European Views

October 3, 2011

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

Stagnation in the Euro area

Huw Pill huw.pill@gs.com +44(20) 7774 8736

Kevin Daly kevin.daly@gs.com +44(20) 7774 5908

Andrew Benito andrew.benito@gs.com +44(0)20 7051 4004

Lasse Holboell W. Nielsen lasseholboell.nielsen@gs.com +44(0)20 7774 5205

Antoine Demongeot antoine.demongeot@gs.com +44 (0)20 7774 1169

Adrian Paul adrian.paul@gs.com +44 (0)20 7552 5748



On account of the intensifying financial dislocations in European markets, we have revised down our outlook for economic activity in the Euro area. We now expect a mild recession in the Euro area as a whole at the turn of the year. While we see a return to growth in the core countries in the first half of 2012, activity in the peripheral countries will likely continue to weaken.

With inflation subdued in this context, we now expect the ECB to cut its key repo rate by 50bp in December. This would fully reverse the rate hikes made in April and July.

On account of the intensifying financial dislocations in European markets, we have revised down our outlook for economic activity in the Euro area. While the envisaged deterioration of global prospects (see *Global Viewpoint 11/14*, also published today) weighs on activity in Europe, the deepening financial and fiscal tensions in the Euro area underpin our reassessment of the economic outlook both in Europe and beyond.

On this occasion, we have attempted to take a fresh look at Euro-area prospects, guarding against the temptation to make incremental changes to the pre-existing baseline. Our aim is to present a forecast around which risks are balanced, rather than tilted heavily in one direction or the other. This entails incorporating the impact of elevated financial tensions, previously characterised as downside risks to our modal scenario, into the new baseline view.

The resulting forecasts embody significant downward revisions to Euro-area growth for both 2011 and 2012. Our projections for year-on-year growth rates in 2011 and 2012 are 1.6% and 0.1% respectively. The projections now imply a recession-defined as two successive quarters of negative growth—at the turn of the year. We expect a sharp slowdown of economic growth during 2011 to be followed by stagnation in 2012. On this basis, we expect inflation to moderate further through 2012, giving the ECB room to lower policy rates. We see the ECB lowering its reported by 50bp in December, with the risk that a cut may come earlier. With rates on hold in October, the ECB is likely to focus its immediate attention on bolstering its non-standard policy measures, aimed at supporting bank funding and peripheral sovereign debt markets where the current tensions are most acute.

The rationale for our downward revisions varies across countries. We now assume that financial dislocation in the periphery will persist into 2012, compounding the effects of fiscal consolidation on growth (see European Views: Additional Austerity in August, August 30, 2011). We therefore project a more persistent downturn in peripheral countries. The impact of financial tension is less severe in most Source: GS Global ECS Research.

Table 1: Our new GDP forecasts

| GDP | 2011 | 2012 |
|-------------|------|------|
| Euro-zone | 1.6 | 0.1 |
| Germany | 2.8 | 0.6 |
| France | 1.6 | 0.2 |
| Italy | 0.8 | -0.4 |
| Spain | 0.7 | -0.4 |
| Netherlands | 1.7 | 0.3 |
| UK | 1.1 | 1.0 |



core countries, with sovereign yields low and corporate balance sheets strong. Nevertheless, the outlook for economic activity in the core has deteriorated, on account of the expected weakness of demand from peripheral countries in recession and, at least temporarily, by decisions to delay investment in the face of elevated uncertainty stemming from financial market developments. External demand from dynamic and investment-intensive Asian economies—even if weaker than previously envisaged—continues to support activity in export-oriented core countries, especially those with a specialisation in capital goods.

Given the slow pace of institutional and structural reforms, we do not believe a full resolution of the broader governance and systemic issues surrounding the Euro area will emerge in the coming year. Financial tensions are therefore likely to persist. But further clarity on the overall direction envisaged for the Euro area should be forthcoming. We foresee this as supporting some recovery in the core. By contrast, we expect the weakness in the periphery to be more persistent. Therefore, alongside a recession in the short term and stagnation next year, our new growth projections imply additional intra-Euro area cross-country divergence in 2012. With divergence remaining significant, Euro area-wide aggregates offer a less informative guide to key issues, such as the extent of slack in the economy. Country data and analysis will play an increasingly important role, both in assessing inflation prospects and in anticipating and analysing ECB policy moves.

The outlook for activity has deteriorated

Notwithstanding greater divergence, Euro area-wide prospects still constitute the natural starting point for a summary of our outlook. The Euro area economy entered the year strongly, with 0.8%qoq growth in Q1. A slowdown from this strong outturn was expected, but the weakness in official and survey data through mid-year has gone further than we anticipated. Although temporary factors lay behind some of the slowdown (to 0.2% in Q2, with a particularly big impact on the core), financial dislocation in the periphery has intensified in recent months, pointing to further weakness. In conjunction with additional fiscal austerity, this has led to a substantial deterioration of growth prospects.

On the basis of our leading indicator models, PMI surveys point to 0.1%-0.2% growth in Q3, with the forward-looking components suggesting a further slowing into Q4 (Chart 1).

We therefore expect growth to turn negative in Q4. As the recent weakness in confidence starts to affect spending and growth, negative growth rates are likely to be sustained into 2012Q1.

Inflation prospects consistent with price stability

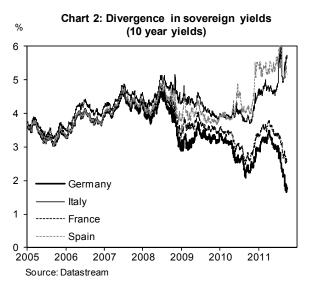
The weaker growth projections imply less intense resource pressures and a lower profile for inflation. However, higher financial spreads and the financial dislocation are likely to

| | | | 2011 (| %, qoq) | | 2012 (| %, qoq) | |
|-------------|------|------|--------|---------|------|--------|---------|-----|
| GDP | 2011 | 2012 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |
| Euro-zone | 1.6 | 0.1 | 0.2 | -0.1 | -0.1 | 0.0 | 0.1 | 0.2 |
| Germany | 2.8 | 0.6 | 0.3 | -0.1 | -0.1 | 0.3 | 0.5 | 0.5 |
| France | 1.6 | 0.2 | 0.2 | -0.1 | -0.1 | 0.0 | 0.2 | 0.3 |
| Italy | 0.8 | -0.4 | 0.3 | -0.2 | -0.3 | -0.1 | -0.1 | 0.0 |
| Spain | 0.7 | -0.4 | 0.1 | -0.2 | -0.2 | -0.1 | -0.1 | 0.0 |
| Netherlands | 1.7 | 0.3 | 0.1 | -0.1 | -0.2 | 0.1 | 0.5 | 0.6 |
| UK | 1.1 | 1.0 | 0.6 | 0.1 | 0.1 | 0.2 | 0.5 | 0.3 |

Table 2: Our revised projections

| | 2011 (| (%, yoy) | 2012 (%, уоу) | | | | | |
|-------------|--------|------------------|---------------|-----|-----|-----|-----|-----|
| Inflation | 2011 | 2012 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |
| Euro-zone | 2.6 | 1.4 | 2.7 | 2.4 | 1.8 | 1.1 | 1.3 | 1.5 |
| Germany | 2.4 | 1.6 | 2.5 | 2.5 | 1.8 | 1.3 | 1.6 | 1.8 |
| France | 2.2 | 1.5 | 2.3 | 2.2 | 1.9 | 1.4 | 1.4 | 1.4 |
| Italy | 2.4 | 1.2 | 2.2 | 2.1 | 1.7 | 0.6 | 1.3 | 1.0 |
| Spain | 2.9 | 1.2 | 2.8 | 2.2 | 1.4 | 1.0 | 1.2 | 1.2 |
| Netherlands | 2.4 | 1.6 | 2.8 | 2.5 | 2.1 | 1.5 | 1.2 | 1.5 |
| UK | 4.4 | 2.5 | 4.6 | 4.6 | 3.2 | 2.7 | 2.3 | 1.8 |

Source: GS Global ECS Research.



imply some adverse supply-side effects, especially in the periphery, as capital allocation is disrupted. Inflation may therefore appear somewhat 'sticky' in response to the weak demand we project for the Euro area, as the level of potential output shifts downwards.

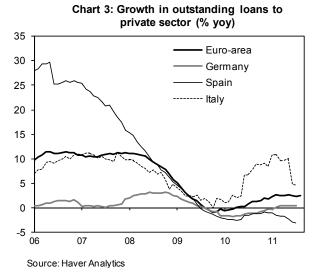
Nonetheless, the temporary weakness of activity in Germany should translate into more moderate price inflation. Euro-area inflation is expected to fall from its current somewhat elevated level, returning to rates consistent with the ECB's definition of price stability in the first quarter of 2012.

We now expect the ECB to cut rates in December

As we have previously emphasised, ECB policy needs to be interpreted in the broader sense of its conventional (repo rate) and unconventional policy measures. Thus far, under the ECB's separation principle (see *European Views: The ECB's 'separation principle'—more nonstandard measures, but rates on hold,* September 2, 2011), unconventional measures have been targeted at financial difficulties in sovereign debt, with further liquidity support offered to the banking sector. We expect the ECB to continue with the existing measures and expand them as market conditions dictate. This should go some way to allowing the ECB to act in a targeted manner where the financial tensions are most acute, while in parallel continuing to employ its standard interest rate instrument in pursuit of its price stability mandate.

But the weaker economic outlook in a context of diminishing inflation (and subsequently stable inflation at levels consistent with the ECB's objective) leads to a revised path for the ECB repo rate. We expect a policy rate cut of 50bp at the ECB's December meeting. This remains hawkish relative to current market expectations, which currently price in a 25bp cut already at the October 6 meeting later this week.

The broader institutional and systemic structure of the Euro area is an important influence on our revised forecasts. Many have deemed the Euro area unworkable

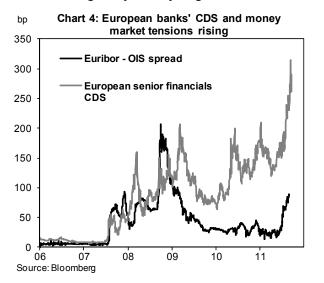


in its current form. This has created a demand for comprehensive reform in European governance and structures, even if the political resolve to implement such reforms remains scarce. The nature and timing of such intensely political and far-reaching measures are difficult to predict, especially given the lack of precedents.

We therefore emphasise that our projections are sensitive to changes in the prevailing policy impasse, and the financial tensions and macroeconomic uncertainty associated with it. A rapid resolution—and the recovery of confidence in financial markets and the real economy that would follow—would go a long way towards supporting growth and offsetting the deterioration in outlook reflected in our new projections. In this context, there is little alternative to keeping a close eye on political developments in Brussels, Paris and Berlin, where the key decisions about Europe's future will be made.

Financial dislocation with fiscal consolidation implies recession in the periphery

We expect a recession in the periphery over the next year. We forecast negative year-on-year growth in 2012 in both



| | Greece | Ireland | Portugal* | Spain | Periphery | Germany | France | Italy | Nether lands | Core | Belg | Aus | Fin | Other EMU | EMU |
|---|--------|---------|-----------|-------|-----------|---------|--------|-------|-----------------|------|------|------|------|--------------|------|
| 2011 Fiscal expansion (+) /consolidation(-) % of GDP | -6.1 | -2.2 | -5.3 | -2.8 | -3.5 | -0.1 | -1.5 | -0.8 | -1.5 | -0.8 | -0.3 | -0.5 | -1.0 | -0.5 | -1.3 |
| 2012 Fiscal expansion (+) /consolidation(-) % of GDP | -2.0 | -1.1 | -2.5 | -1.4 | -1.6 | -1.0 | -1.6 | -2.1 | -1.2 | -1.5 | -0.6 | -0.5 | 0.1 | -0.4 | -1.4 |
| Memoranda: | | | | | | | | | | | | | | | |
| Nominal GDP (% of Eurozone GDP) | 2.5 | 1.7 | 1.9 | 11.6 | 17.6 | 27.2 | 21.2 | 16.9 | 6.4 | 71.7 | 3.8 | 3.1 | 2.0 | 8.9 | 100 |
| Real GDP growth, annl. chg. in % | | | | | | | | | | | | | | | |
| 2010 | -4.5 | -1.0 | 1.3 | -0.1 | -0.7 | 3.6 | 1.5 | 1.3 | 1.7 | 2.3 | 2.1 | 2.0 | 3.1 | 2.3 | 1.7 |
| 2011 | -3.5 | 0.8 | -2.2 | 1.3 | 0.2 | 2.3 | 2.0 | 1.0 | 1.8 | 1.9 | 2.0 | 2.5 | 3.6 | 2.5 | 1.6 |
| 2012 | 0.8 | 2.5 | -1.8 | 2.3 | 1.7 | 1.8 | 2.3 | 1.3 | 1.5 | 1.8 | 2.3 | 2.0 | 2.7 | 2.3 | 1.8 |
| Fiscal deficit, % of GDP | | | | | | | | | | | | | | | |
| 2010 | 10.5 | 32.4 | 9.1 | 9.2 | 11.6 | 3.3 | 7.0 | 4.6 | 5.4 | 4.9 | 4.1 | 4.6 | 2.5 | 3.9 | 6.0 |
| 2011 | 7.3 | 10.0 | 5.9 | 6.0 | 6.6 | 2.5 | 5.7 | 3.9 | 3.7 | 3.9 | 3.6 | 3.9 | 0.9 | 3.1 | 4.3 |
| 2012 | 5.6 | 8.6 | 4.5 | 4.4 | 5.0 | 1.5 | 4.6 | 2.7 | 2.2 | 2.8 | 2.8 | 3.3 | 0.7 | 2.5 | 3.1 |

Note: Fiscal adjustment is calculated as difference in the planned structural deficts (net of changes in interest).

Source: National Stability Programmes, National Sources, *National Stability Programme Update, March 11, EC 2011 Spring forecast

Italy and Spain, with similar weakness elsewhere in the peripheral economies.

This weakness reflects, and is reinforced by, the effects of financial tensions in sovereign debt markets on banking sectors and retail credit conditions (see Chart 2, which illustrates the divergence in cross-country bond yields). Weakness in credit growth reflects both tight credit conditions and weakness in the demand for credit. Our projections assume persistently elevated financing conditions in the peripheral economies. The financial dislocation that we now incorporate to a greater and more persistent extent into our central view is the major factor accounting for the downward revision to growth in the periphery.

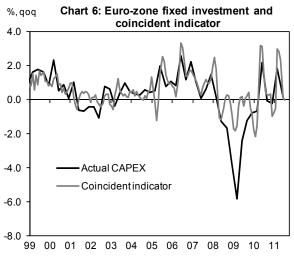
Our projections are also conditioned on official fiscal plans, which see consolidation efforts worth 3.5% of GDP in the periphery in 2011 and a further 1.4% of GDP in 2012 (Table 3). Although not 'news', these plans are another major headwind affecting spending plans through 2011 and 2012. We estimate that, under current circumstances, the Euro area aggregate fiscal multiplier is around -0.5, at the two-year horizon (as described in *European Weekly Analyst* 11/27). This impact depends on its composition (expenditure versus tax, for instance), and we expect the effect (per unit of consolidation) to be larger in France, Italy, Spain, Greece and Portugal than elsewhere in the Euro-zone.

Uncertainty and trade effects imply a significant growth slowdown in the core

In the core countries, we believe elevated levels of uncertainty about the Euro area economic outlook will result in some spending plans being put on hold, even though the financial tensions are not as intense as in the periphery. Uncertainty generally encourages households and firms to adopt a wait-and-see attitude, deferring major purchases and investment projects until greater clarity is achieved about future prospects. In core economies, this is likely to affect growth in Q4 and Q1 in particular, until a resumption of those outlays follows later in 2012. As a result, our forecasts embody a technical recession (defined as two successive quarters of negative growth) in the core—including in Germany—at the turn of the year.

The timing of any spending response to the elevated levels of uncertainty is, of course, highly uncertain. But the latest developments in the German Ifo business survey are consistent with the view that business may delay investment





Source: Eurostat, GS Global ECS Research

decisions until clarity is achieved: while the current conditions component remains at historically very high levels, the forward-looking expectational component has deteriorated sharply in recent months. Other recent hard data for Germany—namely, July industrial production and retail sales—have also been strong.

Weakness in business investment has been a key aspect of the 'Great Recession' and the weak recovery that has followed. The one sector of the Euro area economy with strong balance sheets—the (non-financial) corporate sector—has been unwilling to put those balance sheets to use and support the recovery through capital expenditure. Some combination of a larger margin of spare capacity could weigh on investment in the medium term. But we judge that there is currently only a small margin of spare capacity in Germany and expect a recovery in activity in the second half of 2012, as the effects of the period of elevated uncertainty subside.

We believe a comprehensive solution to the significant problems facing the Euro-area is unlikely in the next year (see *European Weekly Analyst* 11/30). Nonetheless, we foresee some recovery in core growth towards the end of 2012 as: (a) the market is reassured of the ECB's willingness to continue to purchase debt and keep the system running, (b) some progress, however hesitant, is made towards delivering a more comprehensive institutional and structural solution to the underlying problems facing the Euro area; and (c) the private sector adjusts to the new realities implied by the current situation.

A balance sheet recession and recovery

Chart 7 compares the Euro area recovery from 2009 with previous recessions.¹ While the structure of the Euro area has changed profoundly since those earlier recessions (in 1974, 1980, 1982 and 1992), the comparison is useful to provide a benchmark for the type of contours a recovery typically follows.

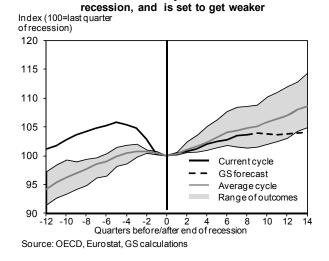
At least when analysed at the area-wide level, the current recovery has been weaker and more hesitant than on previous occasions (see Chart 7). This mimics the recovery weakness observed elsewhere in the world as asset bubbles have collapsed (see *Global Economics Weekly 11/27: Along the Knife-edge*). Looking to individual Euro area countries, the important role played by construction and financial sector booms and busts in the periphery, which contrasts with the situation in the bulk of the core (and especially in Germany), is an important factor driving the cross-country divergence that we continue to emphasise.

Although we expect some further policy stimulus from the ECB via interest rate cuts, the scope for stimulatory macroeconomic policies to drive a stronger recovery is modest. For monetary policy, the scope for easing is limited by the lower bound on nominal rates. Policy transmission is impaired by financial market dislocations. As regards fiscal policy, the necessary consolidation of public finances, especially in the periphery, makes easing unlikely.

Moreover, the persistent financial dislocation seen in the periphery impairs the necessary reallocation of capital to more productive uses. European banks run the risk of becoming 'zombified': as they become more and more dependent on ECB support, they lose the incentive to write down non-performing assets and re-allocate capital efficiently. As the Euro-area banking sector contracts its balance sheet, it will offer less support to the restructuring process by financing new, innovative and productive firms (see *European Weekly Analyst* Issue 11/31). This suggests another reason why the recovery from 2009 may be more sluggish and hesitant than we have seen in the Euro area in the past.

'Creditless recoveries' are possible. The corporate sector is, in principle, well-placed to finance a recovery in investment from internal funds. Yet we continue to observe weakness in investment. Rather than a driver of

Chart 7: A weak recovery, that follows a severe



1. Synthetic area-wide aggregates have been created from national data for the period prior to 1999.

recovery, the strengthening of (non-financial) corporate balance sheets points to a lack of confidence in future economic prospects associated with the financial turmoil and governance weaknesses in the Euro area.

Other European countries cannot escape the effects of a Euro area recession

While the growth impact from the Euro area crisis is likely to be strongest in the Euro area itself, the negative impact on non-EMU economies is also likely to be substantial. This is especially true for Europe's non-EMU economies, for which the trading and financial linkages to the Euro area are particularly large.

- We are revising down our UK growth forecasts from 1.4% to 1.1% for 2011 and from 2.3% to 1.0% in 2012. We expect the UK to avoid a recession (i.e., two consecutive quarters of negative growth) but only just. Within our projections, the biggest downward revisions are to our forecasts for exports and investment growth. The Euro area is the UK's largest trading partner by far-accounting for more than 50% of UK exports—so the implication of a recession in the Euro area for UK's exporters is clear. Moreover, while the direct exposure of the UK banking system to the southern periphery countries is limited, this hasn't saved UK banks from a virtual closure of their access to wholesale funding. If this feeds through to a retightening of credit conditions-as seems likelyinvestment spending is likely to be especially hard hit.
- We have lowered our GDP growth forecasts for Sweden and Norway by a similar magnitude as in the UK-although from a higher base. The transmission of the Euro area crisis from the periphery to the core, together with the generalisation of financial market uncertainty, means that this time our Scandinavian forecast downgrades are more substantial than the minimal revisions we made back in August. The forces driving the slowdown remain external. For Sweden, we lower our 2012 growth forecast from 2.7% to 1.5%, and for Norway (mainland GDP) from 3.2% to 2.0%. In the near term, we expect momentum to be weak in Sweden, reflecting the uncertain global outlook and its higher cyclical sensitivity, owing to a bias towards capital goods production. Following very strong growth since the crisis, domestic conditions in Sweden remain supportive of growth, with employment having exceeded its pre-crisis levels. We expect growth to be higher in Norway. The Norwegian PMI has remained resilient despite sharp declines elsewhere in Europe and, on our current oil forecast, we expect mainland production to be supported by the oil sector. Norway was one of the most resilient economies when the 2008/09 financial hit, with GDP 'only' contracting 1.6% in 2009.

In terms of policy, weaker growth and the change to our ECB call have prompted us to revise our interest rate outlook lower in Scandinavia. We now expect both the Riksbank and Norges Bank to remain on hold over the next 12 months, followed by 50bps of hikes in the Autumn/Winter as global momentum starts to pick up. We think the bar for cutting rates is fairly high, given the relatively low level of policy rates (despite several hikes in Scandinavia during the recovery that followed the financial crisis) and given that the negative output gap caused by the crisis is now almost closed. There is a risk of a cut in official rates in the near term, but in our view only a more substantial negative shock (beyond our central Euro area scenario) would be sufficient for this to occur. The risk of policy loosening would be compounded in Norway should the NOK appreciate notably for a sustained period of time due to safe-haven effects.

■ For Switzerland, we downgraded our view of the economic outlook in early-September, pencilling in a recession during the second half of 2011. That revision reflected: 1) a Swiss-specific shock, namely the sharp safe-haven-induced appreciation of the Swiss Franc in the year to August, and 2) a slowdown in global growth, with implications for Switzerland's high value-added exporting sector.

Since early-September, EUR/CHF has stabilised at around 1.20 (a result of SNB action), and the 'news' has been focused squarely on how large the systematic shock to the Swiss economy is likely to be. With a Euro area recession at the turn of the year and stagnation through 2012, our Swiss GDP growth forecast is reduced for 2012 from 0.2% to 0.0%, embodying a slower recovery next year from two quarters of contraction in the second half of 2011. On policy, we continue to see the SNB leaving official rates effectively at zero over the forecast horizon (we have pencilled in a small increase to 0.25% at the end of next year).

The table below shows our new forecasts against the previous set of forecasts.

| Annex Table: Our new and old GDP forecasts | Annex |
|--|-------|
|--|-------|

| | 20 | 11 | 20 | 12 |
|-------------|-----|-----|------|-----|
| GDP | New | Old | New | Old |
| Euro-zone | 1.6 | 1.7 | 0.1 | 1.3 |
| Germany | 2.8 | 2.9 | 0.6 | 1.7 |
| France | 1.6 | 1.7 | 0.2 | 1.3 |
| Italy | 0.8 | 0.9 | -0.4 | 0.6 |
| Spain | 0.7 | 0.7 | -0.4 | 1.0 |
| Netherlands | 1.7 | 1.9 | 0.3 | 1.6 |
| UK | 1.1 | 1.4 | 1.0 | 2.3 |

Source: GS Global ECS Research.

Huw Pill, Kevin Daly, Andrew Benito, Lasse Holboell W. Nielsen, Antoine Demongeot and Adrian Paul.

We, Andrew Benito, Kevin Daly, Antoine Demongeot, Lasse Holboell W. Nielsen, Adrian Paul and Huw Pill, hereby certify that all of the views expressed in this report accurately reflect 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, and pursuant to certain contractual arrangements, 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, commondies and portfolio strategy. This research is disseminated in Australia by Goldman Sachs & Partners Australia Pty Ltd (ABN 21 006 797 897) on behalf of Goldman Sachs. Brazil by Goldman Sachs & Partners Australia Pty Ltd (ABN 21 006 797 897) on behalf of Goldman Sachs (Asia) L.L.C.; in India by Goldman Sachs (Asia) a L.L.C.; in India by Goldman Sachs (Asia) a L.L.C.; in India by Goldman Sachs (Asia) a L.L.C.; Secoll Branch; in New Zealand Limited on behalf of Goldman Sachs; in Russia by OOG Goldman Sachs; in Singapore by Goldman Sachs (Asia) L.L.C.; (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, authorized 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 AG, regulated by the Bundesanstalt fur Finanzdienstleistungsaufsicht, may also distribute research in Germany.

General disclosures

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 investment banking and other business relationships with a substantial percentage of the companies covered by our Global Investment Research Division. SIPC: Goldman, Sachs & Co., the United States broker dealer, is a member of SIPC (http://www.sipc.org).

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.

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/publications/risks/riskchap1.jsp. Transactions cost may be significant in option strategies calling for multiple purchase and sales of options such as spreads. Supporting documentation will be supplied upon request.

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 www.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. © Copyright 2011, The Goldman Sachs Group, Inc. All Rights Reserved.