Global Economics Weekly

status, in two waves.

Issue No: 12/25 June 27, 2012

Goldman Sachs Global Economics, Commodities and Strategy Research at https://360.gs.com

Are There Fewer "Safe" Assets Than Before?

Dominic Wilson dominic.wilson@gs.com +1 212 902 5924

Charles P. Himmelberg charles.himmelberg@gs.com +1 917 343 3218

Lotfi Karoui lotfi.karoui@gs.com +1 917 343 1548

Kamakshya Trivedi kamakshya.trivedi@gs.com +44 (0)20 7051 4005

Jose Ursua jose.ursua@gs.com +1 212 855 9705

Constantin Burgi constantin.burgi@gs.com +44 (0)20 7051 4009

Stacy Carlson stacy.carlson@gs.com +1 212 855 0684

George Cole george.cole@gs.com +44 (0)20 7552 3779

the safe asset pool. But we are not convinced that these issues are the Euro area's balance of payments adjustments and fiscal austerity. Outside the issues of financial regulation and EM reserve accumulation, the major sources of increased demand are symptoms of this environment. This combination of impacts is largely the predictable reflection of these macro forces. Reverse these two major problems and much of the supposed shortage of safe assets is likely to reverse too. Unfortunately, while we think slow progress will ultimately be made on both



\$5,000

2006

2007

Source: GS Global ECS Research and Haver Analytics

The notion that the universe of risk-free assets \$10,000 has shrunk sits oddly with the fact that developed market governments have seen very large increases in their public debt levels. It is hard to believe that both stories are true and, by and large, they are not. As we show here, the absolute supply of safer sovereigns has risen and the overall supply of safer bonds has remained quite stable. It is, however, true that rising demand for these assets has outstripped rising supply. And it is also true that there have been dramatic changes in the composition of \$35,000

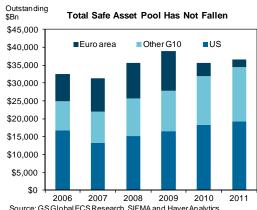
really separate from two big problems: the ongoing unwind of the excessive leverage in the private sector in the US and Europe, and \$10,000 of these two big macro problems, our core view is that these twin sources of uncertainty are set to be with us for some time to come.



2008

2009

Has Held Up



Safe Assets include qualifying sovereign and private assets in each year



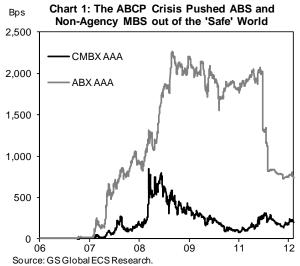
Are There Fewer Safe Assets Than Before?

Over the past few months, there has been increased focus on the notion that there is a shortage of 'safe' assets. The latest BIS Annual Report states that "the global pool of 'safe' government bonds has shrunk...leading to a major shortage of safe assets in the global financial system". And the IMF's April Global Financial Stability Review argues that the "universe of what is considered safe is shrinking" with potentially negative consequences for financial stability. The idea that there is a shortage of highly-rated sovereigns is also cited as a reason for why government bond yields in the major markets are so low.

We think the picture is more complicated than is often presented, as we discussed in a recent *Global Markets Daily: Are there Really too few "risk-free" bonds?*, dated June 13, 2012 and elaborate here. The twin effects of the US housing and mortgage crisis and the European debt crisis have seen a large pool of assets formerly regarded as safe come to be viewed as risky. Although what has happened here is less a reduction in the supply of safe assets, and more a realisation that those assets were never as safe as they were priced, it has seen several trillion dollars of assets lose highly-rated status, in two waves.

But the notion that the universe of risk-free assets has shrunk sits oddly with the notion that developed market governments (including those whose bonds are still viewed as relatively safe) have seen very large increases in their public debt levels. It is hard to believe that both stories are true and, by and large, they aren't. As we show here, the drop in these two areas has been largely offset by the very sharp rise in government issuance in other G10 sovereigns in recent years. As a result, the absolute supply of safe sovereigns has risen and the overall supply of safe bonds has remained quite stable. The *composition* of that supply has shifted sharply as the share of private securities and European debt has dropped, but these are shifts towards the 'least risky' parts of that universe.

The fact that the price of safe sovereigns has risen substantially in the face of increased supply indicates that



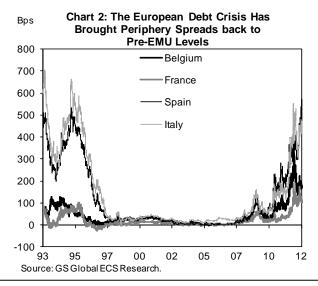
supply shortages are not the major driver. Instead, what has happened is that demand has increased dramatically and it is important to understand why. We think the largest effect comes from the ongoing deleveraging process and the broad weakness in this post-bust recovery. The increase in government supply is itself a part of this process and the demand for safe securities is the other side of the same coin, not a separate force. If these pressures ease, the demand for safe assets is likely to fall, but so is the supply. But not all of the increased demand is 'cyclical'. The secular increase in EM reserve accumulation, changes in bank regulation and shifts in collateral usage may drive some underlying increase in the demand for safer assets over time.

The situation in Europe is different. The supply of Eurodenominated safe assets *has* fallen significantly. Moreover, the inability to provide broad public backing and the 'incompleteness' of the currency union have emerged as a major source of growth risk and credit risk relative to the US and other similar non-EMU economies. Indeed, the contrast between the US and European experiences is striking. That problem could be changed by more radical changes to EMU's structure itself, but it highlights the peculiar systemic risks that the Euro area structure has generated.

The Assets Formerly Known as 'Safe'

Two major events over the past five years have seen assets formerly regarded as safe come to be viewed as risky. The first is the US housing and mortgage crisis, which precipitated sharp downgrades to AAA-rated ABS (Asset-Backed Securities) and non-Agency MBS (Mortgage-Backed Securities. The second is the European sovereign crisis that has seen downgrades to sovereign ratings, substantial widening in peripheral sovereign spreads and shrinkage in highly-rated private markets (such as covered bonds, ABS and MBS).

More specifically, the following developments have dramatically reshaped global fixed income markets:



世界の意味があるが

Issue No: 12/25 2 June 27, 2012

- The widening of ABX spreads in the summer of 2007 marked the beginning of a paradigm shift in the perceived riskiness of the US ABS and non-Agency MBS markets (much of which was originally AAA-rated). Eventually, these markets lost their risk-free status (see Chart 1), with the bulk of that shift completed by early 2008. This shift could have been even more dramatic had the GSEs (Government-Sponsored Agencies) not been placed under conservatorship by the Federal Housing Finance Agency (FHFA) in September of 2008. That conservatorship effectively allowed Agency debt market to preserve its risk-free status.
- Within the Euro area, the loss of risk-free status has affected not only private assets such as covered bonds or AAA ABS but also sovereign assets (see Chart 2). The pool of government bonds that are counted as risk-free—in ratings and spread levels—has shrunk in absolute and proportional terms. In 2008, before the big increase in public spending, outstanding government debt for the four largest Euro area economies (Germany, France, Italy and Spain) was EUR3.7trn. By

- the end of 2011, that total had risen to EUR4.6trn. But the German and French totals stood at EUR1.0trn and EUR1.3trn, or just 23% and 29% of the total amount.
- As a result of the same shifts in the riskiness of Euro area bonds, the proportion of sovereign bonds in the G10 markets that are viewed as risk-free had fallen to around 80% of the total. With increased public debt levels, even sovereigns in the safe group may be less safe than before, as witnessed by the downward shift in average ratings in non-Euro sovereigns.
- Central banks—particularly the Fed and BoE—have bought their own sovereign debt, removing a nonnegligible fraction of supply from public hands.

By now, the story of both the US mortgage crisis and the European sovereign crisis is relatively well known. Capital inflows into the US (the so-called 'savings glut') were an important part of the compression of US credit spreads and the increased supply of securitised products designed to meet the demand for AAA-rated USD securities. In Europe too, the post-EMU spread

What is 'Safe'?

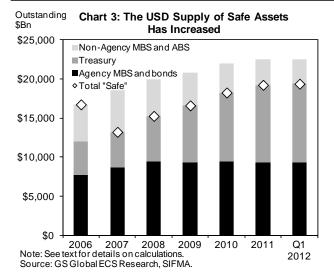
No asset is truly risk-free, so the issue of how to classify safety requires some judgment. Traditionally, AAA-rated assets have been viewed as the appropriate universe. Since the US government is no longer AAA-rated, any comparison on that basis quickly comes to the conclusion that the supply of safe assets has fallen. But the fact that US Treasuries still see strong demand during any flight to quality sits oddly with that conclusion. Absolute spread levels provide another potential means of differentiating, but may reflect differences in liquidity and bond structure. A more intuitive measure of whether the market treats bonds as safe is the extent to which they are positively correlated to increases in global risk aversion.

Table 1 shows—comparing weekly changes in bond yields to changes in the SPX, VIX or US Treasuries—that on that basis, US Treasuries, non-Euro area G10 sovereigns, US agencies and AAA-rated covered bonds are still being treated as safe. Within the Euro area, German, Dutch and Finnish bonds also have high negative correlations with the SPX and positive correlations with the VIX and UST yields. Bond yields for Spain, Italy and Belgium (of the non-program economies) are clearly no longer being treated as safe, consistent with their ratings, while Austria and France are somewhere in between despite being rated comparably to the US, with positive—but low—correlations with the VIX.

Table 1: Safe Assets Defined by Positive Yield Correlation with Risk Appetite*

| | USD | DEM | GBP | JPY | ITL | FRF | SEK | NOK | ESP | AUT | NLG | BEF | US | Eur AAA |
|------|-------|-------|------|------|-------|------|------|------|-------|------|------|-------|--------|---------------|
| | 030 | DEIVI | GDF | JF I | 11. | FKF | SER | NOK | LOF | ζ. | NLG | DEF | Agency | Covered Bonds |
| | SPX | | | | | | | | | | | | | |
| 2009 | 0.24 | 0.44 | 0.19 | 0.15 | -0.01 | 0.25 | 0.38 | 0.31 | 0.14 | 0.15 | 0.20 | 0.14 | 0.16 | 0.36 |
| 2010 | 0.53 | 0.51 | 0.40 | 0.24 | -0.18 | 0.39 | 0.44 | 0.35 | -0.12 | 0.27 | 0.44 | 0.22 | 0.41 | 0.18 |
| 2011 | 0.72 | 0.46 | 0.57 | 0.34 | -0.01 | 0.19 | 0.62 | 0.54 | -0.01 | 0.24 | 0.44 | -0.17 | 0.53 | 0.34 |
| 2012 | 0.66 | 0.64 | 0.62 | 0.38 | -0.31 | 0.08 | 0.64 | 0.28 | -0.19 | 0.15 | 0.50 | 0.00 | 0.47 | 0.28 |
| | VIX | | | | | | | | | | | | | |
| 2009 | 0.30 | 0.39 | 0.13 | 0.15 | 0.17 | 0.34 | 0.34 | 0.29 | 0.20 | 0.29 | 0.29 | 0.26 | 0.30 | 0.32 |
| 2010 | 0.43 | 0.44 | 0.32 | 0.20 | -0.28 | 0.32 | 0.35 | 0.30 | -0.18 | 0.23 | 0.35 | 0.16 | 0.32 | 0.10 |
| 2011 | 0.64 | 0.48 | 0.55 | 0.34 | -0.01 | 0.20 | 0.58 | 0.43 | 0.01 | 0.28 | 0.42 | -0.05 | 0.50 | 0.37 |
| 2012 | 0.62 | 0.54 | 0.55 | 0.36 | -0.32 | 0.05 | 0.49 | 0.23 | -0.27 | 0.11 | 0.49 | 0.02 | 0.36 | 0.34 |
| | US10Y | | | | | | | | | | | | | |
| 2009 | 1.00 | 0.69 | 0.57 | 0.49 | 0.44 | 0.67 | 0.52 | 0.40 | 0.50 | 0.58 | 0.62 | 0.52 | 0.89 | 0.67 |
| 2010 | 1.00 | 0.76 | 0.76 | 0.49 | 0.15 | 0.70 | 0.64 | 0.38 | 0.12 | 0.54 | 0.73 | 0.41 | 0.96 | 0.57 |
| 2011 | 1.00 | 0.73 | 0.78 | 0.44 | 0.04 | 0.41 | 0.76 | 0.59 | 0.04 | 0.48 | 0.70 | 0.02 | 0.90 | 0.55 |
| 2012 | 1.00 | 0.74 | 0.83 | 0.69 | -0.25 | 0.25 | 0.73 | 0.52 | -0.03 | 0.38 | 0.69 | 0.16 | 0.58 | 0.45 |

*Correlation of 5-day changes in 10 year yields with 5-day SPX returns, inverse of 5-day VIX returns, and 5-day US 10Y changes. Source: GS Global ECS Research and iBOXX.



compression took place alongside substantial capital inflows into the peripheral economies. In both cases, the processes fed on themselves, as the perception of 'low risk' made the related credit risks trade and behave like safer assets for a while. What is now clear is that those perceptions substantially underestimated the risks inherent in each set of credits.

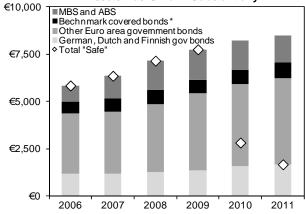
The 'Death of Safe Supply' Story Holds in Europe But Is Overstated Elsewhere

The loss of risk-free assets in these two waves has fuelled concerns about the available supply of safe assets. To shed more light on what is commonly described as a 'supply shortage', we examine a broader pool of assets and suggest that the story is more nuanced.

One immediate issue that such an exercise raises is the definition of what is safe and what is not. As the Box describes, we think strong negative correlations with risky assets are a better measure of perceived safety than spread levels or ratings. On that basis, we would treat US Treasuries, US Agency bonds and MBS, non-Euro area G10 government bonds as well as German, Dutch and Finnish government bonds as still safe (a less conservative measure would broaden the European asset pool). On that basis, we make the following observations:

■ Within the USD debt market (USTs, corporate, agencies, MBS and ABS), both the absolute amounts and the proportions of USTs and Agency debt have clearly risen (see Chart 3). This is true whether or not we exclude the Fed's increased holdings of these assets. Perhaps more importantly, the death of what was perceived to be safe ABS and non-Agency MBS (\$4.3trn of total outstanding as of the end of 2006, the bulk of which was AAA-rated) has been more than offset by a \$7.3trn increase in the supply of USTs and Agency debt since 2006. In that sense, the balance has shifted towards more of the safest assets, not fewer.





Note: See text for details on calculations. Source: GS Global ECS Res, iBOXX, AFME and Haver Analytics.

There are also more USTs relative to equity market cap or GDP than a few years ago. This is unsurprising given the rise in government debt ratios.

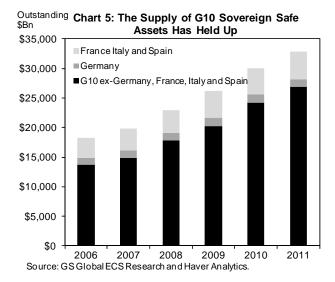
- In Europe, the supply of safe assets has unambiguously shrunk. Using the above definition for 'safety', the loss of the risk-free status in periphery sovereign bonds, covered bonds and structured products such ABS and MBS, has essentially reduced the supply of safe assets to German, Dutch and Finnish government bonds (see Chart 4). To put things in context, the total supply of safe assets has fallen from roughly EUR5.8trn in 2006 (adding up ABS, MBS, AAA benchmark covered bonds and sovereign bonds, and assuming all of the ABS and MBS supply was considered safe) to just EUR1.6trn today (which represents the total supply of German, Dutch and Finnish government bonds).^{1, 2} This dramatic shift stands in sharp contrast with the US, where the growth in the share of USTs and Agency MBS has largely outpaced the decline in ABS and private label MBS. These striking compositional differences between the US and the Euro area are mainly a reflection of the institutional differences across both regions. The design of the common currency zone was incomplete from the beginning because it failed to include mechanisms to allow for fiscal transfers in the event of unequal economic shocks across the EMU members. The result was a rapid and significant deterioration of credit quality in the periphery alongside a resegmentation of capital markets. In the US, the taxpayers' support that the GSEs received has prevented the same scenario from materialising.
- Within the sovereign bond complex, the supply of 'safer' assets has not fallen. If we exclude Italy and Spain, the total value of G10 debt converted to USD gives \$28.2trn in 2011 (the total including them gives \$32.8trn). And counting only Germany in the Euro



Issue No: 12/25 4 June 27, 2012

^{1.} Data from the Association of Financial Markets in Europe (AFME) show that as of 1Q2008, 85% of the ABS and MBS supply were AAA-rated.

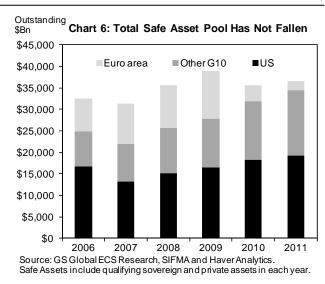
^{2.} In calculating the total outstanding of safe assets in the Euro area, we excluded covered bonds, ABS, MBS as well as Spanish and Italian sovereign bonds in 2009. We also assume that the pool of safe assets reduces to the German, Dutch and Finnish sovereign bond markets in 2011.



area gives a total of \$26.9trn. In both cases, despite what is often said, the supply of higher-quality sovereign bonds has gone up, not down (from \$18.2trn in 2006 and \$26.1trn in 2009). Subtracting increased holdings from the Fed and BoE reduces the magnitude of that increase, but does not undo it. This means that the assertions about the fall in higher-quality sovereigns are only true for the *proportions* of overall sovereign debt, not the absolute stock available. Put another way, the extra supply from the 'safer' sovereigns since 2008 and 2009 is greater than the loss of the peripheral debt markets over the same period.

■ Including both the private and public supply of safe assets (G10 sovereigns, agencies, MBS, ABS and the covered bond market), the evolution of supply from 2006 to today can be described as follows: a net loss of EUR4.2trn of safe assets in the Euro area, a net increase of \$3trn in the supply of USD safe assets, and a net increase of \$7trn in the supply of G10 sovereign bonds (excluding the US and Euro area to avoid double counting with the other buckets). The bigger story therefore is a shift in the *composition* of the supply of safe assets, with the proportion of public securities in total safe assets rising (from around 75% in 2006 to 100% now) and the proportion of Euro area assets falling (from a peak of 30% in 2007 to 6% now).

The picture painted here is more complicated than the simple story of a shortage in the supply of safe assets. The shifts in fixed income markets wrought by the US and European crises are undeniably huge: an estimate of EUR4.2trn in the Euro area and \$4.3trn in the US, according to the above calculations. Even this is less a reduction in the supply of safe assets than it is a realisation that those assets were never as safe as they were priced. At one level, this re-pricing of credit risk is ultimately healthy; it is moving back to a world where the safe asset pool is largely limited to securities that are directly backed by highly-rated sovereigns. But the price change needed to shift these securities from safe asset investors to credit investors is painful, and along that transition path, prices may have to overshoot.



Still, on our measures, the key fact is that the supply of safer sovereigns and safer assets has not fallen.

If Safe Asset Supply Is Not Down, Demand Must Be Up

The fact that safe sovereign yields have fallen sharply, in spite of the increase in their absolute supply, implies that the big story is not one of 'falling supply' but rather 'rising demand'. The key question is why? We think the list of candidate explanations includes at least the following five themes:

- Cyclical growth and inflation pressures have remained weak (and risks remain skewed to the downside). First and foremost among the obvious drivers of safe asset demand over the past four years has been the unusual weakness of aggregate demand, historically high output gaps and the resulting weakness of inflationary pressures. This weakness reflects the drag from the deleveraging pressures being felt by over-levered banks, households and governments. As a result of this weakness (which can alternatively be seen as an unusually high degree of saving in these same sectors), the supply of savings has been persistently high relative to its demand.
- The market's view on the longer-run growth trends has become more pessimistic. In addition to the cyclical weakness of aggregate demand described above, there is also a growing sense that the longer-run growth outlook is unusually uncertain, with more risk to the downside than to the upside. There are numerous reasons to think such a trend shift may have occurred in the wake of the crisis. For one, the historical record of debt crises shows that the deleveraging process requires several years, resulting in an extended period of below-trend demand. Our research has demonstrated that it is hard to achieve growth much above trend following a financial crisis and that, even four years after a financial crisis, the output gap has typically narrowed by only 50%. There was a period during 2008-2009 when it was easier to think that the debt crisis would afflict only the US. But

lssue No: 12/25 5 June 27, 2012

it now appears that Europe will experience an even deeper crisis. And many worry that growth in Japan, too, will suffer as the pace of fiscal consolidation accelerates. As we have shown before, the risk of a prolonged stagnation in the major developed economies is thus much higher than normal. This dampens risk appetite and fuels demand for safer fixed income.

- EM demand for DM safe assets has remained robust. Above and beyond the cyclical factors described above, the evidence suggests that emerging market demand for developed market safe assets remains robust. This trend-which Alan Greenspan described as a "conundrum"—has been in place since long before the crisis. And we have always been sympathetic to the thesis that developed markets were being hit with a 'glut' of global savings, as Ben Bernanke described in 2005. This view basically argues that economic growth (most obviously in China) and high oil prices (most obviously in the Middle East) gave rise to saving flows in those economies that exceeded their ability to absorb them domestically and from institutions that have had a strong preference for safer assets. By 2007, as we argued then, these flows were generating lower yields and tighter credit spreads than we might have otherwise seen. But the increase in foreign holdings of USTs has continued to rise steadily since then, so this trend has not been interrupted by the crises.
- Quantitative easing has expanded central bank balance sheets. Yet another clear source of global demand for safe assets has come from the 'quantitative easing' policies of global central banks, which have created direct demand. The Fed's purchases of Treasuries, MBS and agencies are the largest of the direct purchases (amounting to close to \$2trn since 2008). But the BoE and BoJ have also purchased their own government bonds (the ECB's SMP purchases by contrast have so far concentrated on those bonds that are already considered less safe).
- Financial regulation has increased bank demand for safe assets. Banks naturally seek to hold a higher fraction of assets in safe liquid assets following recession, and even more so following a financial crisis. But above and beyond this normal cyclical response of the banking sector, the changes sought by financial regulators in the wake of the crisis (and formalised by Basel-3) will mean that higher liquidity ratios will most likely remain a permanent feature of the banking landscape for the foreseeable future. The BIS annual report released over the weekend, for example, reported that Basel-3 will generate an additional \$2trn-\$4trn of demand for risk-free assets over the next several years.³ Basel-3 is not yet in force, and adoption is likely to be gradual, but these regulatory changes are already being felt as banks and

their regulators are managing towards new ratios already.

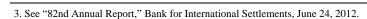
By listing the above five drivers, we do not mean to preclude the possibility that additional demand drivers may be at play. In particular, we are mindful of the possibility that a drop in the *velocity of collateral*—that is, the rate at which collateral securities are reused and recirculated into repo markets and the like—has probably reduced the effective supply of 'collateral services' provided by those securities. This can be re-interpreted as an increase in demand: if velocity has indeed fallen, then a larger volume of safe securities is now required to supply the same level of collateral services as before. That said, we see little need to appeal to such non-standard arguments since we see an abundance of 'plain vanilla' arguments (like the five listed above) that can readily explain the surge in safe-asset demand.

Demand for Safety is Largely the Flipside of Crises

To summarise our findings, it is not true that safe-asset supply is shrinking. It is, however, true—inferring from the recent direction of yields—that rising demand for these assets has outstripped rising supply. And it is also true that there have been dramatic changes in the composition of the safe asset pool. But we are not convinced that these issues are really separate from the two big problems that still cloud the macro landscape. The first is the ongoing unwind of the excessive leverage in the private sector in the US and Europe. To make matters worse, these post-bust headwinds to growth are occurring in an environment of constrained policy. The second problem stems from the Euro area's balance of payments adjustments and fiscal austerity, alongside fixed exchange rates, increased factor immobility, separate national balance sheets and an absence of national lenders of last resort.

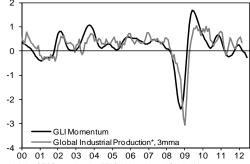
These two shocks have hurt credit quality, raised government issuance, raised risk aversion sharply, fuelled demand for less risky assets and impaired collateral—at the same time. Outside the issues of financial regulation and EM reserve accumulation, the major sources of increased demand (including from central banks) are direct symptoms of this environment. And this combination of impacts-including ultra-low yields on safer government bonds-is, for the most part, the predictable reflection of these macro forces. In other words, it is not clear that the shortage of safe assets truly represents a separate policy problem to be solved. Reverse these two major problems and much of the supposed shortage of safe assets is likely to reverse too. Unfortunately, while we think slow progress will ultimately be made on both of these two big macro problems, our core view is that these twin sources of uncertainty are set to be with us for some time to come.

Dominic Wilson, Lotfi Karoui and Charles Himmelberg



Key Charts: The GLI, GS FSI, ERP and the Credit Premium

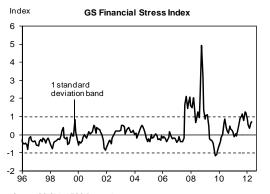


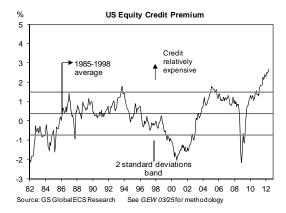


* Includes OECS countries plus BRICs, Indonesia and South Africa Source: OECD, GS Global ECS Research

See Global Economics Paper 199 for methodology







We, Dominic Wilson, Lotfi Karoui and Charles Himmelberg, hereby certify that all of the views expressed in this report accurately reflect our personal views, which have not been influenced by considerations of the firm's business or client relationships.

Global product; distributing entities

The Global Investment Research Division of Goldman Sachs produces and distributes research products for clients of Goldman Sachs on a global basis. Analysts based in Goldman Sachs offices around the world produce equity research on industries and companies, and research on macroeconomics, currencies, commodities and portfolio strategy. This research is disseminated in Australia by Goldman Sachs Australia Pty Ltd (ABN 21 006 797 897); in Brazil by Goldman Sachs do Brasil Corretora de Títulos e Valores Mobiliários S.A.; in Canada by Goldman Sachs Canada & Co. regarding Canadian equities and by Goldman Sachs & Co. (all other research); in Hong Kong by Goldman Sachs (Asia) L.L.C.; in India by Goldman Sachs (India) Securities Private Ltd.; in Japan by Goldman Sachs Japan Co., Ltd.; in the Republic of Korea by Goldman Sachs (Asia) L.L.C., Seoul Branch; in New Zealand by Goldman Sachs New Zealand Limited; in Russia by OOO Goldman Sachs; in Singapore by Goldman Sachs (Singapore) Pte. (Company Number: 198602165W); and in the United States of America by Goldman, Sachs & Co. Goldman Sachs International has approved this research in connection with its distribution in the United Kingdom and European Union

European Union: Goldman Sachs International, authorised and regulated by the Financial Services Authority, has approved this research in connection with its distribution in the European Union and United Kingdom; Goldman, Sachs & Co. AG, regulated by the Bundesanstalt für Finanzdienstleistungsaufsicht, may also distribute research in Germany

This research is for our clients only. Other than disclosures relating to Goldman Sachs, this research is based on current public information that we consider reliable, but we do not represent it is accurate or complete, and it should not be relied on as such. We seek to update our research as appropriate, but various regulations may prevent us from doing so. Other than certain industry reports published on a periodic basis, the large majority of reports are published at irregular intervals as appropriate in the analyst's judgment.

Goldman Sachs conducts a global full-service, integrated investment banking, investment management, and brokerage business. We have corporate advisory, corporate finance and other business relationships with a substantial percentage of the companies covered by our Global Investment Research Division. Goldman Sachs & Co., the United States broker dealer, is a member of SIPC

Our salespeople, traders, and other professionals may provide oral or written market commentary or trading strategies to our clients and our proprietary trading desks that reflect opinions that are contrary to the opinions expressed in this research. Our asset management area, our proprietary trading desks and investing businesses may make investment decisions that are inconsistent with the recommendations or views expressed in this research.

The analysts named in this report may have from time to time discussed with our clients, including Goldman Sachs salespersons and traders, or may discuss in this report, trading strategies that reference catalysts or events that may have a near-term impact on the market price of the equity securities discussed n this report, which impact may be directionally counter to the analysts published price target expectations for such stocks. Any such trading strategies are distinct from and do not affect the analysts' fundamental equity rating for such stocks, which rating reflects a stock's return potential relative to its coverage group as described therein.

We and our affiliates, officers, directors, and employees, excluding equity and credit analysts, will from time to time have long or short positions in, act as principal in, and buy or sell, the securities or derivatives, if any, referred to in this research.

This research is not an offer to sell or the solicitation of an offer to buy any security in any jurisdiction where such an offer or solicitation would be illegal. It does not constitute a personal recommendation or take into account the particular investment objectives, financial situations, or needs of individual clients. Clients should consider whether any advice or recommendation in this research is suitable for their particular circumstances and, if appropriate, seek professional advice, including tax advice. The price and value of investments referred to in this research and the income from them may fluctuate. Past performance is not a guide to future performance, future returns are not guaranteed, and a loss of original capital may occur. Fluctuations in exchange rates could have adverse effects on the value or price of, or income derived from, certain investments.

Certain transactions, including those involving futures, options, and other derivatives, give rise to substantial risk and are not suitable for all investors. Investors should review current options disclosure documents which are available from Goldman Sachs sales representatives or at http://www.theocc.com/about/publications/character-risks.jsp. Transaction costs may be significant in option strategies calling for multiple purchase and sales of options such as spreads. Supporting documentation will be supplied upon request.

In producing research reports, members of the Global Investment Research Division of Goldman Sachs Australia may attend site visits and other meetings hosted by the issuers the subject of its research reports. In some instances the costs of such site visits or meetings may be met in part or in whole by the issuers concerned if Goldman Sachs. Australia considers it is appropriate and reasonable in the specific circumstances relating to the site visit or meeting.

All research reports are disseminated and available to all clients simultaneously through electronic publication to our internal client websites. Not all research content is redistributed to our clients or available to third-party aggregators, nor is Goldman Sachs responsible for the redistribution of our research by third party aggregators. For all research available on a particular stock, please contact your sales representative or go to http://360.gs.com.

Disclosure information is also available at http://www.gs.com/research/hedge.html or from Research Compliance, 200 West Street, New York, NY 10282

No part of this material may be (i) copied, photocopied or duplicated in any form by any means or (ii) redistributed without the prior written consent of The Goldman Sachs Group, Inc.

The World in a Nutshell

| THE GLOBAL ECONOMY | | | | | | |
|--|---|--|--|--|--|--|
| | OUTLOOK | KEY ISSUES | | | | |
| UNITED STATES | We expect below-trend growth of 2.0% and 1.9% in 2012 in 2013, respectively. On a quarterly basis, growth should fall slightly to 1.6% in 2012Q2, before settling at 2.0% in 2012Q3/4 and just 1.5% in 2013Q1. Despite weak growth, we expect the unemployment rate to drift down to 8.0% by end-2013 as long-term unemployment continues to depress labour force participation. | Our view is that data will continue to disappoint over the next few months given the fading inventory cycle boost, some seasonal adjustment distortions and a payback for the warm winter. The recent tightening in financial conditions is also likely to hurt momentum. We expect the Fed to ease further in late 2012 or early 2013, including a return to balance sheet expansion. | | | | |
| JAPAN | We expect real GDP growth of 2.7% and 1.5% in 2012 and 2013, respectively. The relative robustness of growth this year reflects (1) the statistical boost from January-March strength and (2) the current role of domestic demand as the key source of growth. With public-sector reconstruction demand gradually fading, we expect real GDP growth to decline slowly through the rest of the year. | Exports are key for Japan's production activity. Although production has support from post-quake reconstruction demand, external demand is becoming a key determinant again now that damage from the earthquake has largely been repaired. With uncertainty hanging over the global manufacturing sector at present, we expect Japanese production plans to become gradually more cautious. | | | | |
| EUROPE | The Euro area-wide macroeconomic picture has worsened over the past few months. As a result, we have downgraded our growth forecasts and now foresee a contraction of 0.5% in 2012, followed by subtrend growth of 0.4% in 2013. Cross-country divergence remains a key theme in this baseline scenario, with economic weakness expected to be more marked in peripheral economies. We expect the ECB to cut the main refinancing rate by 25bp in July in order to demonstrate its willingness to play a part in sustaining the Euro. | The latest data and market movements suggest that the post-LTRO stabilisation has unwound as concern over a Greek exit and Spanish banking issues have resurfaced. The open question remains whether the follow-through on fundamental political decisions (reform programmes in the periphery, the building of a new regime of macroeconomic discipline around the fiscal compact, and the intra-Euro area risk-sharing inherent in an enlarged EFSF/ESM) turns out to be weak or lacking. Our baseline remains that the Euro area will 'muddle through' but remain intact. | | | | |
| NON-JAPAN ASIA | For Asia ex Japan, we expect growth of 6.8% and 7.6% in 2012 and 2013, respectively. In 2012, we expect below-trend growth throughout the region, while in 2013 the smaller AEJ economies are likely to recover to around trend as the external environment improves. We do not currently expect precautionary policy easing in most of the region. | In China, we expect below-trend GDP growth of 8.1% in 2012 and 8.7% in 2013. Going forward, we expect a clearer easing in macro policy (via rate cuts, an easing in bank lending restrictions, less currency appreciation and new investment projects) and a pick-up in sequential growth. With growth still below trend, inflation should remain at a low level. | | | | |
| LATIN AMERICA | We forecast that real GDP growth in Latin America will slow to 3.5% in 2012, and then rebound to 4.5% in 2013. We expect monetary policy stances to remain mixed across the region, with some cutting aggressively (Brazil) and others in the midst of tightening cycles (Colombia). | In Brazil, we expect real GDP growth of 2.4% and 4.5% in 2012 and 2013, respectively. Brazil is already in the middle of an easing cycle, including interest rate cuts and macro-prudential measures to ease credit conditions, and we expect this to continue in the quarters ahead. | | | | |
| CENTRAL & EASTERN EUROPE, MIDDLE EAST AND AFRICA | Earlier this year, we revised our CEEMEA growth forecasts in response to upside data surprises both globally and in the region, and the stabilising effect of the LTRO. Recent renewed stresses in the Euro area present increased downside risks to our forecast. We continue to see a more benign growth trajectory, although we expect CEEMEA to grow at a slower pace than LatAm and NJA due to Euro area exposure. | Within the region, we expect balance sheet strength and Euro area exposure to continue to serve as key macro differentiation themes over our two-year forecast horizon. We expect the small open economies of the CE-3 and the more leveraged Turkish economy to slow somewhat more than elsewhere. On the other hand, Russia, South Africa and Israel should prove more resilient. | | | | |

| CENTRAL BANK INTEREST RATE POLICIES | | | | | | | |
|--------------------------------------|---|--------------------------|--|--|--|--|--|
| | CURRENT SITUATION | NEXT MEETINGS | EXPECTATION | | | | |
| UNITED STATES: FOMC | The Fed cut the funds rate to a range of 0%-0.25% on December 16, 2008. | August 1 September 13 | We expect the Fed to keep the funds rate near 0% through the end of 2013. | | | | |
| JAPAN: BoJ Monetary Policy Board | The BoJ cut the overnight call rate to a range of 0%-0.1% on October 5, 2010. | July 12 August 9 | We expect the BoJ to keep the policy rate near 0% through the end of 2013. | | | | |
| EURO AREA: ECB Governing Council | The ECB cut rates by 25bp to 1% on December 8, 2011. | July 5 August 2 | We expect the ECB to cut the main refinancing rate by 25bp in July. | | | | |
| UK: BoE Monetary Policy Committee | The BoE cut rates by 50bp to 0.5% on March 5, 2009. | July 5 August 2 | We expect the BoE to keep the policy rate on hold through the end of 2013. | | | | |

