

Economic Watch

US

27 October 2011
Economic Analysis

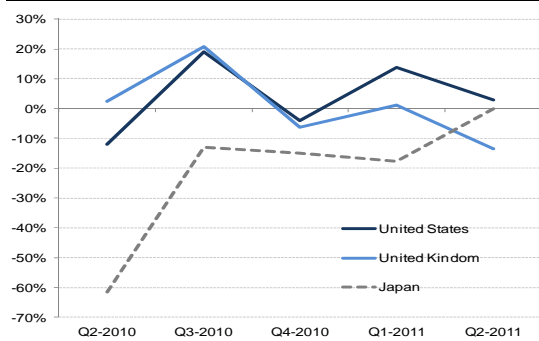
US
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US in the Ongoing Contagion Scenario Domestic contagion unlikely as EU exposure declines

- The progressing EU negotiations, moderate capital flows, and deleveraging suggests limited contagion risk for the US when held against past episodes
- CDS contract price increases and Greek CDS term structure inversion indicate elevated market awareness and preparation
- 40% of the real equity co-movements in US are explained by core European asset movements and thus present spillover risk in the event of Greek default
- Potential of a shock to the US dented by market's forbearance of European problems as implied by CDS market movements

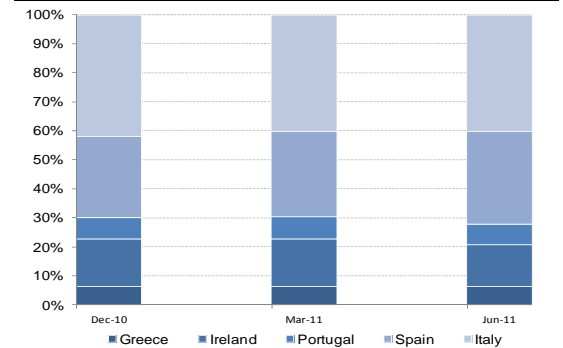
Greek default is inevitable and currently discounted into market fundamentals, observed through CDS premiums' upsurge and term-structure inversion. However, the degree of contagion to the United States stemming from this possible default in Greece or additional Euro-periphery default remains poorly quantified, although the majority of the exposure is concentrated indirectly via derivatives markets or secondary market uncertainty shocks. It is first important to distinguish between "spillover" and "contagion", for the purposes of this analysis. Spillover is consistent with the current situation where markets' interconnectivity leads to shared declines, but it is not suggestive of immediate and widespread deterioration of equity markets, real economic growth, or a Lehman-style credit freeze. In this brief, we examine different implications of European financial fragility for the US financial system. The first section of the brief details what exactly constitutes a contagion event and what particular preconditions are associated with contagion. These definitions are next mapped to the circumstances of the US financial system witnessing a potential adverse European event. As such, we characterize the different capital and mutual fund flows between the US and the EU. In addition, we detail the credit default swap exposures and other links between Europe and the US. We also unveil some results from our asset spillover model. Given the amount of prior knowledge of Greece's potential default, it is hard to conclude a strong effect on the US banking system given that contagion crises are usually unanticipated until triggered.

Chart 1
Change in European-Periphery Derivative Exposure (%)



Source: Haver

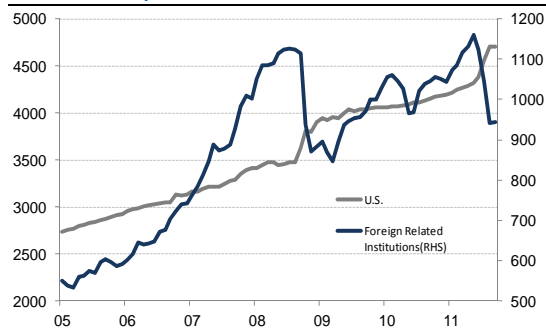
Chart 2
US Derivatives Exposure by Country (% of total)



Source: Haver

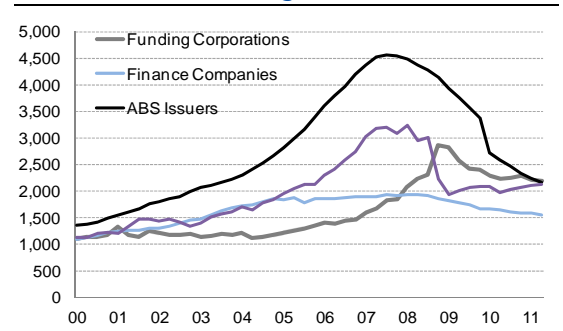
Previous contagion episodes coincided with three factors: first, tidal surges of capital flows in and out, second, these episodes were unanticipated, and third, the involvement of a leveraged common creditor. Examples of contagion include the 1997 Asian financial crisis, 1998 Russian bond default, and the 2008 Lehman default. Held against these standards of contagion, the probability of global contagion reaching the US is low given that potentially overleveraged investors are methodically discounting Greek default and there is full market awareness of the problem. In contrast, considering that the aggregate banking system is deleveraging, European and American regulators are increasing capital requirements and that there are large leveraged creditors – for example, Societe Generale, Deutsche Bank and American CDS exposures – there systemic balance sheet risk by way of common fundamentals. Common fundamentals include global assets held among common creditors and the largest at-risk fundamentals are Credit Default Swaps (CDS), sovereign debt obligations, and short-term deposits. Because of their ease of liquidation, short-term deposits are susceptible to contraction in a contagion scenario and pose the greatest threat to domestic lending and liquidity. If the financial contraction is severe, secondary or tertiary effects could affect the real economy through a negative wealth shock. However, the probability of such a severe shock is low given the policy trajectory of the European Union and ECB and the increased capital buffer of the aggregate banking system in both the United States and Europe.

Chart 3
Domestic Deposits (\$Bn)



Source: Federal Reserve & Haver

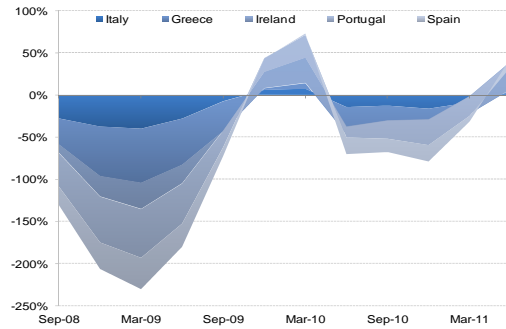
Chart 4
Domestic Shadow Banking (\$Bn)



Source: SNL Financial

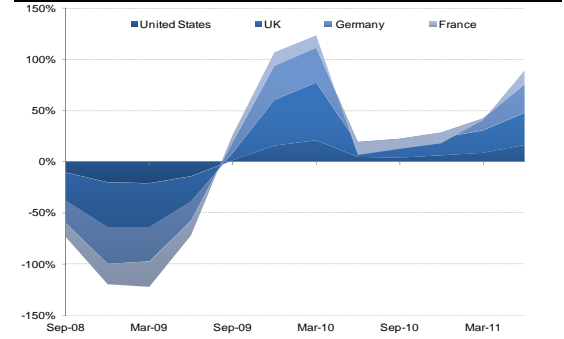
In general, more transparent and common fundamentals, specifically short-term assets and global deposits, are the channel for which contagion passes within a complete network. The reason this exists is due to the fact that highly leveraged investors (HLI) will tend towards an unstable equilibrium for their holdings of banking assets. In essence, the demand for global assets of HLI increases as prices increase, holding all else constant. This is not common to normal goods, where demand declines as prices increase. The impact on global asset demand shifts is two-fold and dependent upon the direction of the demand shock. If the demand shock increases aggregate demand, the result would be an asset bubble that would not invoke contagion. For example, in the event of an upward demand shock, global assets would become inefficiently demanded and overvalued, resulting in an artificial run up in prices. Although the upward revaluation of assets will result in contraction, balance sheets are more likely to return to a stable equilibrium as markets devalue to efficient levels. However, similar to deflationary scenarios, a downward shift into disequilibrium can result in a vicious downward price cycle. As leveraged investors try to unwind, their repositioning further feeds the downward demand cycle through decreased aggregate demand. If there are no investors or a public non-leveraged institution able to compensate for the simultaneously contracting demand, the cycle will be self-perpetuating. This perpetual downward momentum is representative of global contagion.

Chart 5
Net Mutual Fund Flows GIIPS (YoY% change)



Source: Haver & ICI

Chart 6
Net Mutual Fund Flows (YoY% change)

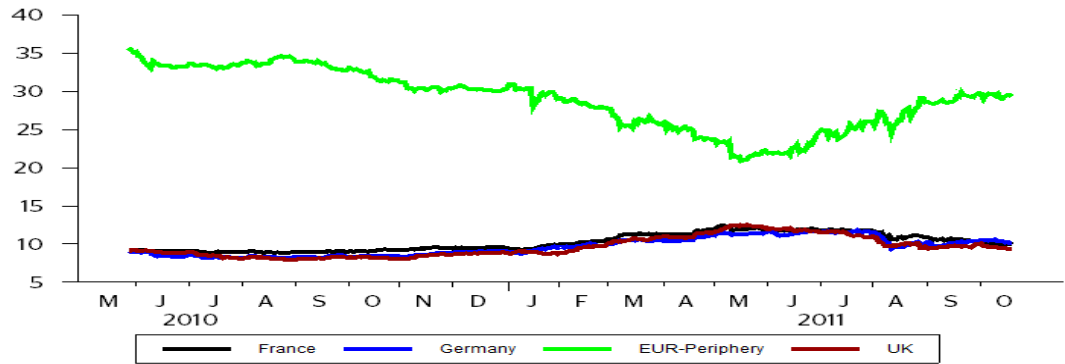


Source: Haver & ICI

Trends in mutual fund and capital flows are not altogether indicating evidence towards one model of contagion or another. Current capital outflows and mutual fund deleveraging in the stressed EU areas are vacillating but not substantially different from historical trends, given a historical standard deviation of around 18.5%YoY. While mutual fund flows are not an absolute indicator of investor sentiment, they do provide a proxy for institutional fund movement and average consumer sentiment. In terms of European fund flows, 2Q11 saw a significant reversal in mutual fund flows. For example, Spain and Greece experienced positive mutual fund growth of 10.8%YoY and 3.4%YoY, respectively, while Portugal saw a substantial decline in fund growth, declining from -23.1%YoY to -6.2%YoY. Additionally, the net position in Ireland, in terms of mutual fund assets, showed YoY growth of 20.7% and 32.9% in 1Q11 and 2Q11, respectively. The successful austerity measures of the Irish are probably the driving force of these capital inflows. Ultimately, the fund flow in Europe is elevated, but it is not enough to deduce enhanced contagion risk.

Currently, the European Union is actively pursuing solutions for Greek default and contagion. An unintended consequence of any delays could be increased time for over-leveraged investors to unwind substantially risky positions. Previous contagion episodes saw rapid declines in overleveraged capital markets with respect to the stressed nation and other risky holdings. In terms of today's sovereign debt crisis, the threat is minimal given that global leveraged funds are aware of Greek default and are deleveraging with respect to Greece and other at-risk periphery nations. If the current policy course fails to contain any economic or financial spillovers and markets have not fully deleveraged their position with respect to Europe – a Lehman-type event – the most likely outcome will be volatility and core asset spillover, possibly creating a negative global wealth shock. In terms of balance sheet dynamics, cross-border assets for leveraged investors act as compliments rather than substitutes, thus the decrease in quantity held in Europe would lead to decreased quantity demanded abroad. The result, as shown by BBVA Research's asset spillover model, suggests significant US equity market effects from France, Germany, and GIIPS. In terms of the quantifiable impact, the model suggests 5.2% US equity market spillover exposure to Greece, 6.8% to Spain, 6.0% to Portugal, and a combined 15.5% from France and Germany. The spillover effect is in terms of asset co-movement or, the price-adjusted influence on real asset returns between the US and other countries' equity markets. The interconnectivity of markets will facilitate the equity impact. Regardless of the magnitude of pass-through, any shock to the financial system will affect real returns in equity markets

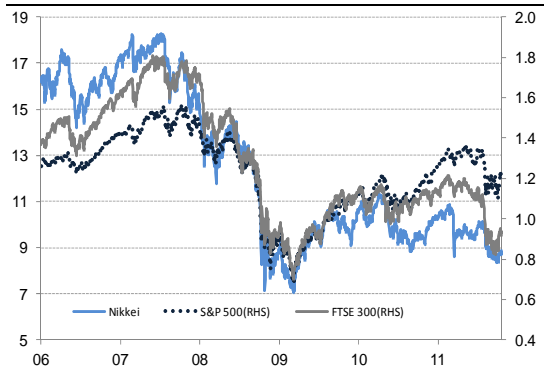
Chart 7
Asset Spillover Impact on US Model (%Real Return Co-Movements)



Europe spillovers to U.S. Returns. 180 day window. 10 step horizon.

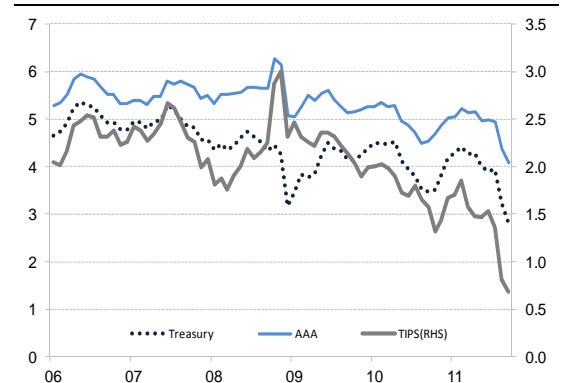
Source: Haver , BBVA Research, & Diebold & Yimlaz

Chart 8
Global Equity Index



Source: Haver

Chart 9
Fixed Income Returns (%Yield, 20yr)

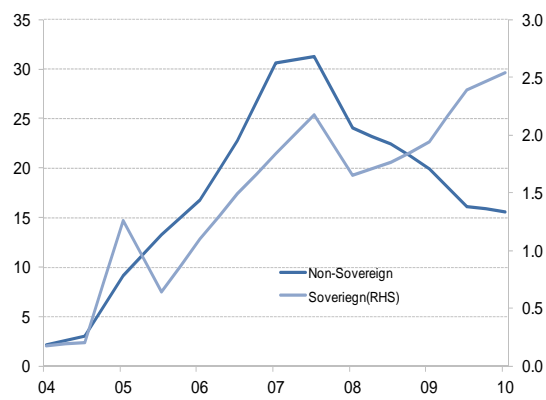


Source: Haver

While we are cautiously optimistic about the insulation of the US, the threat of contagion passing within the European Union is still palpable and suggests an indirect uncertainty risk scenario that could restrict domestic liquidity. For example, outside of domestic investors, Europe is the largest holder of US equities in addition to significant portions of domestic deposit liabilities. While it appears markets are deleveraged with respect to Greece, an additional default or haircut to Spanish, Portuguese, Italian or Belgian debt could constrict or reverse European investment in US equities or create a run on foreign deposits. While the level held by foreign counterparties is substantial, the 18.5% decline since May suggests foreign banks are deleveraging external positions and preparing for a balance sheet shock. The reinforced liquidity held will help to fortify large over-leveraged French and German banks balance sheets, thus insulating US equity markets from a fire sale or slow a foreign run on deposits. The liquidity bias of banks favors short-term assets and domestic investments. Therefore, any contraction will likely result in a US deposit run followed by a US equity sell-off. Though the risk scenario is improbable, the delicate balance and substantial brinksmanship within EU politics could increase the probability if negotiations are prolonged or stalled.

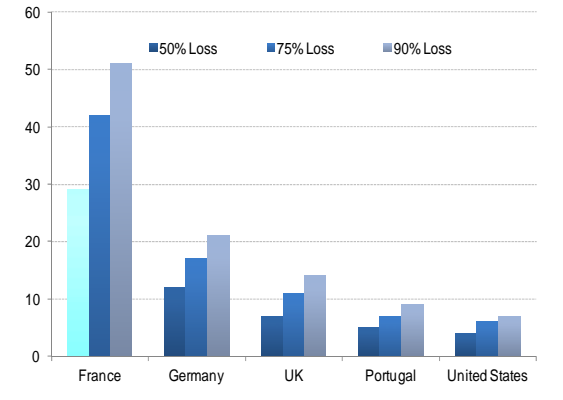
Developments in credit default swaps, however, fully indicate that the event of a Greek default is known to market participants. Examples include CDS term-structure inversion and basis point acceleration in the most susceptible countries. The main issue for the US is the degree to which US-based institutions hold exposure to such insurance swaps. The largely unobserved movements and holdings of the shadow banking system complicate quantifying exactly how much exposure is present. Current estimates suggest aggregate exposure to sovereign CDS at \$2.5tr as of 4Q10, and \$409.1bn in derivative exposure for US and UK to GIIPS as of 2Q11. The originating shock from an announced Greek debt haircut will immediately reduce the balance sheet of the two major holders of Greek debt, French and German banks, which hold approximately \$60bn and \$27bn, respectively. Assuming a 50% haircut, the shock would decrease assets by approximately \$40bn. This reduction would be more representative of spillover rather than contagion because the impact is immediate yet finite. In others words, while the impact is substantial to German and French banks there is no pass-through and the spread is contained. However, this scenario is highly unlikely given the interconnectedness of the US banking system, the shared European currency and common banking fundamentals of European banks.

Chart 10
CDS Issuance by Type (\$Tr)



Source: Haver

Chart 11
Direct Impact of a Greek Haircut (\$bn)



Source: Bloomberg

Compounding the current contagion risk via CDS is the limited ability of European banks to recapitalize and shed existing risk through asset sales. Nearly \$40bn in direct losses from reduced assets is substantial, but there are additional shadow losses from CDS hedge positions. This can be considered a secondary or tertiary effect, yet in terms of American exposure, it probably poses the largest threat. The orderliness of how claims are processed and the amount that the IMF and absorb will dictate the losses of CDS holders. According to the Bank for International Settlements (BIS), the United States' exposure to GIIPS could total \$302.1bn, excluding foreign claims. A major portion of the indirect exposure is relating to sovereign and bank CDS claims. In addition, nearly 69% of the United States' exposure is concentrated in derivatives, credit claims, and extended guarantees. The US indirect exposure is three times the UK's and seven times greater than Japan's. Additionally, the losses associated with a claim on a CDS are different in regards to precipitating factors in the event of a financial crisis. The ultimate impact on the CDS holders will depend on the rescue package put forth by the EU and IMF.

Assuming the major pass-through to US banks is by way of balance sheet transfers through indirect exposure to derivative contracts, the US major holders of CDS will sustain a minor shock; however, the fragility of the current market will dictate the aggregate shock and its severity. For example, policy uncertainty and domestic sovereign debt concerns could create an "uncertainty shock" that simultaneously influence financial markets and the economy. Current models suggests the impact of such shocks (for example, one standard deviation) on the S&P index are immediate and

persistent showing a drop 3.7-6.6% today and up to 16.8% 24 months from now. Additionally, an uncertainty shock can reduce GDP by as much as 1.8% and employment by 3.5mn within 3 years. Similar to the liquidity crisis in 2008, the uncertainty contraction combined with debt crises could lead to a financial multiplier or contagion which results in a hoarding of capital or flight to risk-free assets.

Bottom line: US contagion risk scenario unlikely though vulnerable to domestic shocks

The steps taken by the EU to curtail contagion risk should ease market uncertainty, although the most recent agreements appear to be merely a stopgap. The difference between today and the Lehman liquidity crisis is the aggregate market state is cautious. Available statistics suggest large leveraged global participants are hedging or unwinding overly risky positions, thus they are preparing for a Greek haircut. One example is the declining risk appetite within CDS markets, which appeared to be nominally risk-adjusted with regard to insurance cost and term structure. In addition, the deleveraging process combined with the increased international capital and liquidity standards should act to fortify balance sheets. Given the slow-speed nature of the stress affecting financial markets from European negotiations, the analogies between this crisis and past contagion events is somewhat unwieldy. However, as our analysis presents above, nearly 40% of the real equity co-movements in the US are explained by core European equity market movements and therefore suggest some spillover effects from an adverse event. Additionally, overlapping fundamentals may cause shared declines upon any mishandled sovereign debt outcome. In addition, simultaneous compounding domestic event, whether by domestic uncertainty shock or further economic deterioration, would increase the probability of a contagion risk scenario.