QE3 would have a minimal impact on the structural problems plaguing the housing sector or economy, it would create very positive demand technicals for the Agency MBS sector thus augmenting the Fed's existing reinvestment policy.

Another initiative likely to be rolled out in 2012 is a GSE-based program to offload the credit risk of their agency guarantee book of mortgages to the private sector. This is likely to take the form of a fully funded unsecured debt issuance that synthetically recreates the cash flows of a first loss piece. The goal is to offload GSE credit risk to private investors and create a mechanism to set GSE guarantee fees going forward. While not a new construct, the success of the program will likely hinge on the level of investor demand in a climate of declining home prices and high unemployment. This program, if launched, could have negative implications for the non-agency credit sectors given the finite demand for credit risk.

Finally, as we look ahead to 2012 we believe housing is at a critical juncture and that policy will play a crucial role in its trajectory in the coming year. Our baseline home price forecast of down 7% in 2012 faces additional risk from an uncertain economic and employment outlook. Although there is clearly no silver bullet to cure US housing ills, we believe policy should revolve around a single, simple goal: stabilizing the national home price. We examine the best policy on the table to do this in our special outlook feature Absorbing the Excess in US Housing: A time for targeted policy.

Agency MBS

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The MBS outlook for 2012 builds on trends from 2011. A highly favorable supply/demand outlook is anchored by bank purchases and a potential Fed QE3 boost. We project excess demand of $150 billion for 2012, compared to a roughly balanced supply/demand picture this year.

Supply/demand technicals for Agency MBS should turn extremely positive in a QE3 scenario. The Fed could purchase up to $500 billion of Agency MBS if economic data weaken. Likely timing for this is March-April 2012, in our view. An escalation of European issues could accelerate this timing.

Favorable supply/demand outlook

Agency MBS demand should exceed supply by roughly $150 billion in 2012. This gap could be significantly wider in a QE3 scenario

Agency MBS demand should exceed supply by roughly $150 billion in 2012 based on expected net purchases from banks, money managers, and REITs (Exhibit 182). This favorable margin for MBS should increase sharply in a QE3 scenario or if the Fed decides to shift from Treasuries to MBS. A sharp pick-up in bank loan demand amid low rates is the key risk to this view.

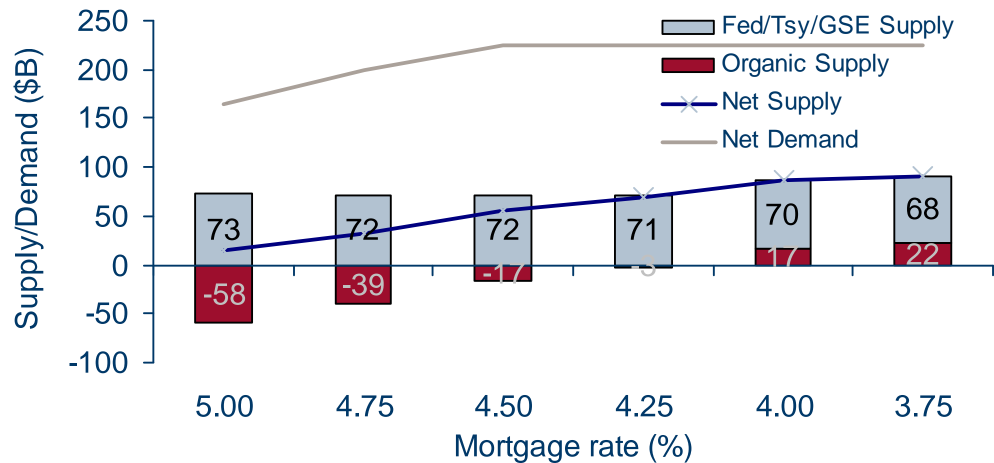
Organic Agency MBS net issuance should remain anemic (less than $50 billion) next year based on a weak housing and economic outlook. Expected GSE and Treasury MBS sales are likely to contribute $100 billion in additional supply to the rest of the market. Gross Agency MBS issuance in 2012 should be around $1.4 trillion, in our view. This should account for 90%-95% of total mortgage originations.

Banks have purchased roughly $123 billion of Agency MBS in 2011 (YTD). The factors (strong deposit growth, only modest loan demand, Basel III) that drove strong bank demand for Agency MBS in 2011 remain in place for 2012. We conservatively estimate banks to buy roughly $100 billion Agency MBS in 2012.

We expect money managers to maintain a neutral weight on MBS in 2012. We estimate MBS purchases of roughly $100 billion from growth in their assets.

We project MBS demand from REITs in 2012 to be roughly half of 2011 levels. REIT equity offerings are likely to have a soft start in 2012 based on recent underperformance of their stocks and weaker valuations (price to book). Furthermore, market concerns about the potential impact of HARP 2.0 on their portfolios are likely to continue to weigh on their stock valuations over the next few months. A sell-off in rates and an underwhelming HARP 2.0 prepay response are likely triggers for a renewed round of equity offerings for this sector.

Exhibit 182: Agency MBS demand should exceed supply by roughly $150bn in 2012



Source: Credit Suisse (US Mortgage Strategy)

Contained prepayments

HARP 2.0 should allow an incremental 720k borrowers to refinance through December 2013

GSE announcements on HARP 2.0 were largely in line with our (and market) expectations. The thrust of these announcements is to harmonize the reps and warranty waivers offered by the GSEs under HARP 1.0 and provide clarification on these offerings.

Our base case estimate is that HARP 2.0 should allow an incremental 720k borrowers (above the current 30k monthly pace) to refinance through December 2013. A highly successful program could result in roughly 960k incremental refis. This translates to a $125 billion-$170 billion supply of current coupon MBS and a duration supply of $40 billion-$60 billion 10yr equivalents. 70% of this volume should flow through in 2012.

Prepayments should broadly increase by about 8-12 CPR on the 2005-2008 vintage 5s through 6.5s, **resulting in speeds in the high 20s to high 30s** CPR during 2012. Front loading could result in somewhat higher prints in 1H 2012 at the expense of 2H 2012. Prepay increases in 2013 should be roughly half of 2012 levels.

We expect the full ramp up of HARP 2.0 to be delayed until May 2012 for FN speeds based on Fannie Mae's disclosure that increased AVM (automated valuation model) coverage under DU Refi Plus will be available in March 2012. This could lead to faster speeds on Golds versus FN higher coupons near term.

Relative value

Long MBS basis, Long GN/FN, Long IOs, Short 15/30 basis

We maintain an overweight recommendation on the MBS basis for 2012 based on an outlook for favorable supply/demand technicals, contained prepayments, and the carry advantage/yield pick versus rates. We favor expressing this view with a long FN 4 position hedged with 10yr swaps. We expect to tactically trade around this structurally long basis position.

We maintain a structural overweight on IOS due to a contained prepayment outlook and attractive carry. We favor executing this view by buying dips. Hedged carry on IOS remains attractive (8+ ticks monthly on IOS 4.5 hedged with FN 3.5s), and we expect this to continue in 2012. High coupon IOS indices remain cheap subsequent to auto-refi fears, and we expect them to outperform based on our prepayment view for HARP 2.0. A stronger than anticipated HARP response is a risk to higher coupon IOS.

We favor lower coupon GN/FN swaps in 2012. Banks remain buyers of Ginnies for the zero percent risk weight, especially as RWA concerns increase as a result of Basel III. Foreign investors continue to invest in Ginnies pending clarity on GSE reform. Lower coupon GN/FN swaps have traded directionally with rates given the longer duration of Ginnies. Additionally, we expect lower coupon FN supply to outstrip GN supply due to higher prepays and upcoming impact from HARP 2.0, which is a positive supply technical.

We recommend selling 15/30 basis and favor expressing this view by selling DW 3s vs. FN 4s using a 100% hedge ratio).15-years have cheapened versus 30yrs in the flattening since August 2011. We expect 15yrs to trade directionally with the curve in 2012. However, supply concerns are likely to continue to weigh on the 15yr sector in the near-term. Supply technicals have deteriorated for the 15yr sector due to a significant increase in the percentage of 30yr borrowers who are refinancing into 15yr mortgages compared to last year (25% in 3Q 2011 compared to 18% in 3Q 2010). At the current pace of paydowns, we expect roughly $60 billion in net supply in the 15yr sector over the next six months compared to $37 billion following last year's refi wave (October 2010-March 2011).

Non-Agency MBS

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With some categories seeing a more than 20% drop in prices this year, the non-agency sector has underperformed most risky asset classes and looks attractive relative to other credit sectors on a fundamental level. Notwithstanding such relative cheapness, we think in the medium-term valuations will be driven by weak technicals and risk-off sentiment emanating out of Europe. Although we do not believe that European banks will be forced to unwind their US non-agency holdings all at once, volatility and risk-premium is likely to remain elevated in the medium term as dealers, driven by Basel III rules and otherwise, step back and shy away from taking risk. We are more constructive long term – once the situation in Europe stabilizes and investors start to price in less dire housing scenarios. In addition, the non-agency sector is likely to outperform significantly if the government institutes a targeted policy to stabilize home prices. An REO-rental program where institutional investors purchase and subsequently rent out GSE-owned distressed properties could be one such program.

While fundamental performance continues to improve, uncertainties remain about regulatory policies and servicing practices

We expect banks to reach a settlement with state AGs if not by year-end then shortly thereafter which would result in an increase in principal modifications next year – although we don't expect large scale principal modifications in the non-agency sector. Servicing transfers will continue to remain one of the key risks especially in subprime as big banks transfer servicing in anticipation of Basel III to third-party servicers resulting in cash flow disruptions to bondholders. Although liquidation speeds are expected to increase from 2011 levels, severities will remain elevated in 2012, driven primarily by principal modifications especially in subprime – where servicing will be dominated by servicers like Ocwen.

We favor high coupon Prime and Alt-A fixed-rate and long-term hybrids as they provide higher carry and higher protection against downside risks. We also favor a barbell portfolio risk profile by adding risk through PoA Super Seniors and Subprime Last-Pays due to their high loss adjusted yields and to gain exposure to positive developments in housing. A continuation of risk-off sentiment in the near term poses key risk to this trade. We remain underweight Subprime current pays and front-pays due to cash flow uncertainties and extension risk.

CMBS

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We enter 2012 with a more balanced but still constructive view on CMBS performance and relative value. As we close out 2011, a year marked by more volatility than we anticipated, we see many of the same big picture themes that affected CMBS over the past year to still be relevant in the coming months.

We are big believers that commercial real estate fundamentals follow the economy. As detailed by our economics team above, the most likely scenario in the US is for continued moderate growth while the unemployment rate stays flat. With this backdrop we would expect the real estate recovery to remain tepid as fundamentals (such as occupancy levels and rental rates) stabilize further but do not show dramatic improvement. However, with the problems in Europe still unresolved, and the specter of a US recession there are some down side risks.

Still positive but cognizant of potential headwinds

In the continued low-growth, low interest rate environment, we expect commercial real estate prices to also remain near current levels and the various indices to be choppy. The performance of the so-called trophy markets should continue to outperform but we could also see increased demand for distressed properties too.

Despite our outlook for stabilizing fundamentals, we expect credit problems to continue to increase, especially in the first half of the year, before moderating in H2. While we expect some acceleration in credit issues, we do not expect it to be as rapid as it was during the 2009/early-2010 period. We believe the pick-up in delinquencies will be the result of loan maturities and more concentrated in the 2006 and 2007 vintages. For all of 2012, the volume of loans reaching their maturity date is not expected to be that much higher than it was over the past year but there is a much higher percentage of loans with an original 5yr maturity coming due. This is especially true in the first half of 2012. With 5yr term loans experiencing greater refinancing issues (due to generally more aggressive underwriting and a drop in real estate prices) we believe the delinquency rate could see some upward pressure in the first half of 2012.

This will leave servicers with a continued large pipeline of problem loans to deal with. As a result we expect modifications to continue to be very much in the spotlight in 2012. While servicers may come under increased scrutiny on these, we do not expect a significant change in the types of modifications and expect to see heavy use of both loan extensions and A-/B-note structures. More smaller loans may start to get modified in 2012 but generally we expect modifications to be dominated by the larger loans with smaller balance loans more likely to be liquidated. We would expect the current pace of liquidations to increase slightly.

We believe the availability of financing will continue to improve across all lender types but not enough, over the near term, to help the five-year term loans set to mature. We may, however, see improvement on the payoff rate of more seasoned loans (2002 origination). There are signs of increased lending from many of the traditional sources including banks, insurance companies as well as the GSEs. By contrast, most industry participants are ratcheting down their 2012 CMBS issuance forecasts. While we believe the start of the year will see light new issue supply, we see the potential for a resumption of securitized lending later in 2012 and think supply could surprise on the upside. That said, we are forecasting negative net supply over the course of 2012, which at this stage, we still see as a positive for spreads.

Aside from CRE and CMBS fundamentals, the sector also faces potential headwinds from an increasingly punitive and uncertain regulatory regime. The implementation of the Dodd-Frank Act, risk retention legislation, and more conservative capital requirements will affect liquidity, volatility, and relative value of multiple sectors, to various degrees, including CMBS in the coming year.

Despite some of the increased risks to the market, the sector is heading into the end of 2011 at wider spreads than where it started the year and we believe there remains pockets of strong relative value even as the risks have increased some. To protect against some of the downside risks (faltering economy, European headlines, regulatory volatility, continued near-term credit issues) we advocate staying relatively high up in the capital stack until there are clearer signs of a more robust economic recovery and improved employment outlook.

The reach for yield, in a low rate environment, and the generally high level of credit enhancement should keep this sector in demand from a variety of investor types. From a risk-reward standpoint we believe AMs offer the best value. We also believe that wider trading super-seniors will compress to both the tighter more seasoned (2005) names as well as to corporate bonds. We find AJs a little trickier as the further one goes down in credit enhancement the more bond specific credit work is required. Generally, given the 2007 maturity profile, we would favor the more seasoned AJs but also see some value (IO and optionality) in the lowest dollar priced bonds in the sector. We have a similar view when one goes further down the credit stack; the very seasoned deals (2004 and earlier) look attractive as short duration alternatives and there is no doubt some later-vintage legacy mezzanine bonds offer good value but generally a lot of credit work is needed to find these.

US CLO

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Of course what happens to Europe will exert a significant impact on world economies, including US. But barring a total collapse of the European Union and a deep recession in European economies, we still expect a positive outlook for US leveraged loan and CLO markets in 2012 for the following three reasons:

1) Favorable technicals. The "Maturity Wall" of leveraged loans has been reduced and pushed out substantially, as short-dated loans were either paid down or refinanced into longer-dated loans. In addition, we expect the supply and demand dynamics remain favorable to leveraged loans, providing a stabilizing force for this asset class for the next two years or so.

2) US economic fundamentals. Our economic research team is still holding the view that the US economy will muddle through in 2012. A moderate economic growth environment will be ideal for investing in high yield corporate sectors, such as leveraged loans and CLOs, in our view.

3) Company balance sheet. Most companies reported pretty strong earnings for the latest quarter, and high yield company balance sheets remain largely healthy. Credit metrics continue to improve, which makes us believe the default rate will stay at a low level for the next 12 months.

If our positive outlook is materialized, we expect a new-issuance of CLOs to be around $15 billion in 2012, on the back of possibly around $12 billion for 2011.

We are cognizant of the systematic risk the European situation could impose, and consequently we expect a very bumpy road next year. Thus, our favorable investment strategies in the CLO space for 2012 remain to be at the two ends of the capital structure: senior AAAs and equity/BB tranches. For investors of non-PIKable bonds, we like senior AAAs because of the substantial spread pick-up versus other senior tranches of structured products with similar profiles, and in a volatile market, their relative stability could provide attractive volatility-adjusted returns. Within the PIKable space, the equity tranches could be attractive for their strong current cash flows – on average, around 25%-30% annually. As default rates stay low, loan spreads remain relatively wide, and the LIBOR floor benefit continues to filter through to equity tranches, we expect many equity tranches to stay on course to generate high cash flows, especially those with more flexibility for reinvesting. In addition, BB tranches, especially those with the "Turbo" feature, could offer equally attractive risk/return profiles. If LIBOR rates rise, BB tranches could be even more attractive than equity tranches.

Alpha Strategies

Alternative income strategies for a zero rate environment

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2012 Core Views

- Extremely low interest rates in the developed world have created significant challenges to investors focused on earning stable, current income.
- We explore how alpha strategies across major asset classes can be an attractive alternative for income-oriented investors.
- Low correlation among strategies yields significant benefits to combining indices.

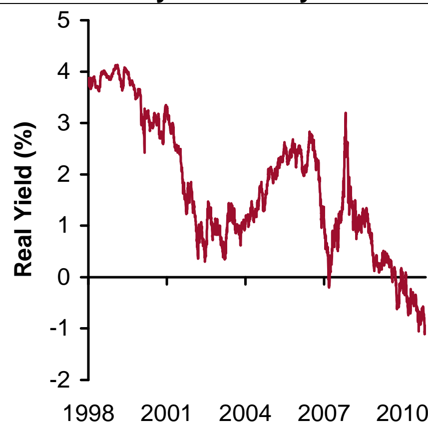
Thematic Trade Ideas

- Novel carry strategies in commodities (Custom 88 Long/Short Index) and interest rate markets (Adaptive Term Premium Index) offer attractive risk-adjusted return profiles.
- Adaptive volatility strategies in equities (Global Carry Selector, CS ACE) and rates (CSAVI) have delivered solid performance in the face of challenging markets.

Depressed short-term yields have created a "perfect storm" for income-oriented investors

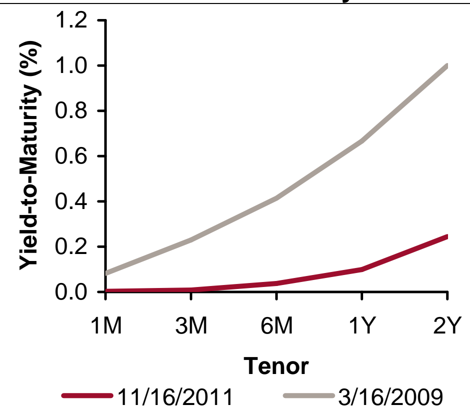
The current economic environment in the developed world, characterized by a tepid recovery and exceptionally loose monetary policy, has created a "perfect storm" for income-oriented investors by depressing yields. Exhibit 183 highlights the extremely pessimistic growth outlook being discounted by the market, with 5yr real yields in the US breaching -1% recently. Investors are effectively paying the US Treasury 1% per annum in real terms to ensure the inflation-adjusted return of their capital. Exhibit 184 highlights the impact of the US Federal Reserve's forward-looking policy guidance on short-term yields; current 2yr Treasury yields are almost 80 bp lower than at the equity market lows in 2009.

Exhibit 183: 5yr US TIPS yields



Source: the BLOOMBERG PROFESSIONAL™ service

Exhibit 184: Short-term UST yield curve



Source: the BLOOMBERG PROFESSIONAL™ service

Given the extreme compression in yields across most sectors of the fixed income market, investors are increasingly looking for alternative ways of generating income with minimal duration or market exposure. We explore a number of alternative income generation strategies across multiple asset classes. Alternative income strategies can generally be classified into two categories: (1) earning "carry" in an alternative market such as commodities, and (2) capturing volatility risk premia by selling options. Despite wave after wave of market crises in recent years, most of the strategies we introduce here have managed to remain relatively uncorrelated to major benchmark indices. The uncorrelated nature of many of our alpha strategies leads naturally to potential outperformance when we combine strategies together.

Novel approaches to capturing carry in commodities and interest rates

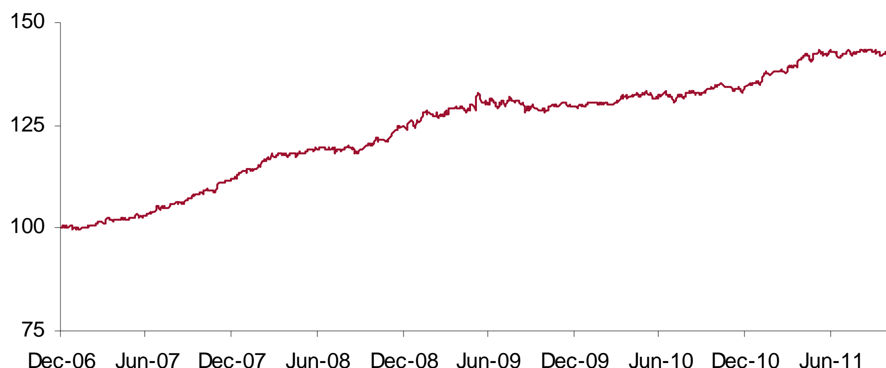
As markets have become more difficult, carry strategies need to consider more markets and become more adaptive

One of the most fundamental approaches to income generation in financial markets is the positive carry trade. Positive carry strategies aim to earn stable returns by establishing long exposures in high-yielding assets, funded by short exposures in lower-yielding assets with a similar risk profile. A common expression of the carry trade in fixed income markets involves going long mortgage-backed or corporate debt against a short in US Treasuries, but yield compression and the increasingly negative return correlation between US Treasuries and risky assets has eroded the risk-adjusted returns on these traditional carry trades. In this section, we introduce two novel carry strategies in commodities and rates.

While commodity markets are not usually associated with carry strategies, the growth in passive commodity index investing results in dislocations that create opportunities to earn carry in commodity futures markets. Financial investment in passive commodity indices is typically done via the purchase and periodic rolling of short-term futures contracts to avoid the inconvenience and cost of physically holding commodities. The tremendous growth in commodity investing over the past decade exerts significant upward price pressure on short-term futures contracts held by index investors, while prices on longer-dated futures contracts are less affected by excess demand from investors. This imbalance creates an opportunity to earn carry by selling short-term commodity futures contracts for which there is excess demand and simultaneously buying longer-dated futures that should gain in price as index exposures are rolled into the next contract. This strategy effectively earns carry by providing liquidity to index investors. Exhibit 185 plots the historical performance of the Credit Suisse Custom 88 Long/Short Index, which implements a strategy of selling short-dated futures contracts and buying longer-dated contracts for a subset of the DJ-UBS Commodity Index universe. The index has generated stable performance in recent years with a Sharpe ratio of 2.10, gross of fees, between 31 December 2006 and 23 November 2011.

Exhibit 185: Recent performance of the Custom 88 Long/Short Index

This chart presents the cumulative excess return index gross of fees from 31 December 2006 through 23 November 2011.



Source: Credit Suisse, the BLOOMBERG PROFESSIONAL™ service

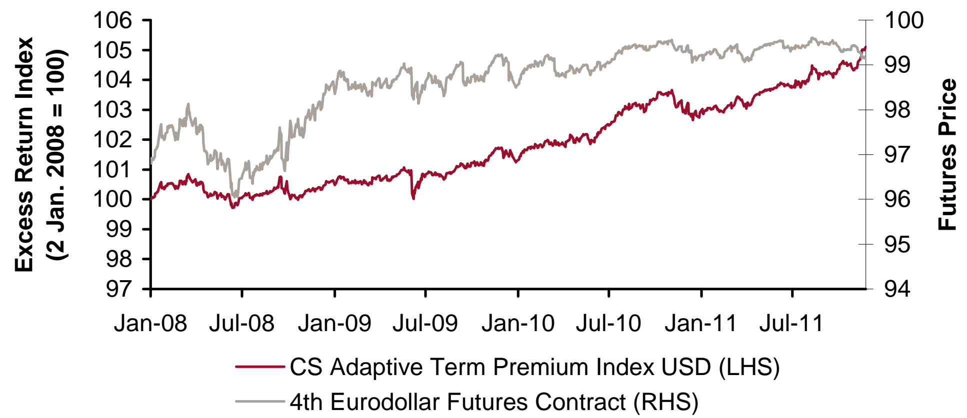
Although term premia in interest rate markets have been compressed recently, short-term interest rate futures markets offer tactical opportunities to capture attractive levels of carry. Naïve rates carry strategies typically buy and hold front-end Eurodollar and Euribor futures contracts to capture the historical upward bias in forward rates. As short-term interest rates have declined and stress in the money markets has become more common, strategies geared at capturing the interest rate term premia have become more adaptive.

Rates carry has become more difficult to capture, but an adaptive approach can yield significant benefits

The CS Adaptive Term Premium Index (ATPI) aims to extract the term premium from Eurodollar and Euribor futures markets and was designed with the current market environment in mind. The ATPI combines information from recent trends in rates, slope of the yield curve, and interest rate volatility to determine whether current market conditions are amenable to earning the term premium. If rates are rising, the curve slope is too flat, or volatility too high, the index will initiate a short futures position. Exhibit 186 compares the performance of the USD index versus the 4th Eurodollar futures contract. The index was stable during the market disruptions surrounding the Lehman bankruptcy and has generated positive returns in 2011, despite the stress caused by the European debt crisis. The broad index, which trades both Eurodollar and Euribor futures, has generated a Sharpe ratio of 1.61, gross of fees, between 31 December 2006 and 23 November 2011.

Exhibit 186: The Adaptive Term Premium Index USD versus Eurodollar futures

The CS Adaptive Term Premium Index USD is an excess return index and is plotted gross of fees.

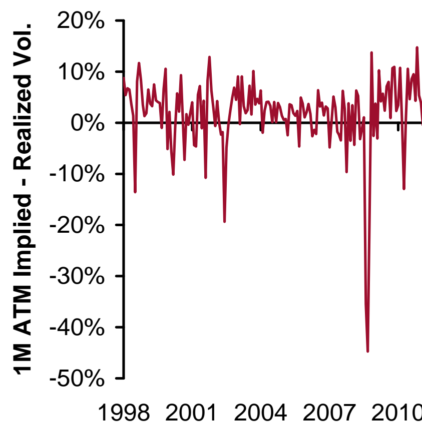


Source: Credit Suisse, the BLOOMBERG PROFESSIONAL™ service

Harnessing volatility risk premia for income generation

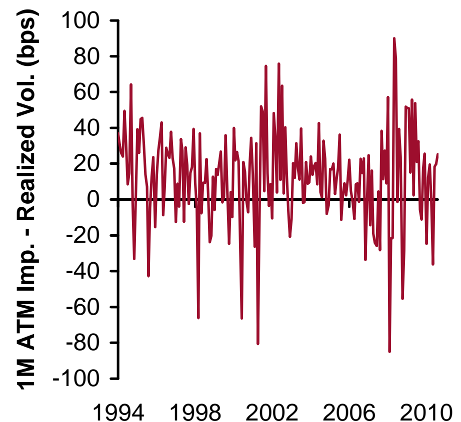
Easy monetary policy has unnaturally reduced the compensation for duration risk; volatility risk premia are more in line with historical norms

Exhibit 187: The S&P 500 volatility risk premium is historically high



Source: Credit Suisse Locus

Exhibit 188: 10yr USD swap rate volatility is above average

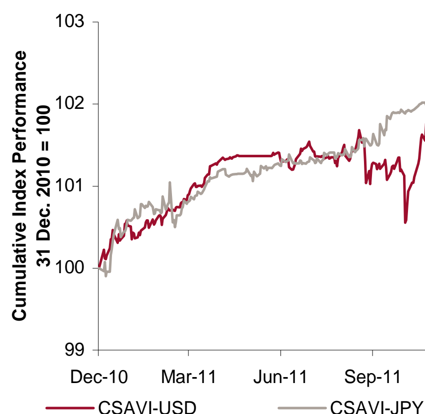


Source: Credit Suisse Locus

Although short-term rates have declined to historical lows, the difference between implied and realized volatility is within historical ranges in both equity and rates markets. Investors who find the current yield environment unattractive may be more amenable to earning volatility risk premia, which are still relatively large.

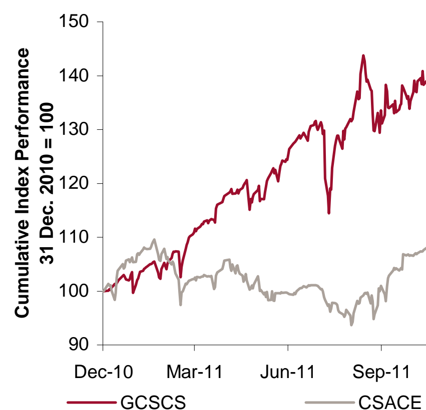
The Credit Suisse Adaptive Volatility Index (CSAVI) is a volatility strategy that aims to exploit the bias between implied and realized volatility in the US and Japanese interest rate swap markets. The strategy sells one-month into 10yr swaption straddles and delta hedges the position until expiry. CSAVI aims to improve risk-adjusted returns by dynamically adjusting its leverage depending on the prevailing volatility environment (various states of richness and cheapness in USD and JPY interest rate markets). As shown in Exhibit 189, CSAVI-USD and CSAVI-JPY have delivered stable performance well in excess of the return on most carry-oriented interest rate strategies for the year to date, despite relatively high volatility across developed bond markets.

Exhibit 189: Interest rate volatility strategies: CSAVI-USD and CSAVI-JPY



Source: the BLOOMBERG PROFESSIONAL™ service

Exhibit 190: Selling vol and writing covered calls in equities: GCSCS and CSACE



Source: the BLOOMBERG PROFESSIONAL™ service

Exhibit 190 charts the performance of two equity strategies, the Global Carry Selector Index and the Advanced Covered Call Equity Index. The Global Carry Selector is an equity volatility arbitrage strategy that extracts equity risk premia embedded in the option prices of four global indices (S&P 500, DJ Euro Stoxx 50, DAX, and Nikkei 225). The strategy systematically sells variance swaps and opportunistically buys forward variance as a hedge. For investors looking to enhance the income earned on core European equity allocations, the CS Advanced Covered Call Equity Index (CSACE) sells out-of-the-money call options against a core long position in the Euro Stoxx 50. Both strategies have performed well in 2011, despite the recent spike in equity volatility.

Summary

Exhibits 191 and 192 below provide an overview of the strategies introduced in this section and highlight the extremely low return correlation across the various indices. Over the challenging period from December 2006 to November 2011, all of the strategies have generated positive returns with Sharpe ratios ranging from 0.4 to 2.1. Except for the two equity indices, all of the daily return correlations are effectively zero, in stark contrast to the pervasive rise in correlations across asset classes. The lack of significant correlation among strategies naturally leads one to consider forming baskets or portfolios of indices that will capture significant diversification benefits and further improve risk-adjusted performance.

Exhibit 191: Daily excess return correlations, Dec. 2006 – Nov. 2011

	CSAVI-USD	CSAVI-JPY	ATPI	Custom 88 L/S	GCSCS	CSACE
CSAVI-USD	1.00					
CSAVI-JPY	0.07	1.00				
Adaptive Term Premium Index	-0.02	0.06	1.00			
Custom 88 L/S	0.00	0.05	0.03	1.00		
Global Carry Selector	0.04	-0.02	0.02	-0.04	1.00	
CS ACE	0.06	0.03	-0.07	-0.07	0.32	1.00

Source: the BLOOMBERG PROFESSIONAL™ service, Credit Suisse

Exhibit 192: Alternative income strategy summary, Dec. 2006 – Nov. 2011

Statistics based on excess returns for all indices.

Strategy / Style / BBG Ticker / Description	Avg. Ann. Return / Sharpe Ratio	Maximum Drawdown	Environments where the strategy is likely to underperform
Interest Rates			
Credit Suisse Adaptive Volatility Index – USD / Volatility / CSVIA20 Sells delta-hedged interest rate option straddles in the US rates market. The strategy aims to improve risk-adjusted returns by dynamically adjusting its leverage depending on the prevailing volatility environment.	2.89% / 1.67	2.43% (5/29/09)	Volatile markets where 10Y USD swap rates trade in a wide range.
Credit Suisse Adaptive Volatility Index – JPY / Volatility / CSVIAJ20 Sells delta-hedged interest rate option straddles in the Japanese rates market. The strategy aims to improve risk-adjusted returns by dynamically adjusting its leverage depending on the prevailing volatility environment.	0.45% / 0.46	2.90% (9/18/08)	Volatile markets where 10Y JPY swap rates trade in a wide range.
Credit Suisse Adaptive Term Premium Index / Carry / CATPUSEA Exploits persistent positive bias between implied forward rates and realized rates at the front end of LIBOR and Euribor yield curves. Identifies situations to go long or short rates futures conditioned on momentum, slope of the yield curve, and volatility in the rates market.	3.36% / 1.61	2.11% (6/8/09)	Front end of the yield curve is very flat and short-term interest rates are range bound.
Commodities			
Credit Suisse Custom 88 Long/Short / Carry / CSCUS88E Utilizes forward curve carry strategies to maintain ten long and ten short positions in single component commodity indices.	7.62% / 2.10	3.64% (10/29/09)	Short-term supply disruptions drive front-month futures prices much higher than longer-dated futures contracts.
Equities			
Credit Suisse Global Carry Selector / Volatility / GCSCS Extracts equity volatility risk premia embedded in the option prices of four global indices (S&P 500, DJ Euro Stoxx 50, DAX and Nikkei 225). The strategy systematically sells variance swaps and opportunistically buys forward variance as a hedge.	17.65% / 0.85	24.13% (5/7/10)	Global equity volatility spikes suddenly after a long period of calm markets.
Credit Suisse Advanced Covered Call Equity / Volatility / CSACE An adaptive covered call strategy on the Euro Stoxx 50 that: (1) optimally adjusts the strike of the covered call, (2) tactically buys long put positions when the market is expected to fall, and (3) opportunistically delta hedges written calls when the market trends upward.	7.69% / 0.45	17.43% (3/9/09)	Rapid declines in equities following a period of price appreciation.

Source: the BLOOMBERG PROFESSIONAL™ service, Credit Suisse

Technical Analysis

Retracement of risk

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2012 Core Views

- Global Risk Appetite medium-term "buy" signal is likely to be maintained into 1Q/2Q 2012.
- 10yr German yields are at risk to 2.55%, then 2.80/90%.
- The 5yr US swap spread is likely to widen, and the 10s30s US bond curve is likely to flatten to 79/77bp.
- We are bearish NZD and AUD in the FX risk complex and favor shorts, preferably versus the GBP but also versus USD and EUR.

Thematic Trade Ideas

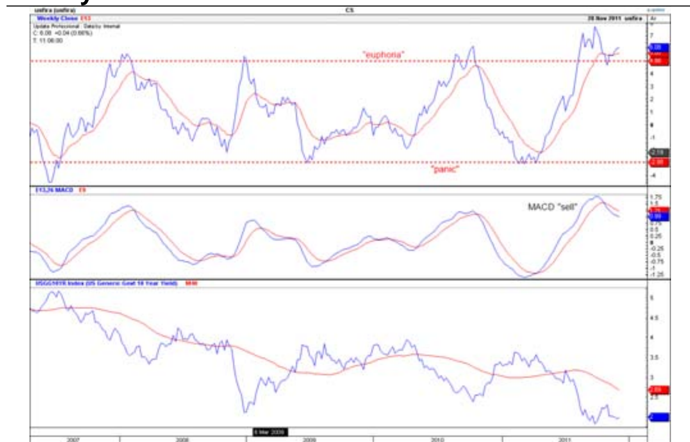
- Short 10yr Germany on a break above 2.35%, for 2.80/90%.
- 5yr US swap spread widener. 10s30s US bond flattener.
- Buy GBPNZD for 2.29/33; buy GBPAUD for 1.8145; buy EURNZD for 1.95/98; buy EURAUD for 1.5463; sell NZDUSD for .6560/6405; sell AUDUSD for .8050/7950.

Global Risk Appetite maintains a medium-term "buy" signal

The European financial crisis has dominated 2011 and this has been reflected in dramatic moves in European periphery yields/spreads, European banks and credit, and severe stress in funding measures. As we head into the end of the year though, we not only maintain a medium-term "buy" signal for our Global Risk Appetite measure, but also a "sell" signal for US Duration Risk Appetite (c.f., Exhibit 193).

This suggests to us that a "risk-on" phase should persist into Q1 2012 and potentially even Q2. What is clouded though is what will actually drive this anticipated recovery, as core equity markets (developed and emerging) still look at risk lower.

Exhibit 193: Credit Suisse US Duration Risk Appetite – weekly



Source: Updata, the BLOOMBERG PROFESSIONAL™ service, Credit Suisse

Exhibit 194: 10yr German Yield – weekly

Source: CQG, Credit Suisse

10yr Germany above 2.35% completes bearish yield base

On a break, we would see scope for 2.80/90%

The most immediate candidates for our 2012 core views are a reversal in fixed income markets, higher core yields in the European core, and potentially the US. **We thus favor a break through key support by 10yr German yields above 2.25/35% – the 38.2% retracement of the 2011 rally – to confirm a bearish yield base. This should then open the door to a sell-off to 2.54/58% initially and eventually back to 2.80/90%.** In conjunction with this, we also look for a steepening of the 2s10s German bond curve and a move back to 207/213bp. Our concern with both of these views/trades is that, if correct, we suspect our targets will be hit early in 2012.

US swap spread widening and bond curve flattening risk

Exhibit 195: 5yr US swap spread – weekly

Source: Updata, the BLOOMBERG PROFESSIONAL™ service, Credit Suisse

Exhibit 196: 10s30s US bond curve – weekly

Source: CQG, Credit Suisse

5yr US swap spread has completed a large widening base

We look for widening to 53.12 bp initially, with our core target at 62.26/66.13 bp

The **5yr US swap spread**, since putting in a tightening low back in March 2010, has traded sideways in a broad range. However, the summer widening challenge of the range support at 38.13 bp flagged a potential base in the making. The rising 200-day moving average at 27.89 bp has now buoyed the spread to conclusively break wider and confirm this large base. While short term we look for tightening consolidation, once this has run its course we look for widening initially to the 38.2% retracement of the 2008/2010 tightening at 53.12bp. We must allow for this to hold initially. However, we look through here to 60.00 bp with our core target at 65.26/66.13 bp – basing target and the 50% retracement level – where we would look for better support to be found. Direct extension through here would allow a test of the March 2009 chart peak at 70.75bp. Intermediate MACD momentum has confirmed the break and continues to point to further widening.

A break of the former range chart peaks at 38.13/37.00 bp would ease immediate widening pressure. Key though is the 200-day moving average and chart lows at 28.00/27.89 bp and only through here would the widening base be negated.

A top remains in place for the 10s30s US bond curve

Risks remain lower to better support at 79/77 bp

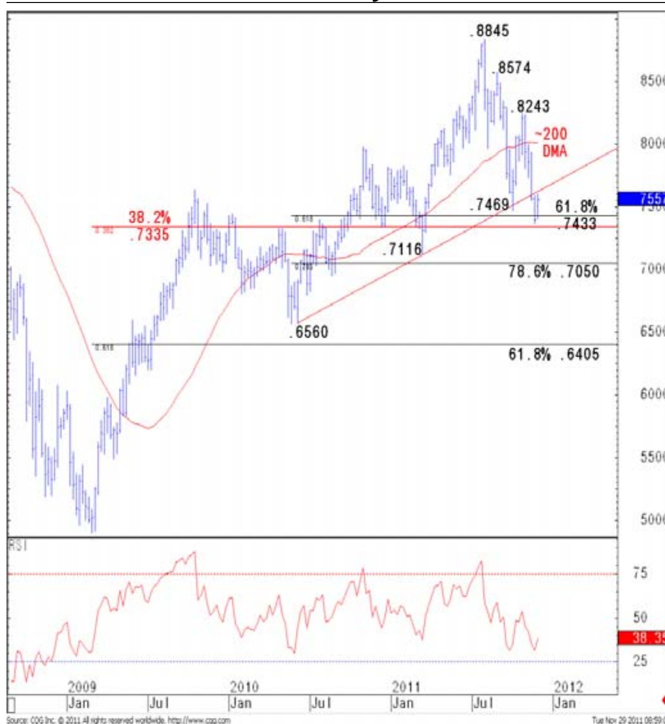
The **10s30s US bond curve**'s sharp flattening throughout August to October had left price action stretched and the reversion to initial support at 96 bp – the 38.2% retracement of the 2006/2011 steepening – prompted a near-term corrective steepening. The bounce though has stalled at "neckline" and 40-day moving average resistance, now at 101 bp, and the reversal from here leaves a large flattening top in place. We therefore look for flattening to extend through 96/94 bp to what we see as substantial support at 79/77 bp – significant chart support and the 50% retracement level. We look for a floor to be found here and a fresh attempt to form a base. Intermediate MACD momentum continues to trend lower (c.f., lower panel above) additionally pointing to further flattening.

Immediate resistance is at 101 bp, but through the 106 bp swing high is needed to ease immediate flattening pressures. Only a steepening back through 116/119 bp – the 200-day moving average and the 38.2% retracement of the 2010/2011 flattening – would turn the trend neutral again.

Bearish NZD and AUD

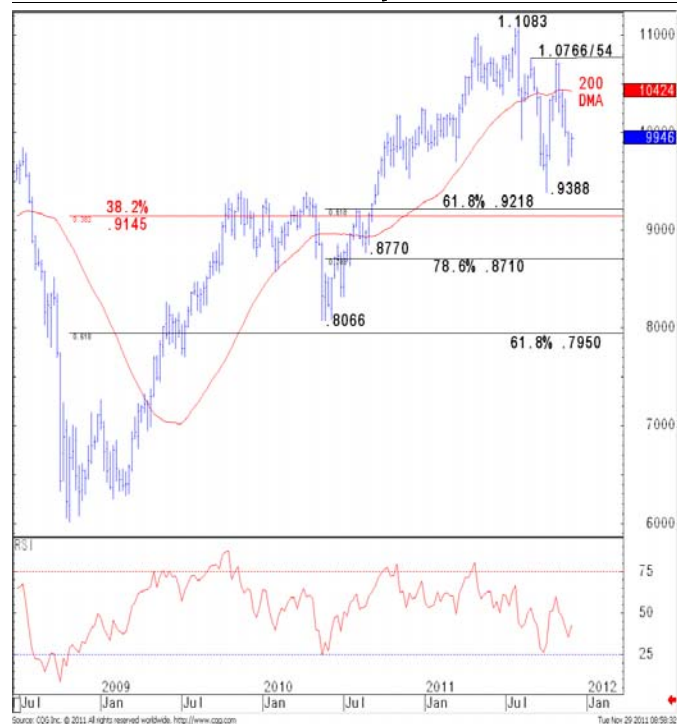
We are bearish **NZD** and **AUD** versus a range of G10 currencies, with important tops being established for these two commodity currencies through H2 2011, reinforced in Q4. Although the **NZDUSD** and **AUDUSD** bearish outlook is convincing, we are concerned by the potential for aggressive whipsaw price action and the more binary nature of these spot rates to shifts in “risk-on/off” sentiment. We, therefore, prefer to express this bearish view for these currencies in cross rates against **GBP**, but also offer expression versus **EUR**.

Exhibit 197: NZDUSD – weekly



Source: CQG, Credit Suisse

Exhibit 198: AUDUSD – weekly



Source: CQG, Credit Suisse

NZDUSD and AUDUSD hold intermediate-term tops

Risks are now lower to retracement targets allied to the 2009-01 up moves

NZDUSD has produced a succession of lower lows and highs since the August peak (.8845) to recently violate the October trough (.7469) and the 61.8% retracement of the 2010-11 up leg at .7433. Now poised at the 38.2% Fibonacci retracement of the entire 2009-11 secular move at .7335, we expect surrender here into year-end. This would then confirm a more decisive, longer-term bearish tone for a move initially to the .7116/.7050 chart/retracement support area. However, the more likely outcome for 2012 is for a correction still lower, closer to price/61.8% retracement support at .6560/6405.

Back above .8243 would ease the bearish tone; a more positive outlook needs .8574.

AUDUSD recovery efforts in October faltered just ahead of the August peak at 1.0766 and the subsequent erosion is approaching the 2011 low at .9388; through here would reinforce the broader topping theme and target the area defined by the 61.8% retracement from 2010-11 and more importantly the 38.2% retracement from 2009-11 at .9218/.9145. Below here reinforces a more significant, longer-term top and aims minimally at .8770/10 support cluster. However, we view the risk still lower for 2012, down to the .8066/7950 price/retracement area.

Recapture of 1.0766 would switch from defensive to constructive to target the 1.1083 high.

Exhibit 199: GBPNZD – weekly

Source: CQG, Credit Suisse

Exhibit 200: GBPAUD – weekly

Source: CQG, Credit Suisse

GBPNZD and GBPAUD are developing bases

We look for breaks through the tops of 2011 ranges up to secular retracement targets

GBPNZD plunged to a new secular low in August (lowest level since 1978), but the solid recovery effort since then has signaled at least an intermediate-term base. The pattern of higher recovery highs and lows points to further upside into 2012, recently reinforced by the nudge above the 61.8% retracement of the 2011 down leg (2.1010). The risk for H1 2012 is through the 78.6% retracement at 2.1680 up to the 2001 swing high at 2.2530. For next year, however, the threat is still higher, closer to the 38.2% retracement of the whole 2008-11 erosion and swing high from 2009 in the 2.2985/2.3304 area.

Only below 1.9517 eases upside pressures; though 1.8961 would expose the 1.8549 low to a retest.

For **EURNZD** the push above 1.7776 in November opens the door through 1.8888 up to key barriers at 1.9573/9867.

GBPAUD has been grinding out a rounding bottom throughout 2011 with activity since the August low at 1.4759 was established pointing to a better recovery effort from this base. The higher low in late October points to a retest of key price peaks at 1.6389/6493 into early Q1 2012. Above here would complete a more important base and point to recovery through 78.6% retracement level for 2010-11 at 1.7420 back to the 2010 swing high at 1.8145. This should offer notable resistance, but a violation would leave the 38.2% retracement for the entire 2008-11 sell-off exposed to a retest at 1.9460.

Below 1.4987 would point to a retest of the 1.4759 low.

For **EURAUD**, a base needs a move through 1.4342 to minimally aims at 1.5463; overshoot risk would be 1.6060. Below 1.2925 sees bearish pressures resume.

Credit Suisse Forecasts

Exhibit 201: Credit Suisse Interest Rate Strategy Forecasts

US - Treasuries	1Q 2012	2Q 2012	3Q 2012	4Q 2012	Japan - JGBs	1Q 2012	2Q 2012	3Q 2012	4Q 2012
Fed Funds Rate	0-0.25	0-0.25	0-0.25	0-0.25	Overnight Call Rate	0-0.1	0-0.1	0-0.1	0-0.1
2-Yr Yield	0.25	0.30	0.30	0.30	2-Yr Yield	0.15	0.15	0.15	0.15
5-Yr Yield	0.60	0.90	1.00	1.10	5-Yr Yield	0.45	0.50	0.35	0.40
10-Yr Yield	1.50	1.75	2.00	2.25	10-Yr Yield	1.15	1.20	0.90	1.00
30-Yr Yield	2.50	2.90	3.20	3.50	30-Yr Yield	2.05	2.15	1.90	2.00
UK - Gilts	**1Q 2012**	**2Q 2012**	**3Q 2012**	**4Q 2012**	**Australia - ACGBs**	**1Q 2012**	**2Q 2012**	**3Q 2012**	**4Q 2012**
Base Rate	0.50	0.50	0.50	0.50	Cash Rate	4.25	4.25	4.25	4.25
2-Yr Yield	0.45	0.45	0.50	0.50	2-Yr Yield	3.00	3.25	3.75	4.00
5-Yr Yield	1.00	1.20	1.25	1.30	5-Yr Yield	3.15	3.50	3.75	4.25
10-Yr Yield	2.20	2.25	2.30	2.35	10-Yr Yield	3.50	3.75	4.00	4.50
30-Yr Yield	3.00	3.00	3.05	3.10					
EU – German Benchmarks	**1Q 2012**	**2Q 2012**	**3Q 2012**	**4Q 2012**					
ECB Repo	0.75	0.75	0.75	0.75					
2-Yr Yield	0.50	0.60	0.70	0.75					
5-Yr Yield	1.25	1.30	1.35	1.45					
10-Yr Yield	2.50	2.60	2.70	2.80					
30-Yr Yield	3.20	3.30	3.40	3.50					

Source: Credit Suisse

Exhibit 202: Credit Suisse FX Strategy Forecasts

Major Currencies

vs. USD	EURUSD	USDJPY	GBPUSD	USDCHF	USDCAD	AUDUSD	NZDUSD	USDSEK	USDNOK
3m	1.25	74.00	1.47	0.98	1.10	0.90	0.71	6.56	7.80
12m	1.26	75.00	1.47	0.98	1.09	0.91	0.72	6.47	7.58
vs. EUR		**EURJPY**	**EURGBP**	**EURCHF**	**EURCAD**	**EURAUD**	**EURNZD**	**EURSEK**	**EURNOK**
3m		92.50	0.85	1.23	1.38	1.39	1.77	9.75	8.20
12m		94.50	0.86	1.23	1.37	1.38	1.75	9.55	8.15

Source: Credit Suisse

Exhibit 203: Credit Suisse Global Commodities Forecasts

Commodity	Units	2012F	2013F
Brent Crude Oil	(US$/bbl)	105.00	115.00
US Natural Gas	(US$/MMBtu)	4.40	4.90
Copper	(US$/MT)	8,950.00	8,900.00
Iron Ore 62% TSI	(US$/MT)	153.00	140.00
Gold	(US$/oz)	1,850.00	1,790.00
Palladium	(US$/oz)	771.00	920.00
Corn	(US$/bu)	680.00	630.00

Source: Credit Suisse

Exhibit 204: Credit Suisse Global Leveraged Finance Strategy Forecasts

2012 Projections	Total Returns (%)	Default Rates (%)
US High Yield Bonds	6-9	1-3
US Leveraged Loans	2-5	1-2

Source: Credit Suisse

Exhibit 205: Credit Suisse Global and Developed Economics Forecasts

		2011				2012E				Q4 to Q4				Annual Average			
		Q1	Q2	Q3E	Q4E	Q1	Q2	Q3	Q4	2009	2010	2011E	2012E	2010	2011E	2012E	2013E
Global	Real GDP (y/y)	**4.5**	**3.9**	**3.8**	**3.3**	**3.2**	**3.4**	**3.5**	**3.9**	**2.0**	**4.8**	**3.3**	**3.9**	**5.1**	**3.7**	**3.4**	**4.1**
	IP (y/y)	**6.6**	**4.9**	**5.4**	**5.0**	**4.5**	**5.0**	**4.5**	**5.2**	**1.3**	**8.0**	**5.0**	**5.2**	**9.6**	**5.5**	**4.8**	**...**
	Inflation (y/y)	**4.5**	**4.9**	**5.0**	**4.7**	**4.0**	**3.7**	**3.7**	**3.6**	**2.4**	**3.8**	**4.7**	**3.6**	**3.5**	**4.7**	**3.7**	**3.6**
US	Real GDP (q/q ann)	0.4	1.3	2.0	2.2	2.2	2.2	2.3	2.3	-0.5	3.1	1.5	2.2	3.0	1.7	2.1	2.0
	IP (y/y)	5.5	3.8	3.4	3.5	3.0	3.6	3.0	2.8	-5.5	6.3	3.5	2.8	5.3	4.0	3.1	3.0
	Inflation (y/y)	2.2	3.3	3.8	3.4	2.6	1.7	1.5	1.5	1.5	1.2	3.4	1.5	1.6	3.2	1.8	1.7
	Policy rate (end of period)	0-.25	0-.25	0-.25	0-.25	0-.25	0-.25	0-.25	0-.25	...	...	...	...	0-.25	0-.25	0-.25	0-.25
Japan	Real GDP (q/q ann)	-2.7	-1.3	6.0	-2.2	1.3	1.9	2.1	1.8	-1.9	2.5	-0.1	1.8	4.1	-0.4	1.3	1.8
	IP (y/y)	-2.6	-6.8	-2.3	-3.9	-1.5	3.8	0.7	3.3	-5.1	6.0	-3.9	3.3	17.3	-3.9	1.6	2.8
	Inflation ex. fresh food (y/y)	-0.8	-0.3	0.2	-0.3	-0.3	-1.0	-0.7	-0.8	-1.7	0.0	-0.3	-0.8	-1.0	-0.3	-0.7	-0.8
	Policy rate (end of period)	0-0.1	0-0.1	0-0.1	0-0.1	0-0.1	0-0.1	0-0.1	0-0.1	...	...	...	...	0-0.1	0-0.1	0-0.1	0-0.1
EU	Real GDP (q/q ann)	3.1	0.7	0.6	-2.2	-1.7	0.1	0.8	1.5	-2.1	1.9	0.5	0.2	1.8	1.5	-0.5	1.7
	IP (y/y)	6.6	4.2	4.2	0.5	-2.2	-3.8	-2.5	1.0	-7.1	8.1	0.5	1.0	7.5	3.9	-1.9	3.4
	Inflation (y/y)	2.5	2.8	2.7	3.1	2.5	1.9	1.9	1.5	0.9	2.2	3.0	1.4	1.6	2.8	1.9	1.6
	Policy rate (end of period)	1.00	1.25	1.50	1.00	0.75	0.75	0.75	0.75	...	...	...	...	...	...	...	...
UK	Real GDP (q/q ann)	1.6	0.4	1.9	-1.2	-0.1	1.7	1.9	2.6	-0.8	1.3	0.7	1.5	1.8	0.8	0.7	2.5
	IP (y/y)	2.0	-0.8	-0.8	-1.9	-2.3	-0.7	-0.4	1.0	-6.0	3.3	-1.9	1.0	2.1	-0.4	-0.6	2.0
	Inflation (y/y)	4.2	4.5	4.7	4.6	3.4	3.0	2.9	2.6	2.1	3.4	4.6	2.6	3.3	4.5	3.0	2.5
	Policy rate (end of period)	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	...	...	...	...	0.50	0.50	0.50	0.50

Source: Credit Suisse estimates, Thomson Reuters DataStream. Note: IMF PPP weights are used to compute regional and global aggregate figures. GDP growth is quarter/quarter annualized, except for global GDP, which is year/year. Industrial production and inflation are expressed as year/year changes. US, UK, and Euro-16 inflation rates are headline, whereas Japan inflation rates are excluding fresh food.

Exhibit 206: Credit Suisse Emerging Economics Forecasts

	Real GDP Growth (%yoy)			CPI Inflation (% change, Dec over Dec)			Policy Rate (end-year, %)			Gross Government Debt as a % of GDP		
	2010	2011E	2012E	2010	2011E	2012E	2010	2011E	2012E	2010	2011E	2012E
Latin America	6.4	4.0	3.2	6.7	6.7	6.2	8.39	8.70	7.81	45.8	44.7	44.7
Brazil	7.5	2.8	2.5	5.9	6.3	5.3	10.75	11.00	9.50	54.7	54.3	55.7
EMEA	4.3	4.4	3.2	6.2	6.2	5.4	3.94	4.23	4.40	31.7	31.3	31.4
Russia	4.0	3.8	4.0	8.8	7.5	6.0	2.75	3.75	4.25	8.3	8.7	8.5
Turkey[1]	9.0	7.5	2.1	6.4	8.4	6.2	6.50	5.75	5.75	42.9	38.5	35.9
Emerging Asia	9.2	7.1	6.8	5.0	4.6	4.7	4.25	5.13	5.30	47.5	45.6	44.4
China[2]	10.3	8.6	8.2	4.6	4.5	4.6	4.62	5.62	6.12	45.7	43.2	41.5
India[3][4]	8.5	7.2	7.3	9.0	6.0	6.2	5.75	7.50	6.25	71.1	70.0	70.0
Emerging Markets	7.5	6.0	5.4	5.5	5.3	5.1	4.67	5.32	5.36	42.9	41.5	40.8

Aggregates for regions and total emerging markets are weighted by 2010 nominal GDP ($bn) figures. The data for India is for fiscal years.
Source: the BLOOMBERG PROFESSIONAL™ service, National Statistical Offices, IMF World Economic Outlook, IHS Global Insight, Credit Suisse.
(1) The monetary policy committee changed the definition of the policy rate on 18 May 2010 to the one-week repo rate from central bank's overnight borrowing rate previously.
(2) Includes Treasury bond and foreign state debt owed by the State Council only. 2010F level is estimated to be 50.3% if include local government's affiliated debt.
(3) Revised GDP series with base 2004-05. All historical ratios expressed as % of GDP may appear smaller since the revised GDP values in the new series (with base year of 2004) are higher.
(4) The RBI uses a mix of instruments, such as the repo rate, reverse repo rate, CRR (cash reserve ratio), etc.

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