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# The GARP Risk Index

Fourth Quarter 2010

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## Key Findings

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- Global risk managers reacted with optimism to signs of improvement in the US economy, driving the Fourth Quarter Risk Index down to 108 from 111 in the Third Quarter, but still remain wary of unemployment, the current account deficit and consumer confidence and their potential impact on systemic risk.
  - Leverage remains a key driver of systemic risk perceptions, but commodities are now a close second as rising energy and agriculture prices impact global markets.
  - Eurozone instability, US monetary policy and a jobless recovery were factors noted as having the highest potential influence on systemic risk in 2011.
  - A foreign debt default, commodity market instability, foreign banking crisis, US municipal bond default and US banking crisis were five events thought to have the highest probability of triggering a systemic risk event in 2011.
  - Risk reporting, data management and regulatory implementation were identified as areas expected to receive the greatest allocation of corporate capital earmarked for risk management activities in 2011.
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# The GARP Risk Index: An Overview

## Defining systemic risk

Systemic risk may be best summarized as an economic shock or event(s) that triggers a market dislocation, creating illiquidity and the potential for failure of one or more institutions while jeopardizing the integrity of the local or global financial system.

## Survey methodology

Each quarter Financial Risk Management (FRM®) and Energy Risk Professional (ERP®) holders worldwide are asked to provide their assessment, on a scale of 1 to 5 (1 - “Very Little Risk” and 5 - “Very Risky”), of the risk they currently associate with the eight market factors. Survey results are used to construct the GARP Risk Index, a scaled index based on the risk-weighted average responses for the eight market factors surveyed (refer to Appendix A for a description of each factor). Additional survey questions (refer to Appendix B) are developed to add enhanced depth and color to the quarterly analysis. In some cases, specific questions are developed to help explain unique trends identified in a previous survey or gather additional information about current market developments. For Q4 we developed several questions to drill-down on recent perceptions about commodity markets, and to provide a forward looking assessment of potential systemic risk and risk management trends in 2011.

The GARP Risk Index monitors current global perceptions of eight individual risk factors capable of triggering a systemic risk crisis in the United States.

## Tracking global perceptions

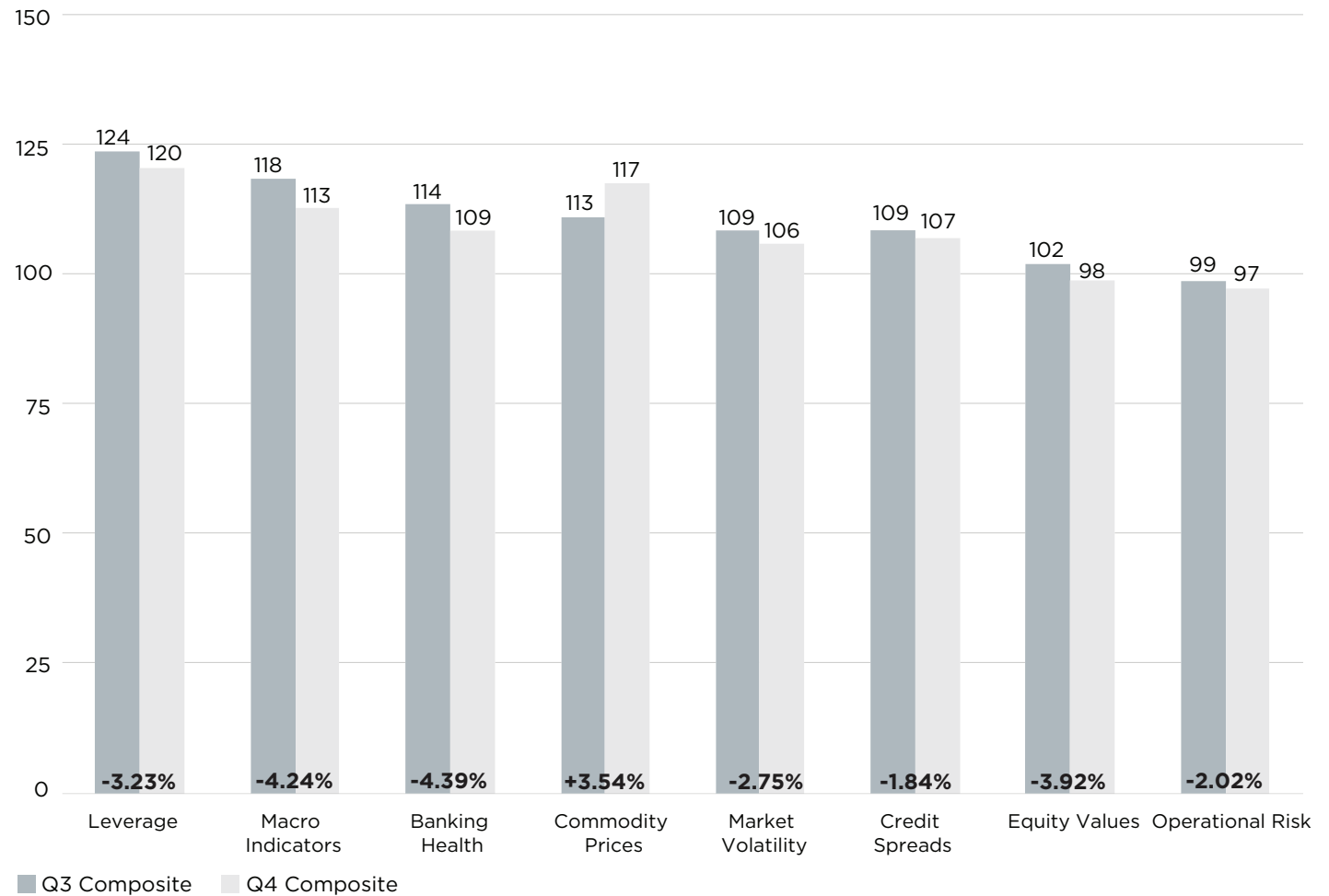
Harnessing the expertise and market perceptions of global risk managers, the GARP Risk Index provides an informed assessment of current US market conditions and the potential build-up (or otherwise) in system-wide risk in the US. The GARP Risk Index tracks current perceptions about eight individual risk factors capable of triggering a systemic risk crisis in the United States including:

- Strength of the macro-economy
- Financial leverage
- Credit spreads
- Health of the US banking system
- US equity market valuations
- Overall traded market volatility
- Commodity prices
- Operational risk

## Q4 GARP Risk Index falls to 108 – lowest reading in 2010

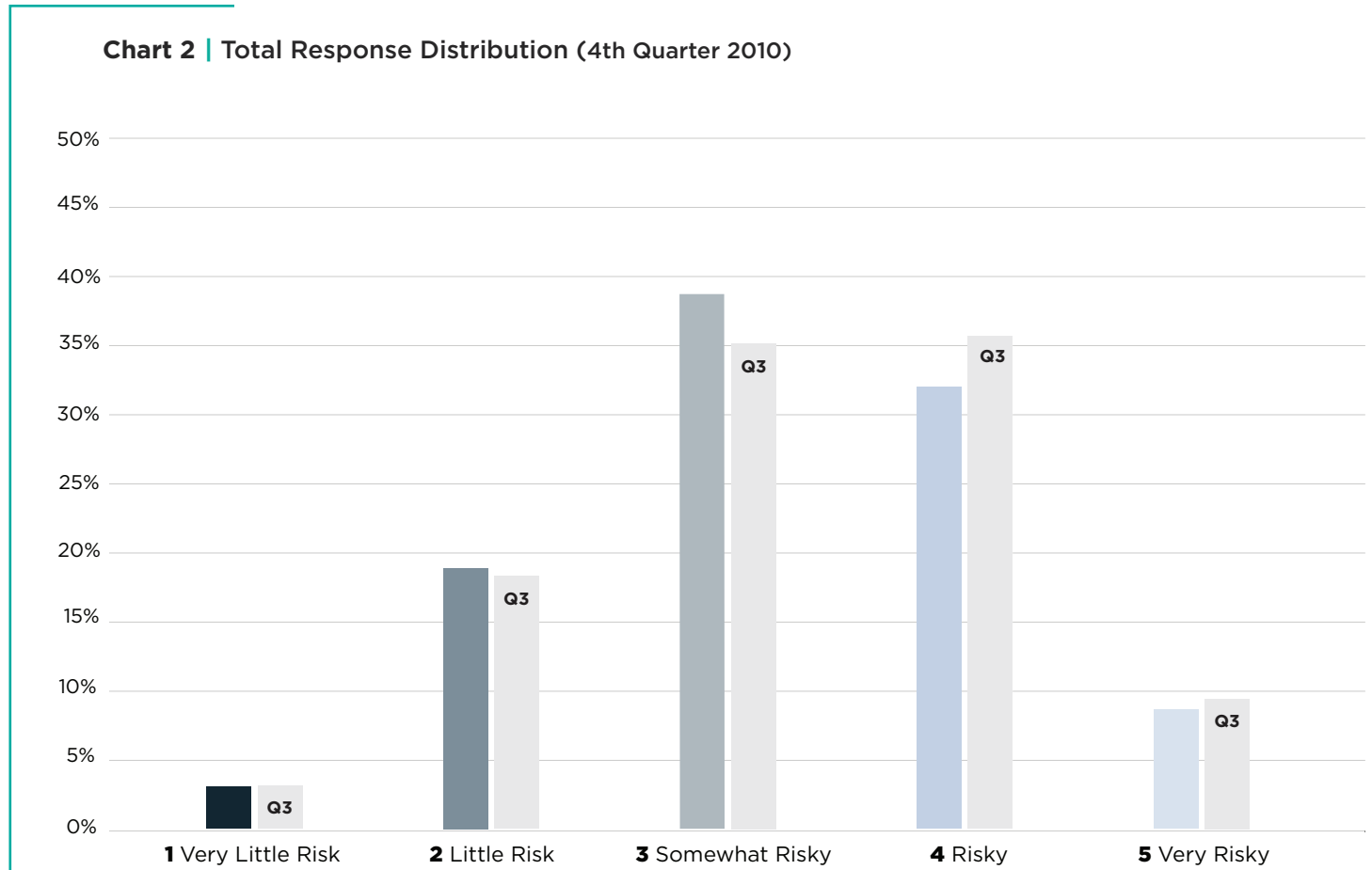
At 108 the Q4 GARP Risk Index registered its lowest reading in 2010, decreasing roughly 2.7% from Q3. Chart 1 highlights an across the board decrease in risk perceptions associated with seven of the eight market factors surveyed. Reports of corporate earnings growth, stronger consumer spending, lower unemployment, booming equity markets and greater clarity about financial regulation appear to have created optimism among global risk managers, despite structural imbalances that continue to haunt the US economy. The lone exception to this positive trend was growing apprehension about rising commodity prices whose market composite increased for a third consecutive quarter (up nearly 4% in Q4) after rising more than 12% (104 in Q1 to 117 in Q4) for the year. Depending on one's interpretation this could be signaling alarm about the birth of a new asset bubble or the potential impact of inflation on a vulnerable economy.

**Chart 1 | Quarterly Change in Market Factor Composites (41h Quarter 2010)**



## Q4 GARP Risk Index falls to 108 – lowest reading in 2010

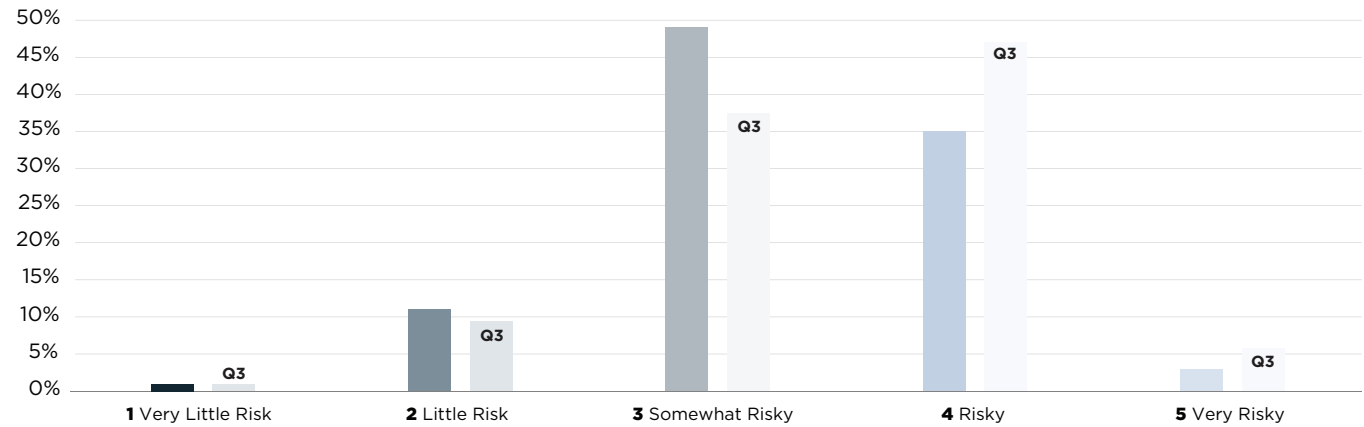
Chart 2 represents the response distribution for all factors across the risk scale, clearly illustrating the migration from high to less risky perceptions.



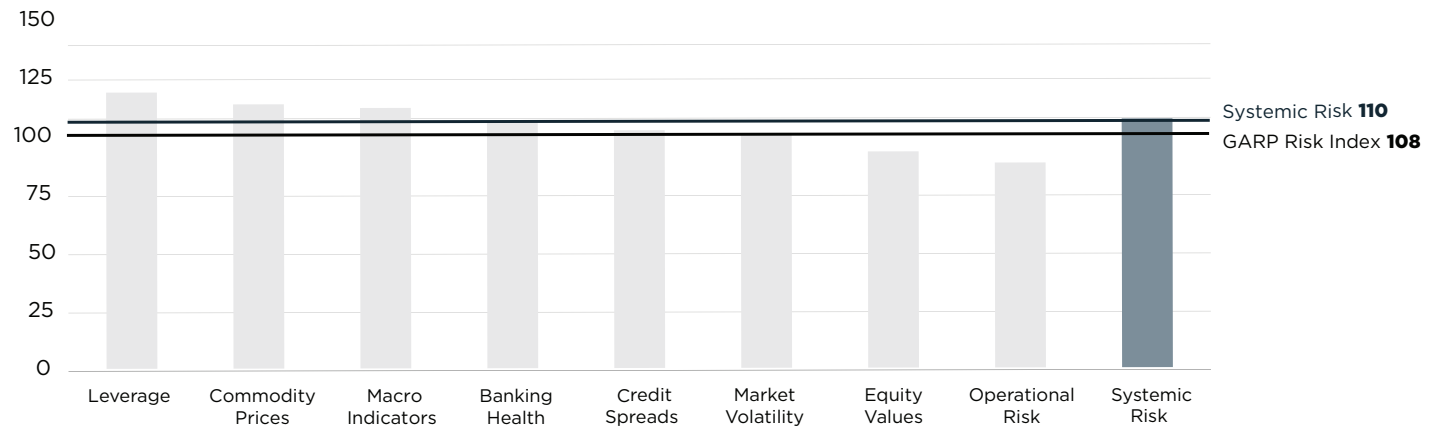
## Systemic risk assessment improves as GARP Risk Index and systemic risk converge

The shift in perceptions about US systemic risk was even more pronounced, as illustrated in Chart 3. More than 12% of survey respondents migrated from the two riskiest categories. This shift in sentiment contributed to a 5% decrease in the systemic risk composite (110 vs. 115 in Q3) and further narrowing of the gap between the GARP Risk Index and systemic risk composite (refer to Chart 4).

**Chart 3 | Systemic Risk Assessment (4th Quarter 2010)**



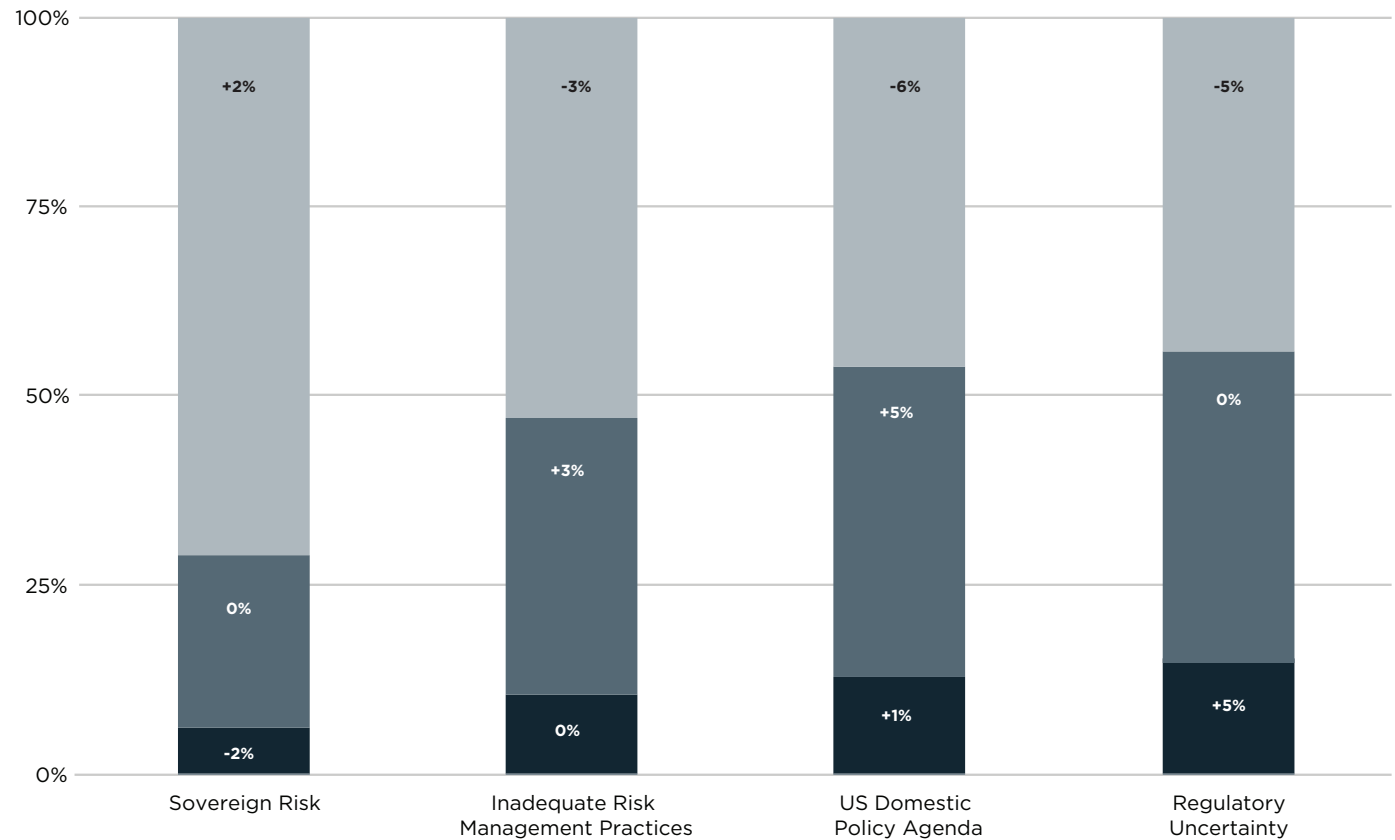
**Chart 4 | GARP Risk Index Components vs. Systemic Risk (4th Quarter 2010)**



## Concern over sovereign risk continues to grow

Global sovereign debt continues to weigh heavily on the minds of risk managers. 72% of total respondents now perceive its potential impact to be high, a 2% increase over Q3. In contrast perceptions about US domestic policy initiatives, regulatory uncertainty and current risk management practices have all improved. Chart 5 illustrates the reallocation of risk perceptions which helps to explain the recent convergence between the GARP Risk Index and Systemic Risk composite.

**Chart 5 | Perceived Influence of Current Market Factors on Potential Build-Up Systemic Risk in the US (4th Quarter 2010)**



Perceived influence of current market factors on the potential build-up of US systemic risk

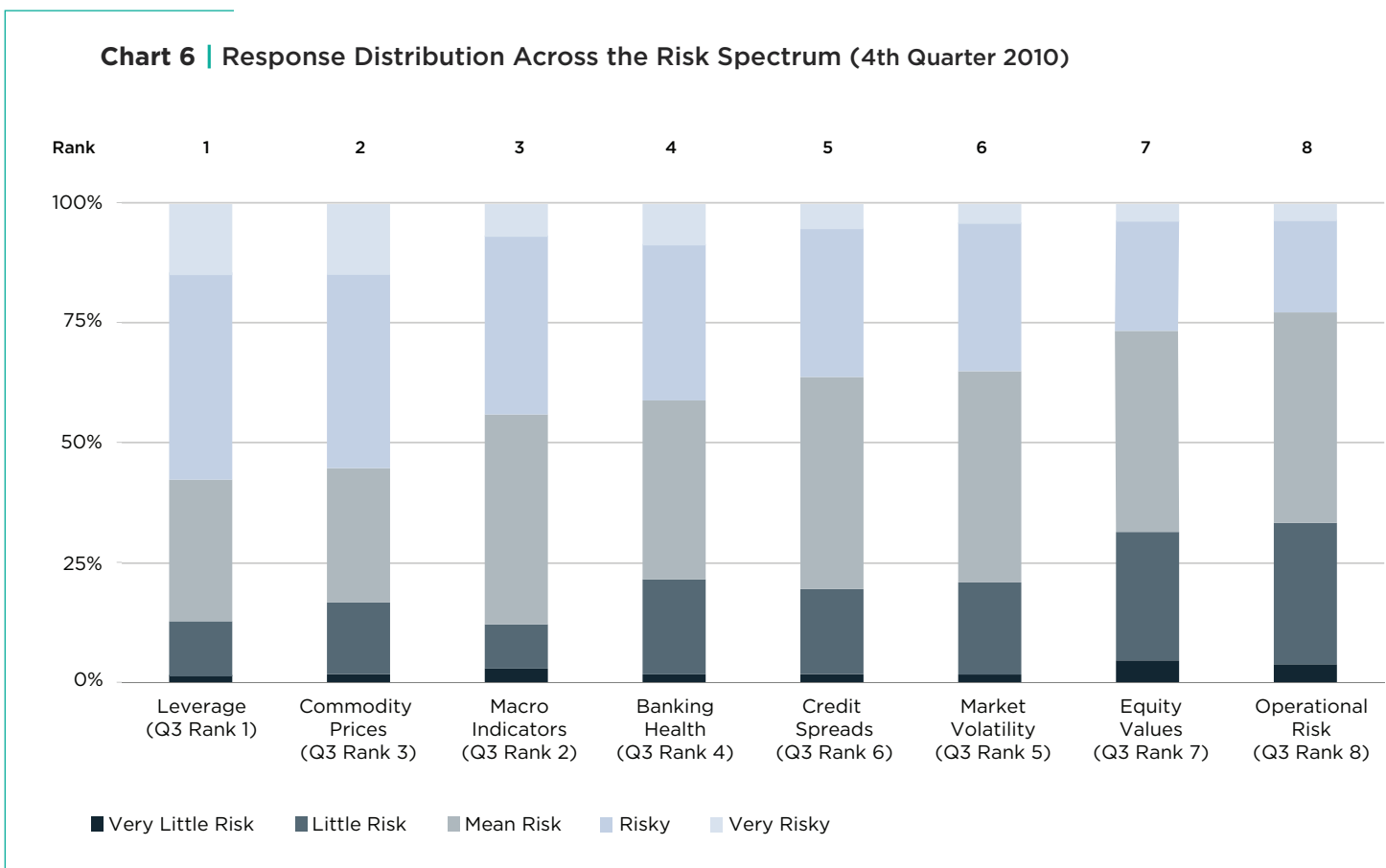
■ Little Impact ■ Mean ■ High Impact

## Leverage is most risky for the 4th straight quarter; operational risk remains lowest on the risk scale

Chart 6 summarizes the distribution of risk perceptions across all market factors in Q4 and their respective Q3 rankings. Changes in the order of individual rankings between Q3 and Q4 are a reflection of response migration across risk categories for each factor. Apprehension about financial leverage appears to be decreasing (58% of total respondents assigned it the highest risk rating in Q4 down from 64% in Q3) but it continues to be the factor of greatest concern. This is not a surprise; the full impact of financial deleveraging will likely not be realized for years after US debt levels reached historic proportions leading up to the 2008 financial crisis.

Anxiety about commodity prices grew steadily, evidenced by the more than 55% of risk managers who now rank surging commodity prices in the highest two risk categories. Commodities now represent the second riskiest factor overall, handily surpassing macro-economic indicators and only slightly behind financial leverage. We developed a separate series of survey questions to better understand this trend; our findings can be found beginning on page 15.

Risk perceptions associated with systemic indicators like credit spreads and market



volatility remained steady in Q4 with roughly 41% of total responses in the highest two risk categories. We expect this trend will continue — if not improve — going forward, as markets continue to

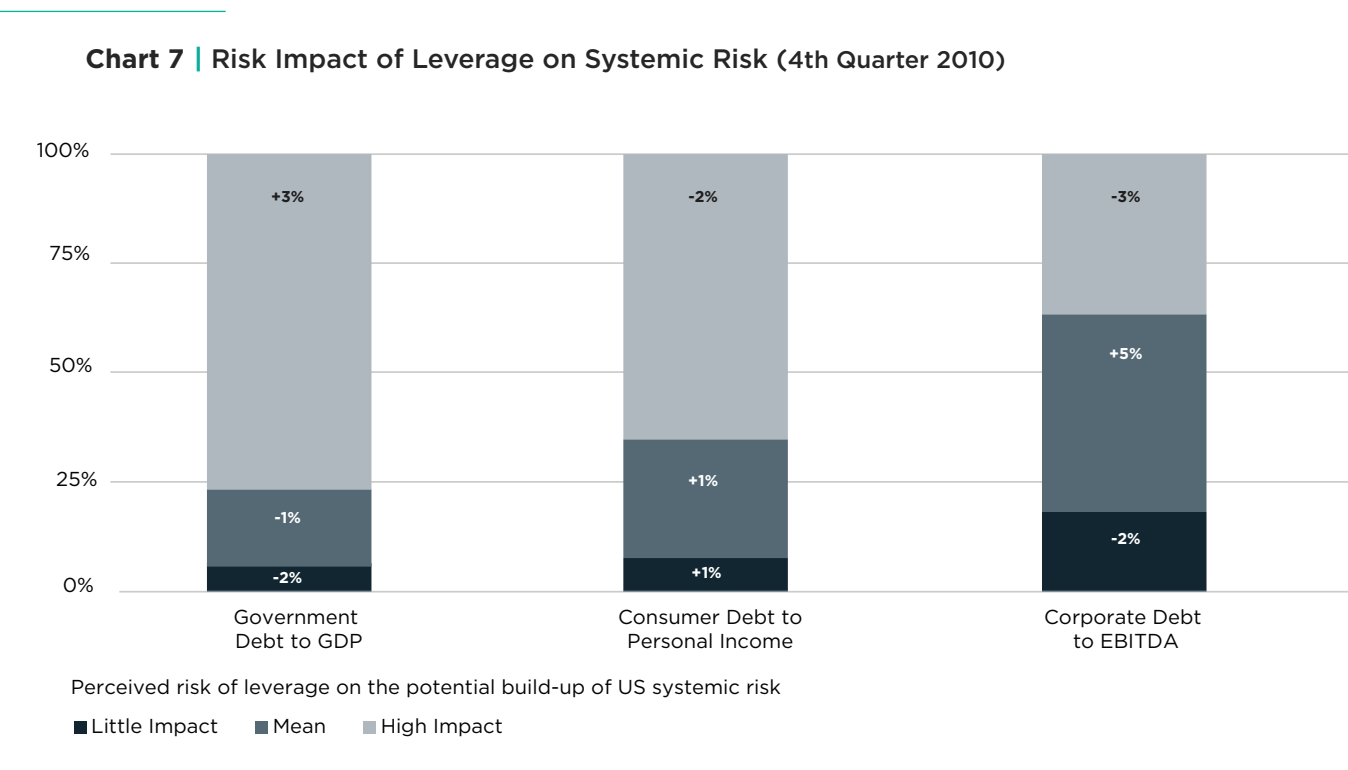
stabilize and investor capital returns. Recent trends in the CBOE Volatility Index (VIX) certainly appear to reinforce this view. On December 31, 2010 the VIX closed at 17.75, down 6 points from its close at the

end of Q3 (23.70). Moreover, the VIX reached a low of 15.45 on December 22, 2010, its lowest close since April 12, 2010 (15.58), well before the European debt crisis and May “flash crash” spooked markets.

## Leverage indicators

Leverage was perceived to be the riskiest index component for the fourth straight quarter. Sovereign debt worries continued to influence responses as evidenced by the 3% increase in survey respondents who migrated further out the risk spectrum in Q4 (refer to Chart 7). This is probably a rational reaction to the growth in US government debt that is now equivalent to roughly 86% of GDP, with some estimates suggesting it will reach 100% of GDP by 2012. Debt backed by the US Treasury is expected to surpass congressionally mandated limits by the end of Q2, which will undoubtedly trigger a heated debate in Washington. Meanwhile, outside the US, a number of countries are currently at risk of a ratings downgrade which has almost certainly had a negative effect on risk perspectives. Case in point is Japan, which was recently downgraded by Standard and Poor's in January.

Anxiety about the impact of US consumer debt remains high but may have reached a plateau, with signs of improvement. For example, 2% fewer (67% to 65%) total risk managers were of the opinion that consumer debt will have a high impact on systemic risk. This may be an indication that signs of economic growth, which now seem to be gaining momentum, will allay fears that widespread consumer defaults will be systemically significant.



Several key findings in the recently released Federal Reserve Bank of New York (FRBNY) report on US Consumer debt appear to support this trend. For example, the FRBNY reports aggregate US consumer indebtedness declined \$155B or 1.3% in Q4. Perhaps more importantly consumer delinquencies declined throughout 2010. In the past twelve months total delinquent balances were

down nearly 14% while serious delinquencies (more than 90 days past due) fell approximately 12%.

Corporate debt relative to EBITDA continues to be least troubling leverage indicator thanks in large part to the growth in cash flush corporate balance sheets. On February 11, 2011 Bloomberg released a report that suggests companies comprising

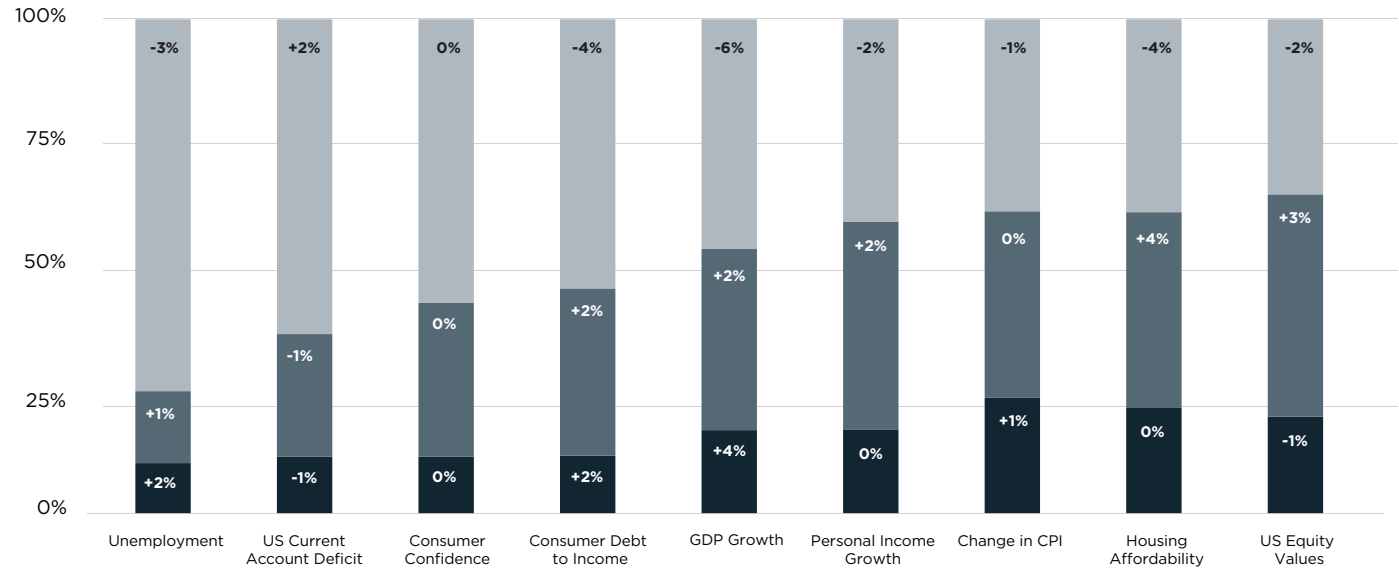
the S&P 500 have stockpiled a cash hoard of approximately \$2.18 trillion, a 14% increase in Q4 and the largest cash position in nine years. The downside of this trend of course is that it probably does little for the US employment problem as companies appear unwilling, or don't see the need, to make significant capital investments in personnel or infrastructure.

## Macro indicators

Chart 8 illustrates shifts in risk perceptions associated with nine major macro-economic indicators which provide further evidence that global perceptions about the US economy are improving. There was a decrease, albeit a small 3% (78% to 75%) shift, in respondents who expressed significant concern about the impact of unemployment on systemic risk. Other notable trends include a 6% decrease (52% to 46% of respondents) in apprehension about GDP growth and a 4% decrease (58% to 54%) in consumer debt (consistent with our findings discussed in leverage above) and housing affordability respectively. The 1% reduction (40% to 39%) in inflationary concerns is particularly interesting as it reverses the 7% increase in Q3 and comes at a time of growing anxiety about commodity prices.

64% of respondents (up 2% in Q4 and nearly 10% since Q2) now hold the view that the US Current Account Deficit will have a high influence on systemic risk. This is a difficult trend to gauge as a number of factors impact the US current account including US dollar strength against global trading partners, trade policy, consumer behavior patterns, economic growth

**Chart 8 | Importance of Current Economic Indicators in Predicting or Influencing US Systemic Risk (4th Quarter 2010)**



Impact of each factor is displayed from top to bottom based on perceived level of influence on US systemic risk

■ Weak Influence ■ Mean ■ Strong Influence

abroad, foreign direct investment in the US and US direct investment abroad. It is interesting to note that the Q3 account deficit reported in December (there is two

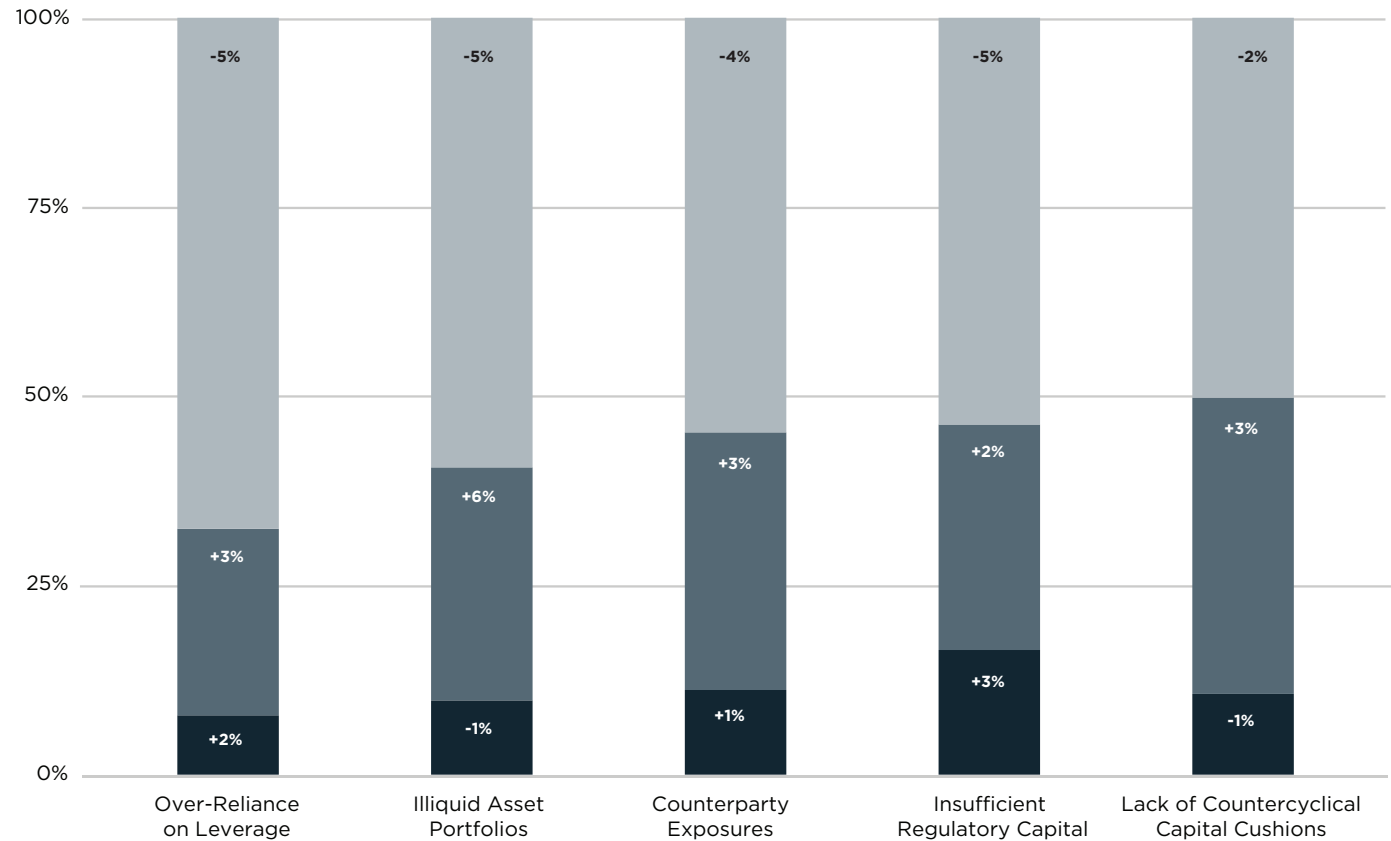
to three month lag in the quarterly reporting cycle) was \$127B, the fifth straight quarterly increase and highest deficit reported since bottoming out in the second quarter

of 2009. We will attempt to better understand the underlying concern here in our Q1 2011 survey.

## US banking system

We were a bit surprised last quarter how little impact the announcements of Dodd-Frank and Basel III seemed to have on risk perceptions associated with the US financial system. We now think this may have simply been a timing lag as Q4 results seem to indicate a relatively significant change in perceptions that may in part be influenced by financial regulation. Chart 9 illustrates an across the board migration in risk perceptions for all financial factors surveyed. Reports of improvement in regulatory capital, loan loss reserves and earnings at the largest and in some cases “systemically important” institutions have undoubtedly had a strong influence on perceptions, but we don’t think it is a stretch to assume additional clarity about the impact of financial regulation has also helped ease concerns.

**Chart 9 | Current Impact of Financial System Factors in Potential Build-up of US Systemic Risk (4th Quarter 2010)**



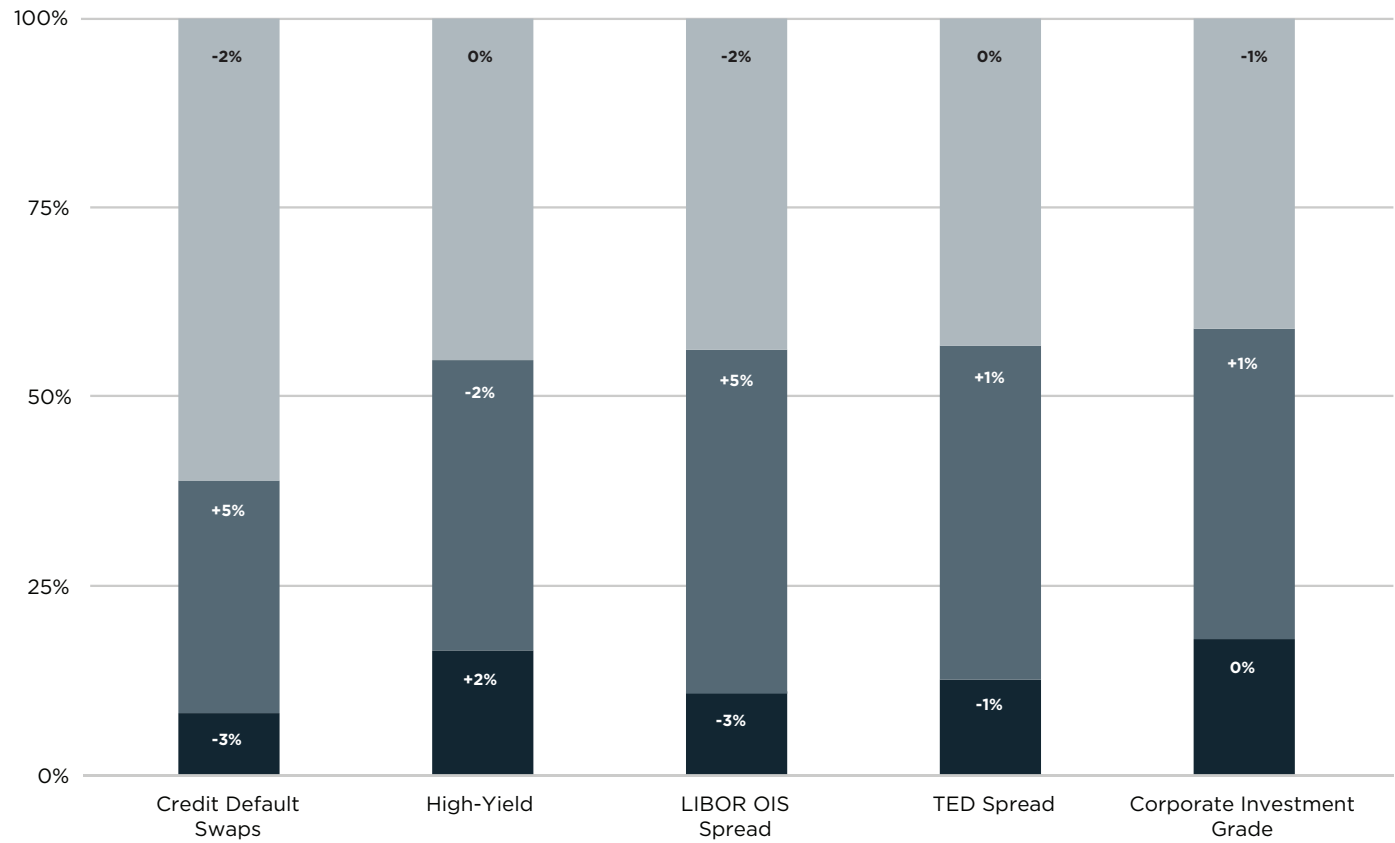
Impact of various banking/financial system factors in creating US systemic risk

■ Little Impact ■ Mean ■ High Impact

## Credit spreads

There was little change in perceptions associated with several important credit spreads which is not surprising, as most major credit markets (certainly those reflected in the spreads represented in Chart 10) have stabilized and are now operating with adequate liquidity.

**Chart 10 | Current Importance of Various US Credit and Interbank Spreads in Predicting US Systemic Risk (4th Quarter 2010)**



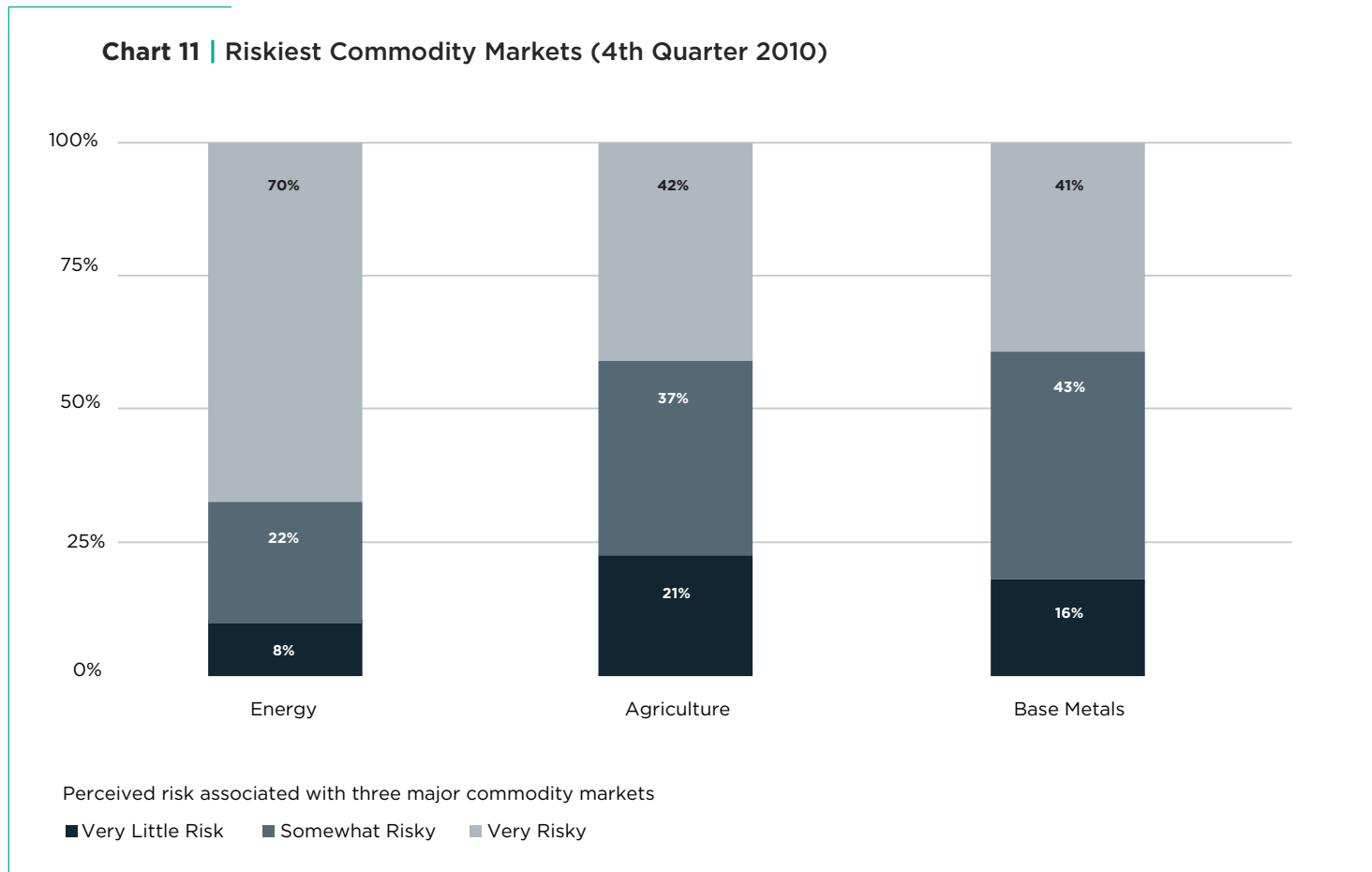
Importance of various US credit and interbank spreads in predicting US systemic risk

■ Low Predictive Value   ■ Mean   ■ High Predictive Value

## Commodity prices — highest level of risk seen with energy commodities

Of all the current trends across the eight market factors surveyed, the most interesting has been a steady rise in risk perceptions around the commodity markets. Rising commodity prices are easily observed, but the challenge comes in identifying the root cause and potential impact on systemic risk in the US. We added several new questions to the Q4 survey (see Appendix B) to help gain a deeper understanding of current perceptions of risk associated with commodities.

It was no surprise that 70% of risk managers associated the highest level of risk to energy commodities, arguably the riskiest and most volatile of the three primary markets covered in our survey — see Chart 11. Physical energy commodities — specifically crude oil — are an extremely high profile global market that directly affects hundreds of billions of dollars in US corporate revenue and the discretionary spending patterns in millions of households. The direct impact of rising prices on agriculture products and base metals ranked second and third respectively, are less transparent than energy commodities. In addition, concomitant increases in related food products have historically had a much greater influence on households in developing economies than in the US. The recent popular uprisings in Tunisia and Egypt, for example,



demonstrate the significance rising food prices can have on geopolitical stability in the developing world. This is not to say food inflation has no impact in the US; its significance has undoubtedly been felt by

the millions of Americans unable to find jobs in the wake of the Great Recession, especially in households where eligibility for government transfer payments has expired.

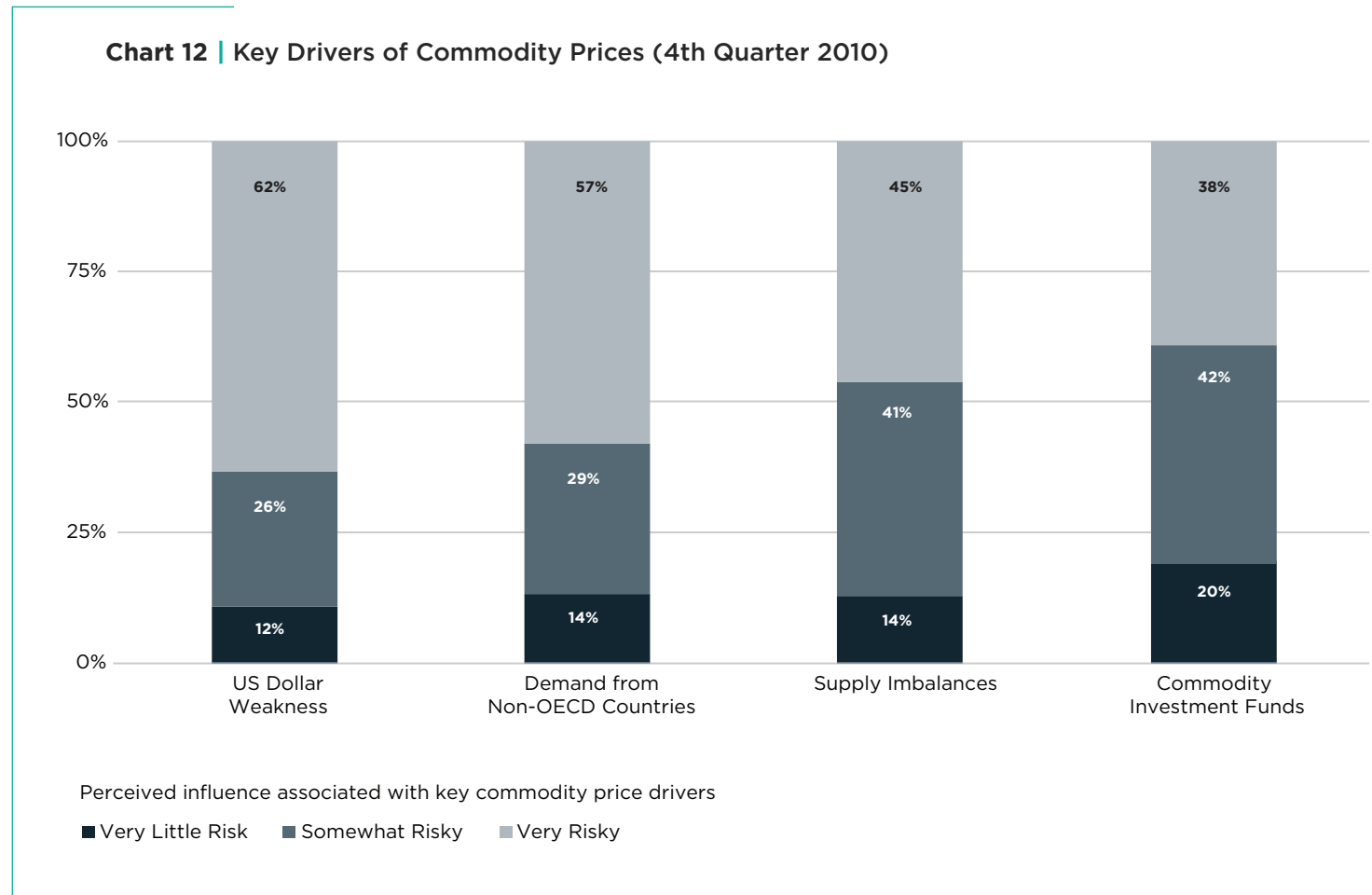
Base metals have an even less profound economic impact and often serve as a barometer for inflationary trends and global instability. Gold in particular has historically been used as an inflation hedge and protection against US dollar depreciation.

## Commodity prices — what’s driving commodity price behavior?

We also asked risk managers to rate the impact associated with several key drivers of rising commodity prices. Chart 12 illustrates the perceived influence placed on each. US dollar weakness (62% of respondents) and demand growth in non-OECD countries (57% of respondents) were viewed as having the greatest affect on higher commodity prices. These are very logical responses as virtually all exchange traded commodities are dollar denominated and would therefore reflect dollar strength or weakness against other global currencies. Similarly it has been well documented that economic growth in non-OECD countries has far outpaced growth in OECD economies since the Great Recession.

Concern about supply imbalances is also a very relevant response, particularly with respect to energy and agriculture production. Many global commodity products have been significantly impacted by extreme weather, regulation and government subsidies in 2010, causing shortages and driving prices higher.

Given the surge in commodity investing since 2008 it is somewhat surprising that only 38% of respondents indicated growth in commodity based investment funds was of significant influence. We frankly thought investor demand for commodity assets would have had a higher perceived impact, particularly in light of one recent Bank of



Canada report which cites a reported \$100B increase in commodity-based assets under management in 2010 (a 40% annual increase). Survey responses certainly add credibility to the hypothesis that commod-

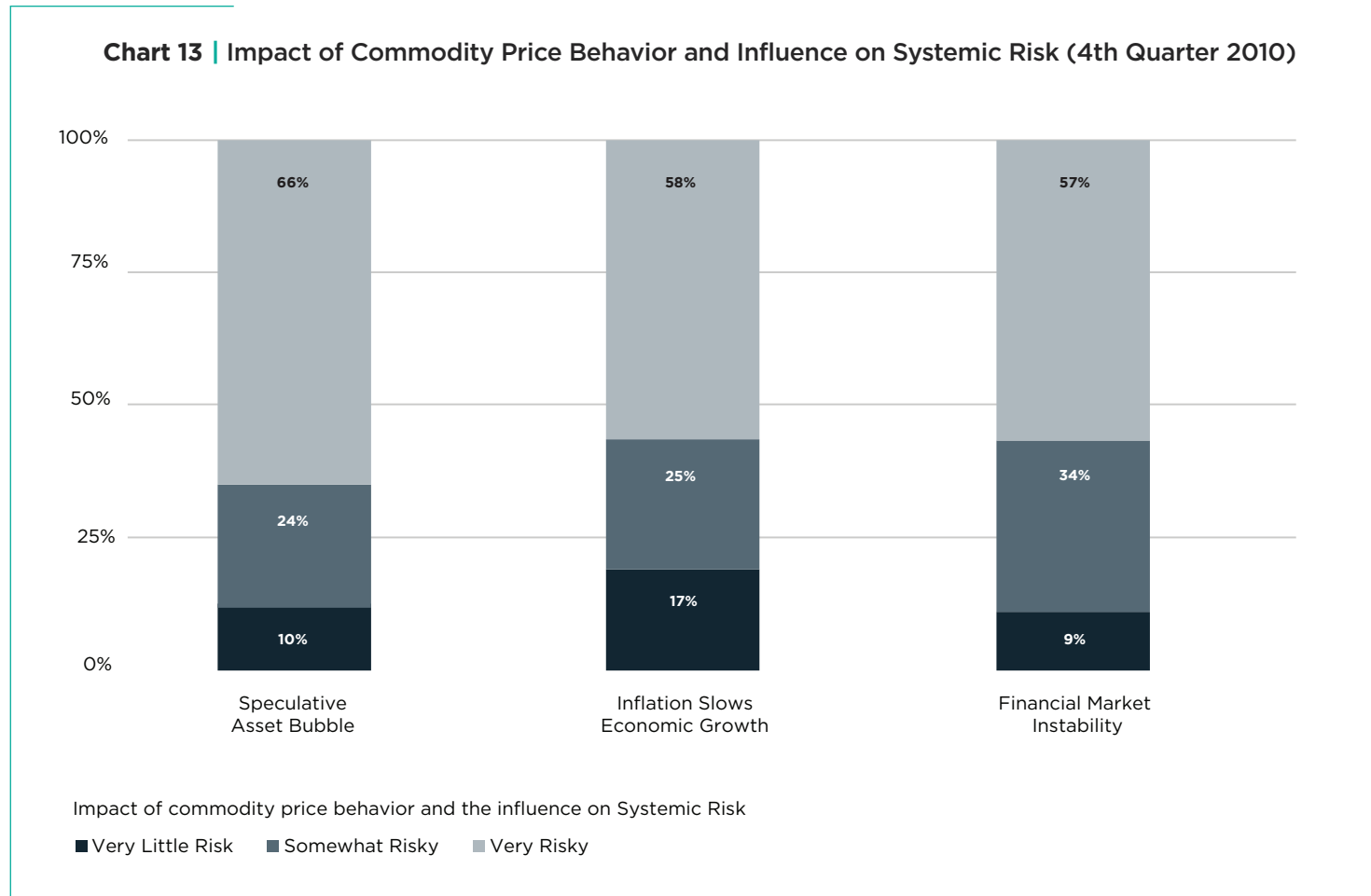
ity price behavior is driven almost exclusively by fundamental physical supply and demand trends. And while decoupling between physical and financial markets may occur at times, the root cause is prob-

ably not financial speculation. It also seems to support the view that adoption of position limit requirements under Dodd-Frank is unnecessary.

## Commodity prices — rising commodity prices and the potential impact on systemic risk

Given what we now know about the perceived drivers behind high commodity prices, the more challenging question is how higher commodity prices might directly influence US systemic risk. Chart 13 helps provide some answers. More than 66% of global risk managers responded that a speculative commodity bubble would have a significantly high influence on systemic risk. This is interesting and seems to contradict the previous conclusion that of the four factors surveyed, growth in commodity funds has had the least impact on rising commodity prices. Perhaps respondents are really saying that while they don't believe decoupling between physical and financial markets occurs in the long-term, short term speculative excesses can influence price volatility and may have an impact on potential systemic risk. This seems to reconcile with feedback about commodity price behavior, where roughly 57% of respondents felt price volatility and its impact on financial market stability had a high likelihood of creating a systemic risk event.

Finally, approximately 58% of respondents felt commodity induced inflation and its impact on macro-economic growth was a significant threat to systemic risk. As previously discussed the inflationary impact of rising fuel and food prices has



historically had a far greater impact on developing economies. Given the current lack of job creation in the US however, we can certainly understand how the influence

of inflationary pressures would potentially have a much higher impact on US economic growth and systemic risk in the future.

## What issues most concern global risk managers?

We thought it would be instructive to get an early assessment of the factors global risk managers are most concerned about as well as potential trends in risk management in 2011.

Table 1 summarizes a number of factors global risk managers appear to be most concerned about in 2011. We organized the factors according to the level of concern expressed for each and plan to use the table as a reference when building future surveys, particularly those items shaded in green indicating factors of greatest concern. One item highlighted in that section, US municipal debt, bears close watching. Until now we have focused exclusively on country sovereign debt, including debt issued and supported by the US government. US municipal jurisdictions also have the authority to issue debt, supported by the collection of state and local tax revenues. Tax revenues, largely based on real estate and consumer sales, have fallen significantly during the Great Recession, creating huge imbalances in state and local budgets and threatening the repayment of municipal debt obligations. Moreover, unfunded pension obligations threaten the fiscal integrity of many municipalities. The US municipal debt market is a multi-trillion dollar market that offers investors income exempt from federal taxation. In some specialty state cases investors also avoid state and local

**Table 1 | Ranking Potential Systemic Risk Factors in 2011**

Systemic Risk Factor	High Concern	Some Concern	Little Concern
Euro-zone Instability	71%	23%	6%
US Monetary Policy	71%	23%	6%
US Unemployment	71%	23%	6%
Commodity Prices	61%	31%	8%
US Sovereign Debt	60%	28%	12%
US Dollar	58%	31%	10%
US Consumer Confidence	57%	31%	12%
Foreign Sovereign Debt	54%	35%	11%
Asian Inflation	52%	29%	19%
US Fiscal Policy	52%	36%	12%
<b>US Municipal Debt</b>	<b>52%</b>	<b>33%</b>	<b>15%</b>
US Economic growth (GDP)	51%	37%	12%
US Housing prices	51%	34%	15%
Regulatory Implementation	46%	40%	14%
Operational Risk (Including Liquidity Risk)	45%	38%	17%
Inadequate Derivative Market Transparency	41%	34%	25%
US Political Uncertainty	39%	41%	20%
US Deflation	37%	34%	29%
US Inflation	36%	38%	26%
Geopolitical Risk	34%	43%	23%
European Market Inflation	27%	41%	32%
European Market Deflation	25%	34%	41%
Cyber Attacks	21%	36%	43%
Asian Market Deflation	17%	29%	53%

*Note: Represents Distribution of Survey Responses Based on a Scale of 1 to 5 (1- Little Concern and 5 - High Concern)*

taxes on the interest earned. Their tax-exempt status makes US municipal debt a particularly attractive asset class for millions of individual US investors, and

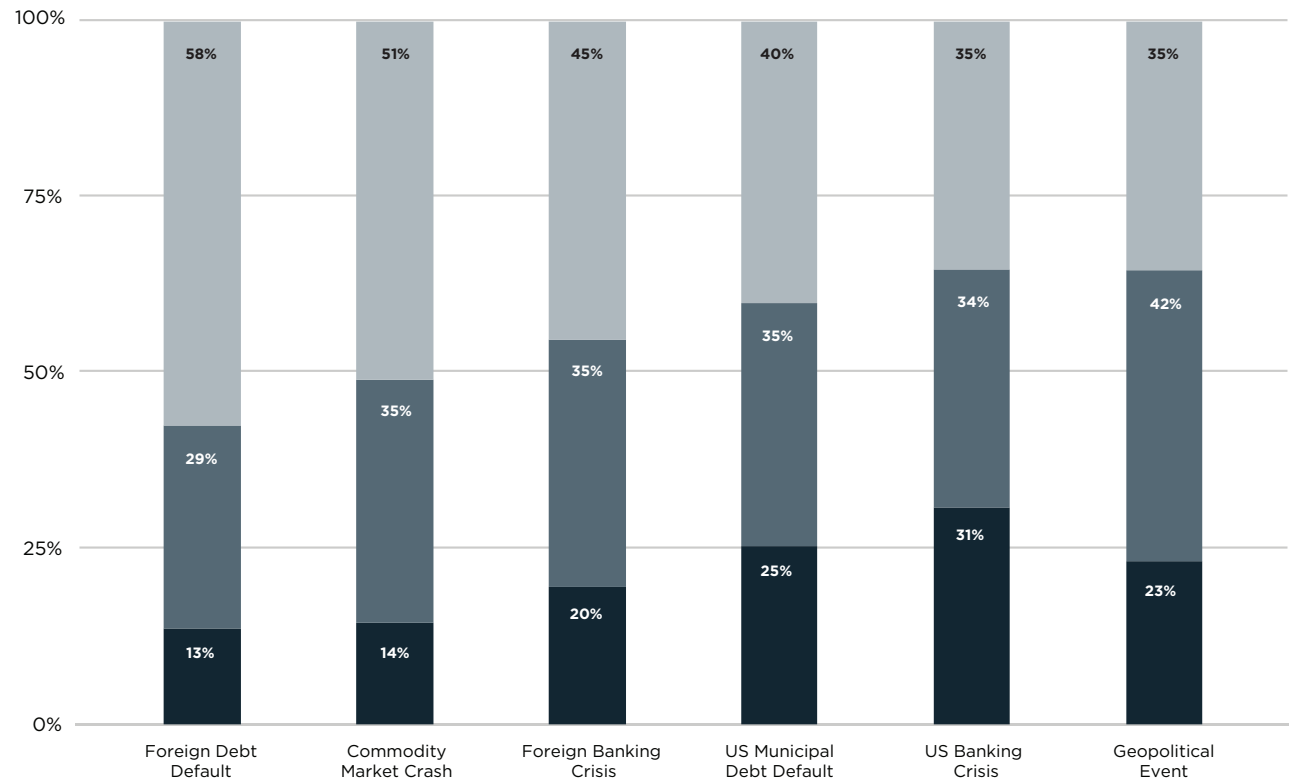
they are widely held by insurance companies and bank holding companies. A widespread outbreak of defaults on municipal debt would have a significant impact on

US systemic risk. We plan to follow the trends in this critical US market closely throughout 2011.

## What events have the highest probability of triggering a systemic risk event?

We also asked global risk managers to gauge the probability (low, medium or high) of systemic risk events occurring in 2011. Chart 14 illustrates the response distribution. There are really no surprises here; foreign sovereign debt has been a concern among global risk managers since the second quarter of 2010 when the impact of Greece debt concerns first rippled through global markets. The only difference now is that a number of other potential problems have appeared throughout the world, including the US which is not immune to sovereign debt issues. Moreover, concern about commodity markets will continue to grow as prices move higher.

**Chart 14 | Perceptions About Potential Systemic Risk Events for 2011 (4th Quarter 2010)**



Perceived probability of event creating a US systemic risk crisis in 2011

■ Low Probability ■ Mean ■ High Probability

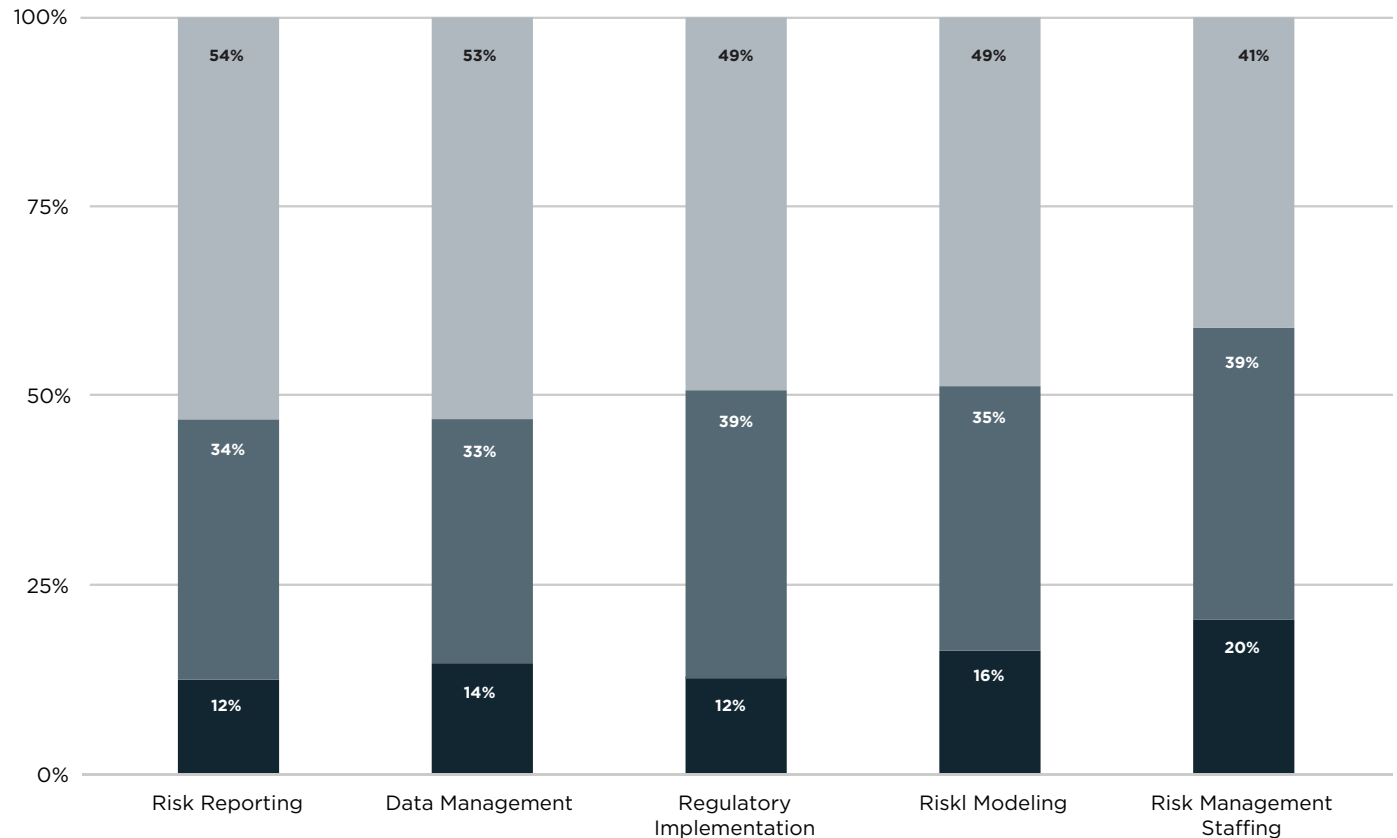
## How will capital be allocated across risk management activities?

Now more than two years removed from the financial crisis, and on the cusp of major financial market reforms, we thought it would be interesting to assess perceptions about capital budgeting for risk management activities in 2011. Chart 15 represents the expected investment in various activities for 2011.

One interesting observation is the relative consistency in response across each of the various risk activities. This may indicate an underlying need for widespread reinforcement of the risk management infrastructure at many organizations, especially in light of the expected requirements associated with the implementation of Dodd Frank and Basel III over time.

The other surprising result is the apparent lack of concern about risk management staffing. Perhaps organizations have already taken steps to reinforce risk management personnel in the wake of the financial crisis. Alternatively, it may indicate management's preference for capital investment in robust systems to manage and report risk over an investment in human capital which can be more expensive and in some ways, perhaps riskier.

**Chart 15 | Planned Investment in Risk Management Activities for 2011 (4th Quarter 2010)**



Expected investment in various risk management activities during 2011

■ Little Investment ■ Some Investment ■ High Investment

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# Appendix A

Survey of Market Factors

**The following eight market factors were assessed by FRM holders from 62 countries to construct the GARP Risk Index:**

Overall Health of the Economy	Rate the impact on risk to the US financial system of various leading, lagging and coincident US economic indicators.
Leverage in the Economy	Assess the potential impact on financial system risk in the US of total current economic leverage, including consumer and business credit.
Credit Spreads	Considering all current credit spreads, including corporate investment grade, high yield and credit default swap spreads and rate their effect on financial system risk in the US.
Health of Banking/ Financial System	Assess the current state of the US banking and financial system, including the influence of newly adopted and proposed regulations on financial system risk.
Equity Market Valuations	Indicate perceived risk to the US financial system of current equity market valuations measured across the major US equity indices.
Overall Traded Market Volatility	Considering volatility indicators across each major traded market including equities, fixed income, commodities and foreign exchange, and assess their overall impact on system wide risk in US financial markets.
Commodity Prices	Indicate the perceived risk to the US financial system of commodity valuations with particular focus on precious metal and energy markets.
Operations/Infrastructure/ Strategic Risk	Assess the influence on overall risk to the US financial system of current operational and infrastructure exposures, and strategic business objectives currently adopted by US financial institutions.
Overall Systemic Risk	Maintaining any or all of the above and any other consideration you might have, please rate your assessment of risk in the US financial markets today.

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# Appendix B

Survey of Additional Factors Impacting Systemic Risk

In our effort to develop a deeper understanding of the underlying factors you considered in your responses to the above questions, please provide your assessment of the following.

**I. Rate 1 to 5 (1 = very weak influence and 5 = very strong influence) the importance each of the following US economic indicators currently have in predicting or influencing US systemic risk.**

- |  |    |    |    |    |    |
|--|----|----|----|----|----|
| a. Unemployment                                | •1 | •2 | •3 | •4 | •5 |
| b. US current account deficit                  | •1 | •2 | •3 | •4 | •5 |
| c. Change in Consumer Price Index (CPI)        | •1 | •2 | •3 | •4 | •5 |
| d. GDP Growth                                  | •1 | •2 | •3 | •4 | •5 |
| e. Ratio of consumer credit to personal income | •1 | •2 | •3 | •4 | •5 |
| f. Personal income growth                      | •1 | •2 | •3 | •4 | •5 |
| g. Housing prices                              | •1 | •2 | •3 | •4 | •5 |
| h. Consumer confidence                         | •1 | •2 | •3 | •4 | •5 |
| i. US equity values                            | •1 | •2 | •3 | •4 | •5 |

**II. Rate 1 to 5 (1 = very little risk and 5 = very high risk) the risk you currently associate with each of the following measures of leverage in the US and their potential impact on systemic risk.**

- |                                  |    |    |    |    |    |
|----------------------------------|----|----|----|----|----|
| a. Government debt/GDP           | •1 | •2 | •3 | •4 | •5 |
| b. Consumer debt/personal income | •1 | •2 | •3 | •4 | •5 |
| c. Corporate debt/EBITDA         | •1 | •2 | •3 | •4 | •5 |

**III. Rate 1 to 5 (1 = very little predictive value and 5 = very high predictive value) the importance each of the following US credit and interbank spread relationships currently have in predicting systemic risk in the US.**

- |                               |    |    |    |    |    |
|-------------------------------|----|----|----|----|----|
| a. Corporate investment grade | •1 | •2 | •3 | •4 | •5 |
| b. High-Yield                 | •1 | •2 | •3 | •4 | •5 |
| c. Credit Default Swaps       | •1 | •2 | •3 | •4 | •5 |
| d. TED Spread                 | •1 | •2 | •3 | •4 | •5 |
| e. LIBOR OIS Spread           | •1 | •2 | •3 | •4 | •5 |

IV. Rate 1 to 5 (1 = very little impact and 5 = very high impact) the impact each of the following bank/financial system factors currently have in creating a potential “build-up” of systemic risk in the US.

- |   |    |    |    |    |    |
|---|----|----|----|----|----|
| a. Insufficient regulatory capital          | •1 | •2 | •3 | •4 | •5 |
| b. Counterparty exposures                   | •1 | •2 | •3 | •4 | •5 |
| c. Investment in illiquid asset portfolios  | •1 | •2 | •3 | •4 | •5 |
| d. Over-reliance on leverage                | •1 | •2 | •3 | •4 | •5 |
| e. Lack of countercyclical capital cushions | •1 | •2 | •3 | •4 | •5 |

V. Rate 1 to 5 (1 = very weak influence and 5 = very strong influence) the influence each of the following factors currently have in creating a potential build-up of systemic risk in the US.

- |   |    |    |    |    |    |
|---|----|----|----|----|----|
| a. Regulatory uncertainty                 | •1 | •2 | •3 | •4 | •5 |
| b. Global sovereign risk – “debt crisis”  | •1 | •2 | •3 | •4 | •5 |
| c. Insufficient risk management practices | •1 | •2 | •3 | •4 | •5 |
| d. US domestic policy agenda              | •1 | •2 | •3 | •4 | •5 |

VI. Rate 1 to 5 (1 = very little risk and 5 = very high risk) the risk you associate with the following potential effects of rising commodity prices and their impact on systemic risk in the US.

- |                                    |    |    |    |    |    |
|------------------------------------|----|----|----|----|----|
| a. Inflation                       | •1 | •2 | •3 | •4 | •5 |
| b. Greater market volatility       | •1 | •2 | •3 | •4 | •5 |
| c. Over speculation (asset bubble) | •1 | •2 | •3 | •4 | •5 |

VII. Rate 1 to 5 (1 = very weak influence and 5 = very strong influence) the influence each of the following factors currently have on commodity price risk and its potential impact on systemic risk in the US.

- |  |    |    |    |    |    |
|--|----|----|----|----|----|
| a. US Dollar weakness  | •1 | •2 | •3 | •4 | •5 |
| b. Emerging market growth (demand)                                     | •1 | •2 | •3 | •4 | •5 |
| c. Supply imbalances (including impact of government subsidy programs) | •1 | •2 | •3 | •4 | •5 |
| d. Commodity based investment funds (e.g., growth in Commodity ETFs)   | •1 | •2 | •3 | •4 | •5 |

**VIII. Rate 1 to 5 (1 = very little risk and 5 = very high risk) the risk you associate with the following specific commodity markets and their potential impact on systemic risk in the US.**

- |                         |    |    |    |    |    |
|-------------------------|----|----|----|----|----|
| a. Base metals          | •1 | •2 | •3 | •4 | •5 |
| b. Energy products      | •1 | •2 | •3 | •4 | •5 |
| c. Agriculture products | •1 | •2 | •3 | •4 | •5 |

**IX. Looking forward to the New Year please rate 1 to 5 (1 = very little concern and 5 = very high concern) the concern you and/or your firm associate with each of the following factors and their potential impact on a build-up of US systemic risk in 2011.**

- |   |    |    |    |    |    |
|---|----|----|----|----|----|
| a. Economic growth (GDP)  | •1 | •2 | •3 | •4 | •5 |
| b. Unemployment   | •1 | •2 | •3 | •4 | •5 |
| c. Value of the US Dollar                                       | •1 | •2 | •3 | •4 | •5 |
| d. Euro-zone instability  | •1 | •2 | •3 | •4 | •5 |
| e. Regulatory implementation                                    | •1 | •2 | •3 | •4 | •5 |
| f. US Inflation   | •1 | •2 | •3 | •4 | •5 |
| g. Asian market inflation                                       | •1 | •2 | •3 | •4 | •5 |
| h. European market inflation                                    | •1 | •2 | •3 | •4 | •5 |
| i. US Deflation   | •1 | •2 | •3 | •4 | •5 |
| j. Asian market deflation                                       | •1 | •2 | •3 | •4 | •5 |
| k. European market deflation                                    | •1 | •2 | •3 | •4 | •5 |
| l. Commodity market prices                                      | •1 | •2 | •3 | •4 | •5 |
| m. Housing prices   | •1 | •2 | •3 | •4 | •5 |
| n. Consumer confidence  | •1 | •2 | •3 | •4 | •5 |
| o. US monetary policy (including “Quantitative Easing Program”) | •1 | •2 | •3 | •4 | •5 |
| p. US sovereign debt  | •1 | •2 | •3 | •4 | •5 |
| q. US municipal debt  | •1 | •2 | •3 | •4 | •5 |
| r. Foreign sovereign debt                                       | •1 | •2 | •3 | •4 | •5 |
| s. US fiscal policy agenda                                      | •1 | •2 | •3 | •4 | •5 |
| t. US political uncertainty/legislative “gridlock”              | •1 | •2 | •3 | •4 | •5 |
| u. Geopolitical risk  | •1 | •2 | •3 | •4 | •5 |
| v. Lack of transparency in US derivatives markets               | •1 | •2 | •3 | •4 | •5 |
| w. Cyber attacks (technology breaches)                          | •1 | •2 | •3 | •4 | •5 |

**X. Looking forward to the New Year please rate 1 to 5 (1 = very low investment and 5 = very high investment) the investment (financial and/or intellectual) you and/or your firm plan to make in the following risk management activities in 2011.**

- |  |    |    |    |    |    |
|--|----|----|----|----|----|
| a. Risk modeling   | •1 | •2 | •3 | •4 | •5 |
| b. Risk reporting  | •1 | •2 | •3 | •4 | •5 |
| c. Data management (including technology infrastructure) | •1 | •2 | •3 | •4 | •5 |
| d. Operational risk (including liquidity risk)           | •1 | •2 | •3 | •4 | •5 |
| e. Regulatory implementation                             | •1 | •2 | •3 | •4 | •5 |
| f. Risk management staffing                              | •1 | •2 | •3 | •4 | •5 |

**XI. Looking forward to the New Year please rate 1 to 5 (1 = very low probability and 5 = very high probability) the potential for each of the following events to create a US systemic risk crisis in 2011.**

- |  |    |    |    |    |    |
|--|----|----|----|----|----|
| a. US banking system instability and/or failure      | •1 | •2 | •3 | •4 | •5 |
| b. Foreign banking system instability and/or failure | •1 | •2 | •3 | •4 | •5 |
| c. Foreign sovereign debt default                    | •1 | •2 | •3 | •4 | •5 |
| d. US municipal debt default                         | •1 | •2 | •3 | •4 | •5 |
| e. Commodity market volatility/crisis                | •1 | •2 | •3 | •4 | •5 |
| f. Geopolitical event                                | •1 | •2 | •3 | •4 | •5 |

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