
The GARP Risk Index

Second Quarter 2010

The GARP Risk Index

Key Findings

- Second Quarter 2010 Risk Index value was unchanged at 109, with several strong quarterly swings in perceived risk associated with the eight individual market factors.
 - The global “debt crisis,” insufficient risk management practices and regulatory uncertainty are currently seen as having the greatest impact on potential systemic risk in the US.
 - Leverage continues to be seen as having greatest potential for triggering systemic risk in the US, with market volatility and US macroeconomic factors close behind.
 - US unemployment, personal debt, consumer confidence and the US current account deficit are the macro indicators of greatest concern.
 - Financial regulation is thought to have a potentially high impact in mitigating systemic risk among risk managers in Asia and Europe, but has been met with apparent skepticism among risk managers in North America.
 - Risk managers in China continue to be sanguine about the threat of systemic risk in the US.
-

Contents

The GARP Risk Index: An Overview	4
Quantifying the Potential for Systemic Risk	
Quarterly Change in Market Factor Composites	5
Total Response Distribution	5
Systemic Risk Assessment	6
GARP Risk Index Components vs. Systemic Risk	6
Perceived Influence of Current Market Factors	7
Individual Risk Factors	
Response Distribution Across the Risk Spectrum	8
Risk Impact of Leverage on Systemic Risk	9
Importance of Current Economic Indicators in Predicting or Influencing US Systemic Risk	10
Current Impact of Financial System Factors	11
Current Importance of Various US Credit and Interbank Spreads	12
Impact of Financial Reform Regulations on Stabilizing the US Banking System	13
Financial Regulatory Reform and Global Perceptions	13
Risk Perceptions Across Geographies	14
Appendices	
Appendix A - Survey of Eight Individual Market Factors	15
Appendix B - Survey of Additional Factors Impacting Systemic Risk	17

The GARP Risk Index: An Overview

Tracking global perceptions

The GARP Risk Index tracks current global perceptions of eight individual risk factors capable of triggering a systemic risk crisis in the United States. Harnessing the expertise and market perceptions of Financial Risk Manager (FRM®) certification holders across 44 countries, the GARP Risk Index provides an informed assessment of current US market conditions and their impact on factors that may directly or indirectly contribute to or signal a build-up (or otherwise) in system-wide risk in the US.

Defining systemic risk

Systemic risk may be best summarized as an economic shock or event(s) that triggers a market dislocation and creates illiquidity with the potential for failure of one or more institutions, jeopardizing the integrity of the local or global financial system. Fallout from the recent global financial crisis has created an acute awareness of systemic risk in financial markets.

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

Methodology

GARP's FRM Program is the recognized global benchmark for financial risk management education and certification, with more than 24,000 certified FRM holders around the world. FRM holders from 44 countries participated in the Q2 2010 GARP Risk Survey, providing an assessment on a scale of 1 to 5 (1 - "Very Little Risk" and 5 - "Very Risky") of their current perceptions about eight individual US market factors that directly or indirectly influence financial system risk in the US. These factors include:

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

Survey results were 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). In addition, we asked FRM holders to respond to six additional questions in an effort to provide enhanced depth and color to the analysis. (Refer to Appendix B)

GARP Risk Index valued at 109 – unchanged in Q2 2010

At a value of 109 (equivalent to an aggregate weighted average response of 3.27) the Q2 2010 GARP Risk Index remains unchanged relative to Q1 and slightly higher than the base index of 100 (equivalent to an average risk rating of 3). This result is somewhat surprising given heightened concern over the global ramifications of potential sovereign debt defaults throughout Europe which weighed heavily on markets in Q2. While the overall Risk Index remains unchanged there were several changes in perceptions of individual factors depicted in Chart 1.

Leverage remained the factor of greatest concern in Q2, despite a 5.51% reduction in its individual risk composite (127-120). Perceptions about the health of the US banking system also weakened with a 3.51% decrease in its risk composite (114 to 110). Growing concern about market volatility (up 6.48% from 108 to 115) and equity market valuations (up 3.00% from 100 to 103) combined to offset these gains. Interestingly, despite optimism in Washington about a stronger economy, global perceptions about US economic strength remained relatively unchanged in Q2.

Chart 2 illustrates the response distribution for all factors across the risk scale. Disregarding a slight shift from the “very risky” category, the overall distribution looks virtually identical to Q1.

Chart 1 | Quarterly Change in Market Factor Composites (2nd Quarter 2010)

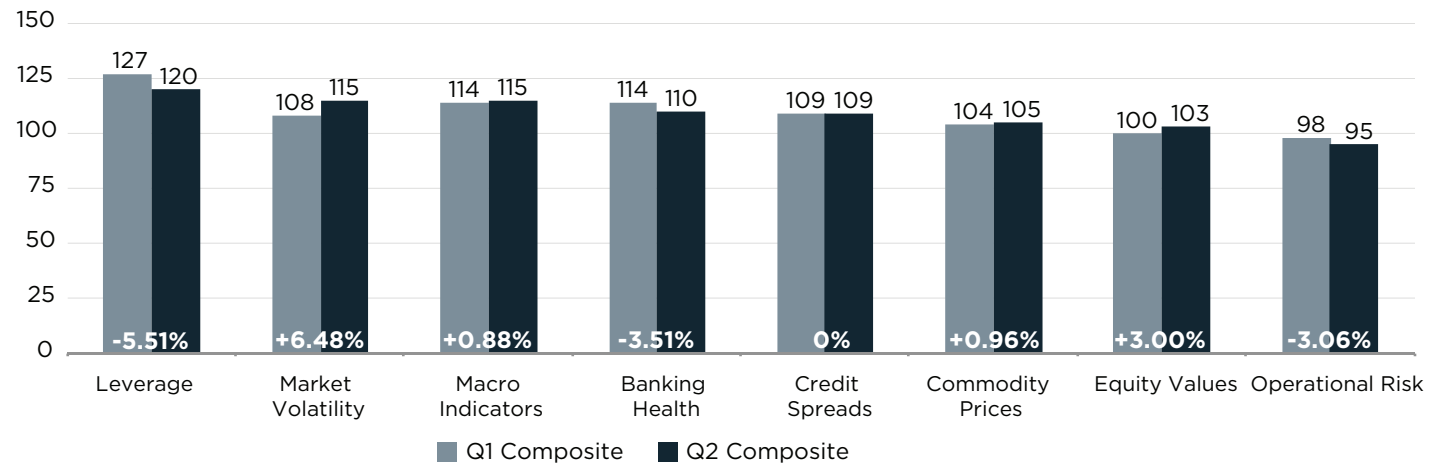
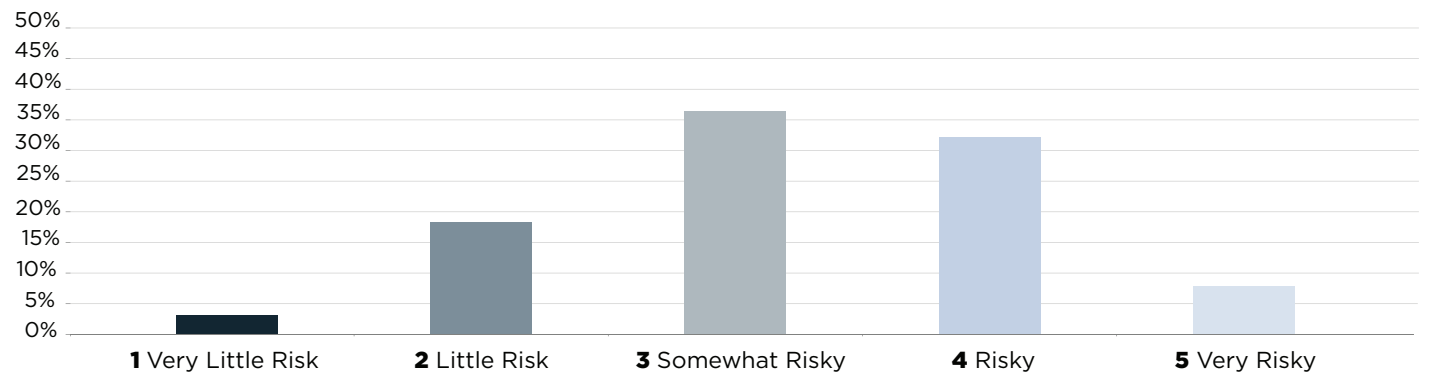


Chart 2 | Total Response Distribution (2nd Quarter 2010)



Overall systemic risk assessment improves, but GARP Risk Index diverges

Individual perceptions about overall systemic risk in the US financial markets improved in Q2 as illustrated in Chart 3. Risk perceptions were clearly more heavily skewed toward the mean or “Somewhat Risky” category in Q2, producing a scaled, risk weighted average of 113, equivalent to an aggregate weighted average response of 3.39 vs. 3.45 or 115 in Q1.

The divergence between the GARP Risk Index and the overall systemic risk assessment (109 vs. 113) is illustrated in Chart 4.

Chart 3 | Systemic Risk Assessment (2nd Quarter 2010)

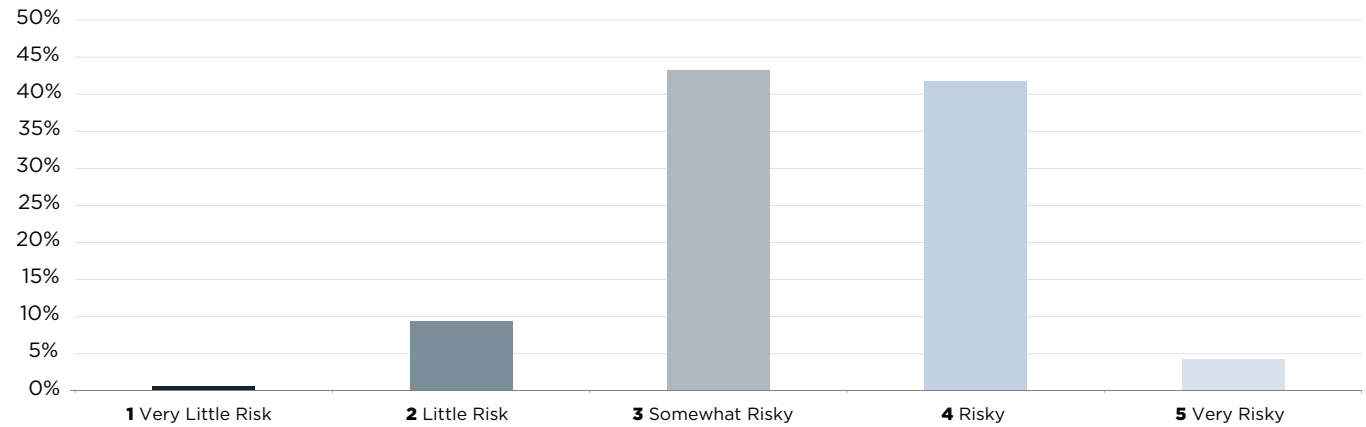
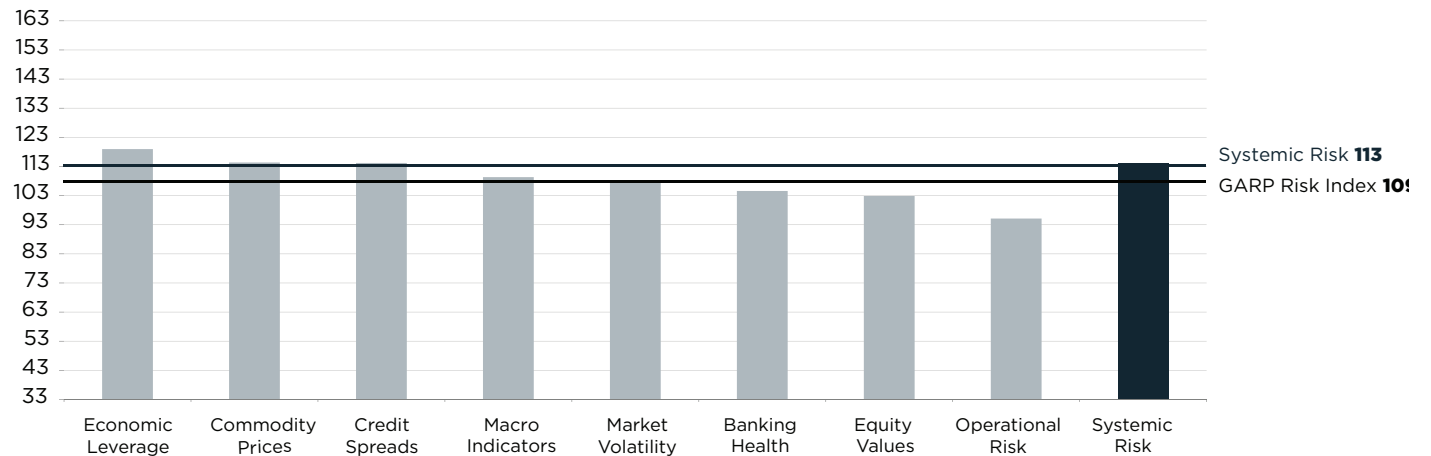


Chart 4 | GARP Risk Index Components vs. Systemic Risk (2nd Quarter 2010)

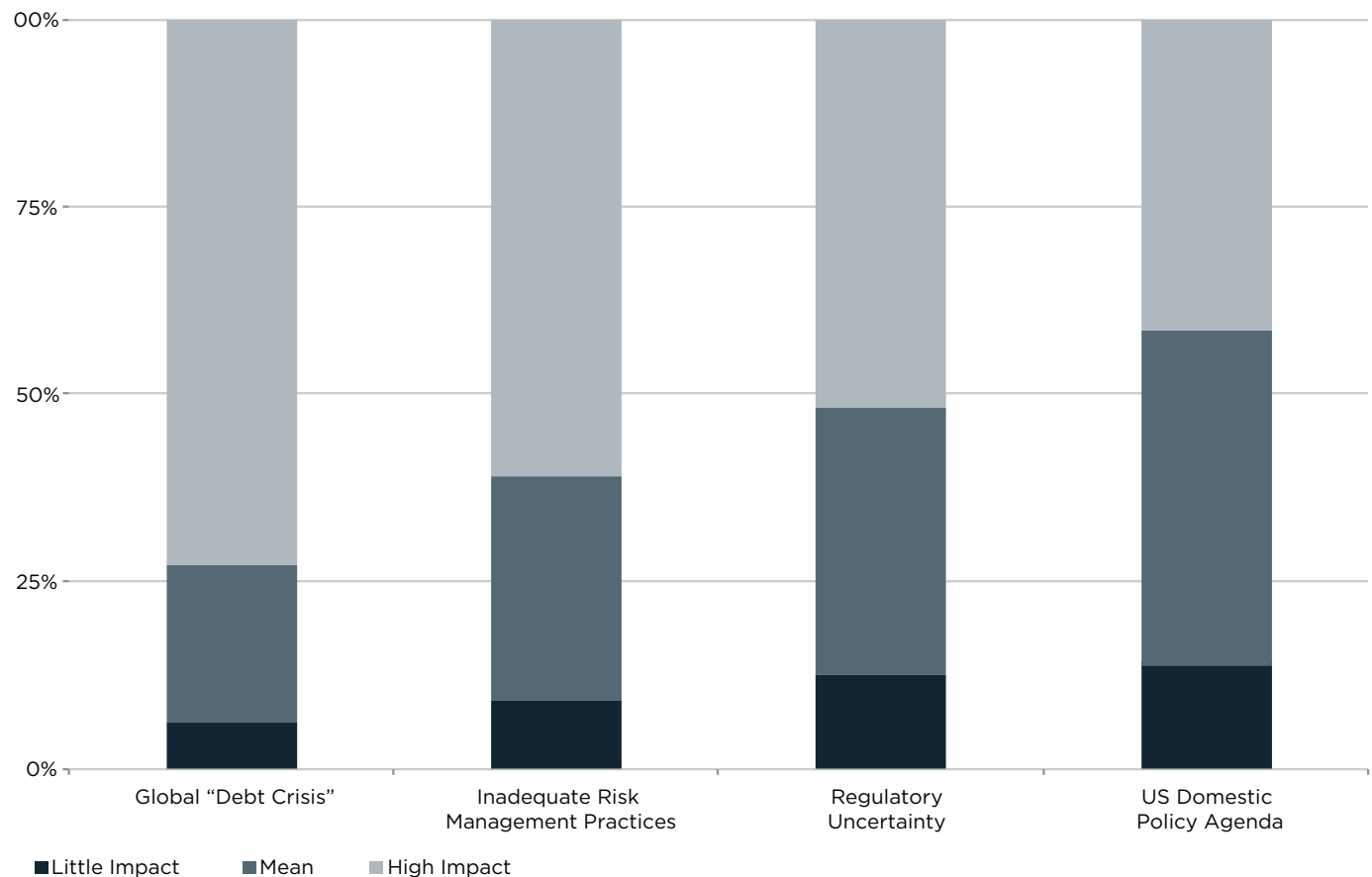


Causes for divergence — regulatory uncertainty, correlation across risk factors?

In an effort to gather additional insight into the causes of this divergence we added six questions (see Appendix B) to the Q2 Risk Survey. Chart 5 illustrates the response distribution¹ from one question² that appears to help explain this divergence.

When asked about the impact of several additional market factors more than 50% of Q2 survey respondents indicated the global “debt crisis,” insufficient risk management practices and regulatory uncertainty all had a high or significant influence on systemic risk potential in Q2. A fourth factor, US domestic policy agenda, was close behind at 41%. When considering these factors a strong case can be made that each of them is closely correlated with our original eight market factors and would logically impact an assessment of overall systemic risk. It is therefore not surprising that a divergence exists between the GARP Risk Index and the separate, overall systemic risk assessment.

Chart 5 | Perceived Influence of Current Market Factors on Potential Build-Up Systemic Risk in the US (2nd Quarter 2010)



¹ Data represents survey responses distributed around the mean.

² 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.

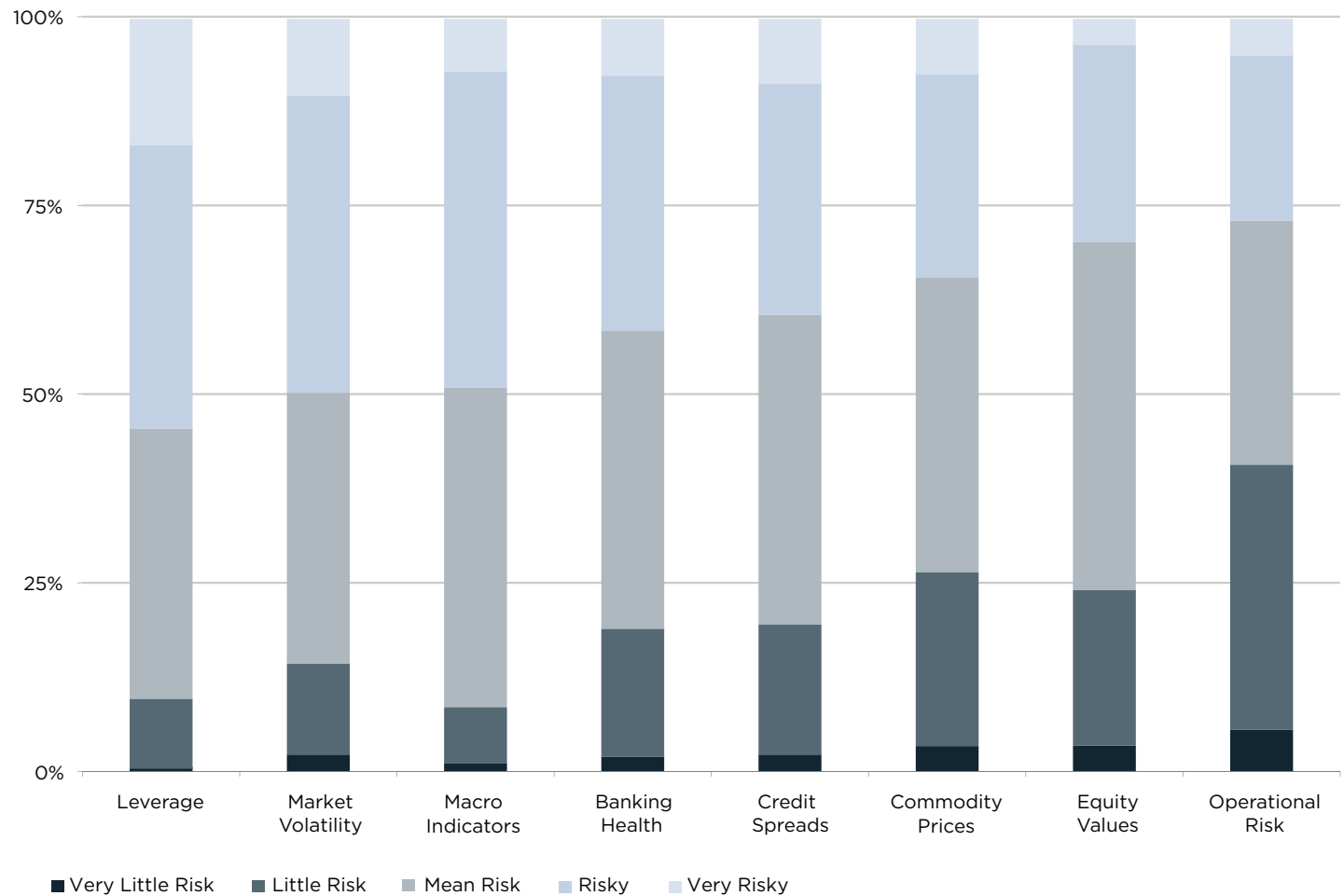
Leverage is most risky for the 2nd straight quarter; operational risk is lowest on the risk scale

Chart 6 provides a summary of the distribution of responses for each market factor. Q2 survey results indicated risk managers remain most concerned about financial leverage and its influence on risk in the financial system. Market volatility and macro-economic indicators follow close behind. There appears to be an optimistic view towards operational risk (ranked lowest on the risk scale) which seems to support the observation in Q1 that operational risk is simply difficult to quantify and may be underestimated regardless of instability in the financial system. Risk managers also remain sanguine about equity values.

It is increasingly difficult to interpret the relationship between equity values and systemic risk as risk perceptions appeared closely linked to the “ups and downs” of the market in Q2. Equity values are also linked to the performance of individual companies. Perhaps equity values should only be interpreted in the context of market volatility or corporate credit spreads rather than as a separate market risk factor. An argument can certainly be made that volatility and credit spreads are important equity risk drivers. We will monitor this closely in Q3, with an eye towards creating more formal linkages.

Recognizing there a number of factors that influence each of the eight market factors surveyed we have tried to create a more granular view of several specific factors. (See survey questions in Appendix B)

Chart 6 | Response Distribution Across the Risk Spectrum (2nd Quarter 2010)

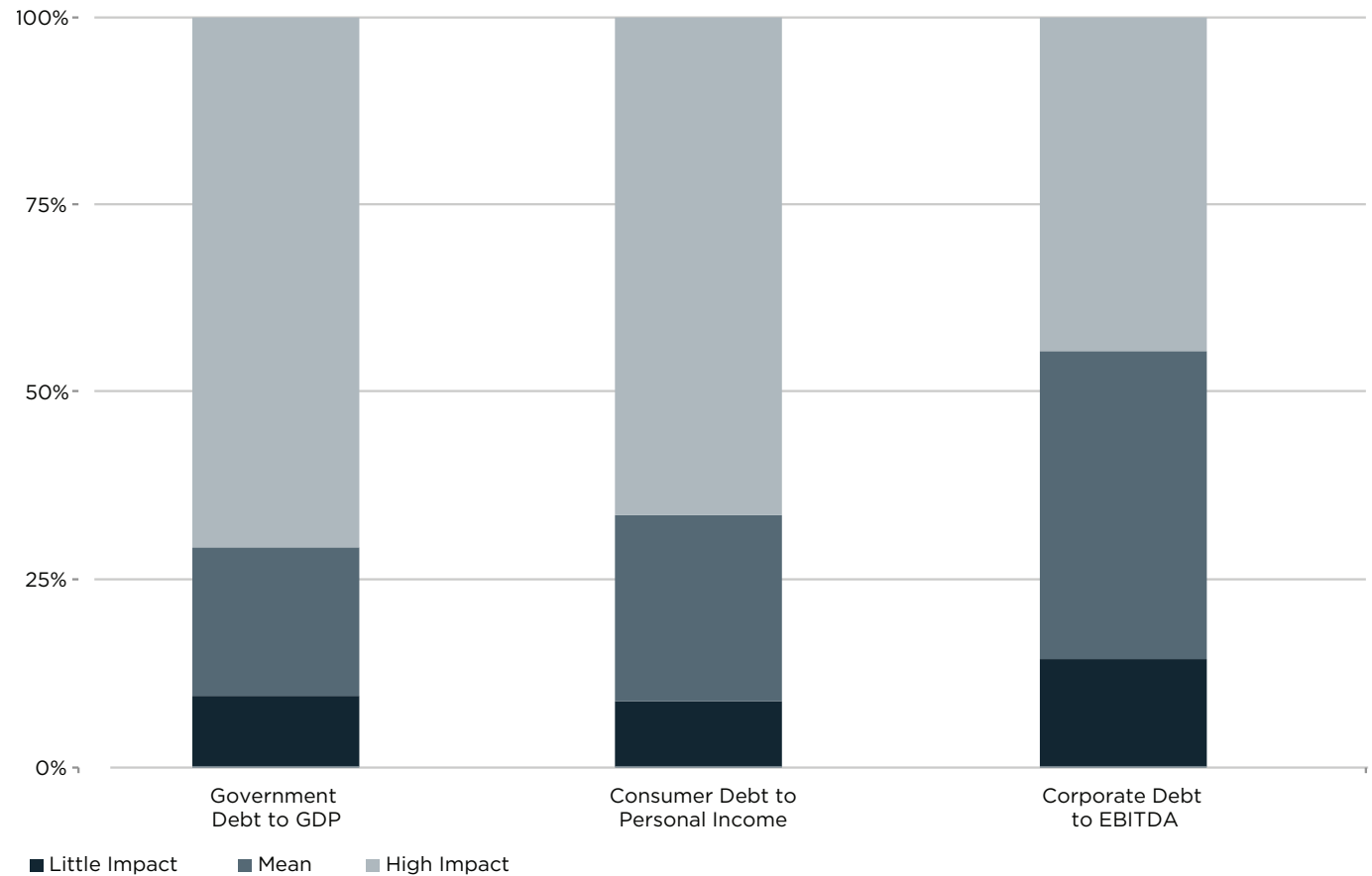


Leverage indicators

Chart 7 depicts the distribution³ of market perception related to risk associated with three important leverage indicators in the public and private sectors. Government debt measured as a percentage of GDP (71% of respondents) and consumer debt relative to personal income (66% of respondents) were perceived to have a potentially high to very high impact on systemic risk. This comes as little surprise given the global market impact of the European debt crisis in Q2.

The perceived threat of consumer debt is likewise interesting as much has been written about the tightening of consumer wallets and bank lending, particularly in the US and Europe where individual savings and tight credit were thought to be in vogue in the wake of the financial collapse two years ago. However, survey results are consistent with findings in a recent report from the Federal Reserve Bank of New York⁴. The Fed report supports the view that “belt tightening” is happening among US consumers but points out that consumer deleveraging is a long, painful process which has not led to a significant reduction in delinquencies. In fact, there has been a slight year-over-year increase in debt delinquencies of 90 days or more through the first half of 2010. This will be an interesting trend to track in the coming quarters.

Chart 7 | Risk Impact of Leverage on Systemic Risk (2nd Quarter 2010)



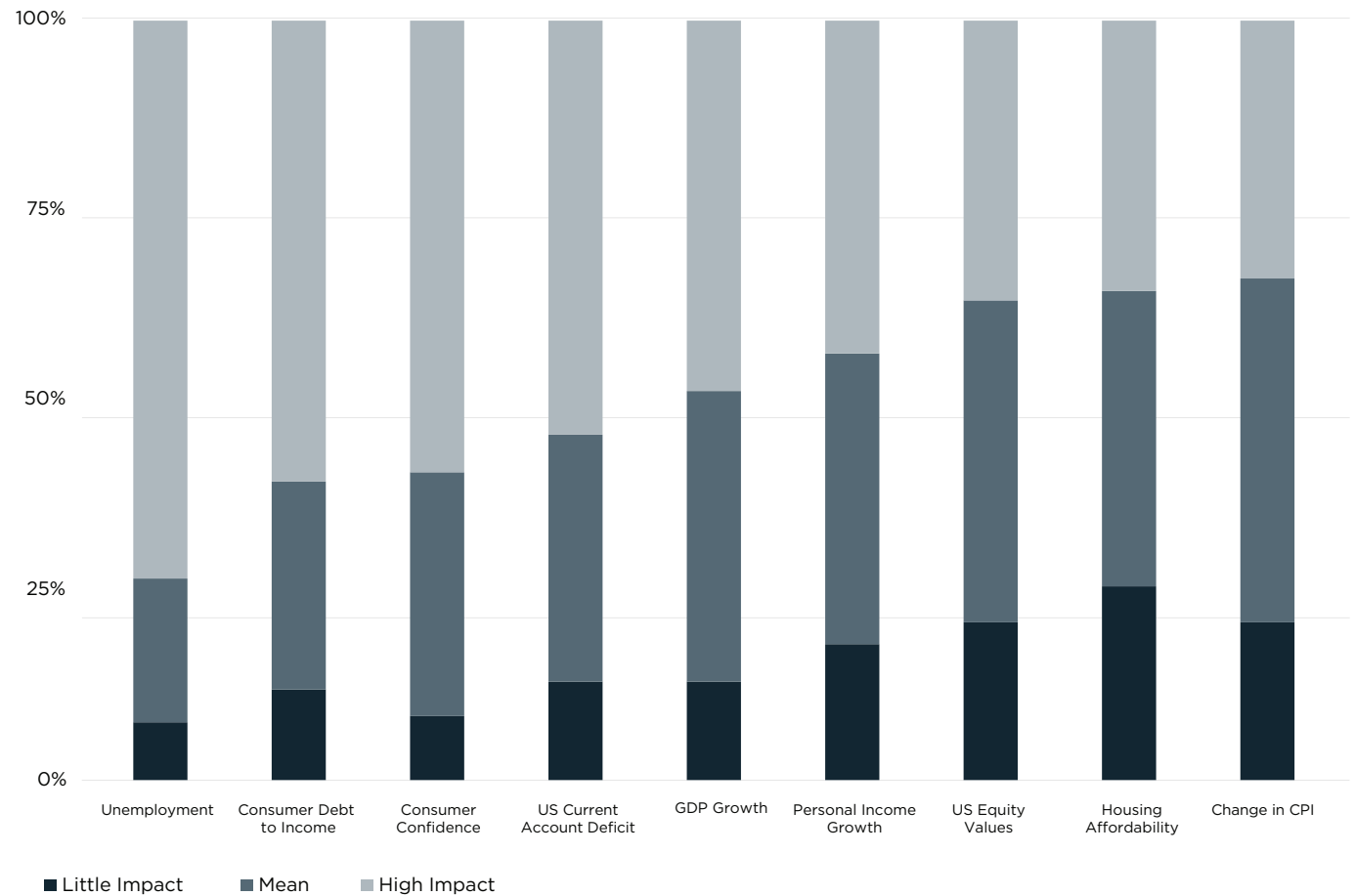
³ Data represents survey responses distributed around the mean.

⁴ *Quarterly Report on Household Debt and Credit*, Federal Reserve Bank of New York, August 2010

Perceived influence of key economic indicators on systemic risk

Market concern about a “jobless recovery” appears to be reinforced in Chart 8, which illustrates the perceived influence of several key economic indicators on systemic risk. Roughly 74% of those surveyed indicated unemployment was a strong or very strong influencing factor. It is also likely correlated with concern about consumer debt levels. More than 60% of FRM holders indicated consumer debt relative to personal income was perceived to have a strong to very strong influence on financial system risk (this is consistent with our earlier findings related to the impact of consumer leverage). Risk managers were also wary about consumer confidence and the US current account deficit with more than 50% of survey participants of the view that each had a strong or very strong influence on US systemic risk. Based on these results it seems clear the US consumer continues to be perceived globally as a key driver of economic strength and potential systemic risk in the US.

Chart 8 | Importance of Current Economic Indicators in Predicting or Influencing US Systemic Risk (2nd Quarter 2010)

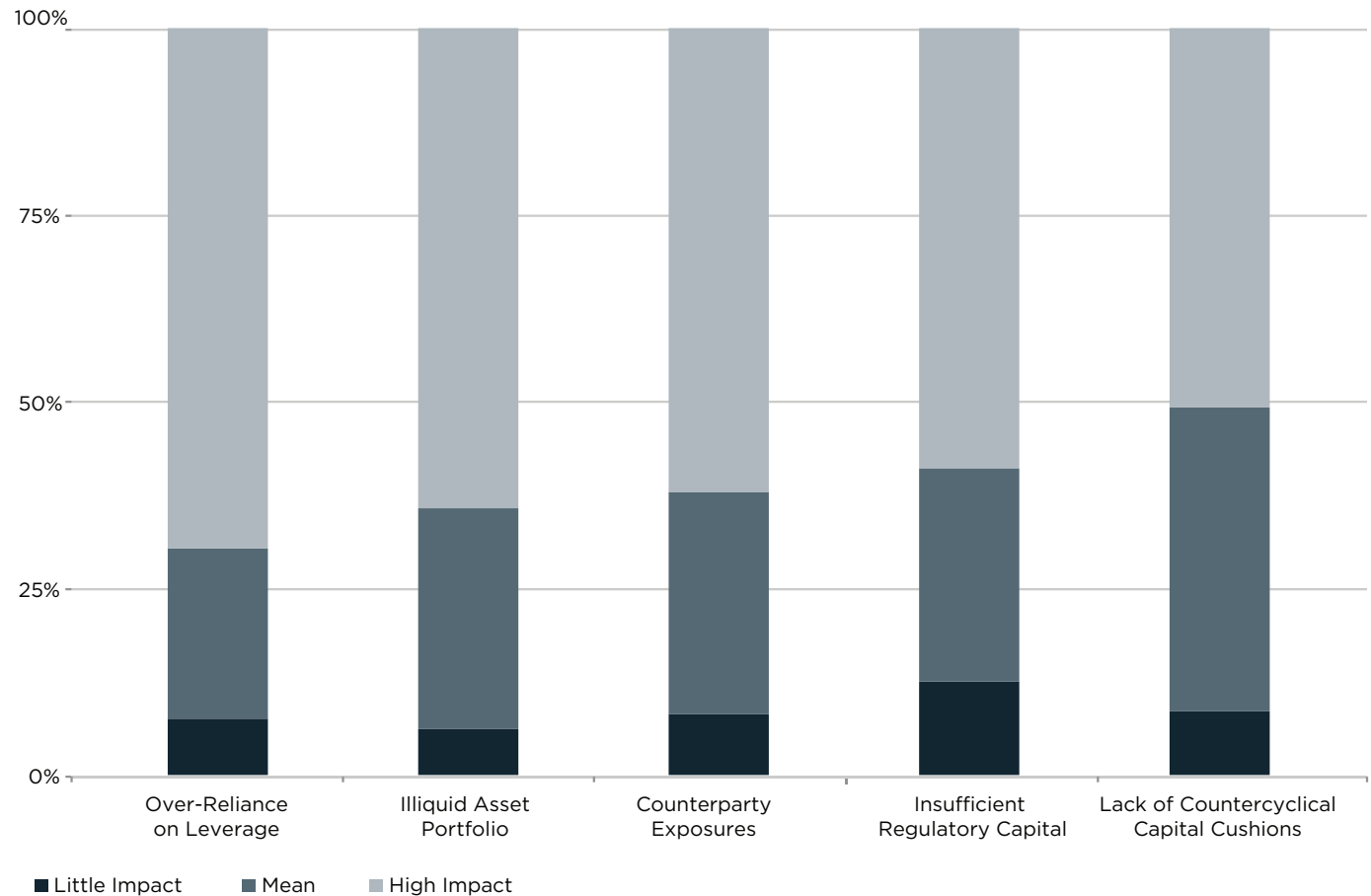


US banking system continues to be of concern

Government support and a favorable yield curve have helped strengthen bank capital ratios over the past eighteen months bringing many large institutions back from the brink. Despite significant balance sheet improvement and a return to profitability, the health of the US banking/financial system continues to draw measurable attention and concern among risk managers.

Chart 9 provides an overview of the factors perceived to have the greatest potential impact on a buildup of risk in the financial system. The reliance on leverage and investment in illiquid asset portfolios was of greatest concern, with nearly 70% of risk managers indicating leverage would have a high or very high impact on systemic risk and more than 64% stating that illiquid portfolios would have that level of risk. It is a bit surprising that leverage and participation in illiquid products continues to generate such a high level of concern, particularly in light of the fact that so much emphasis has been placed on reducing their impact in the wake of the recent financial crisis. This certainly appears to be an indication that global risk managers believe more can and should be done to affect strategic change in the US banking system.

Chart 9 | Current Impact of Financial System Factors in Potential Build-Up of US Systemic Risk (2nd Quarter 2010)

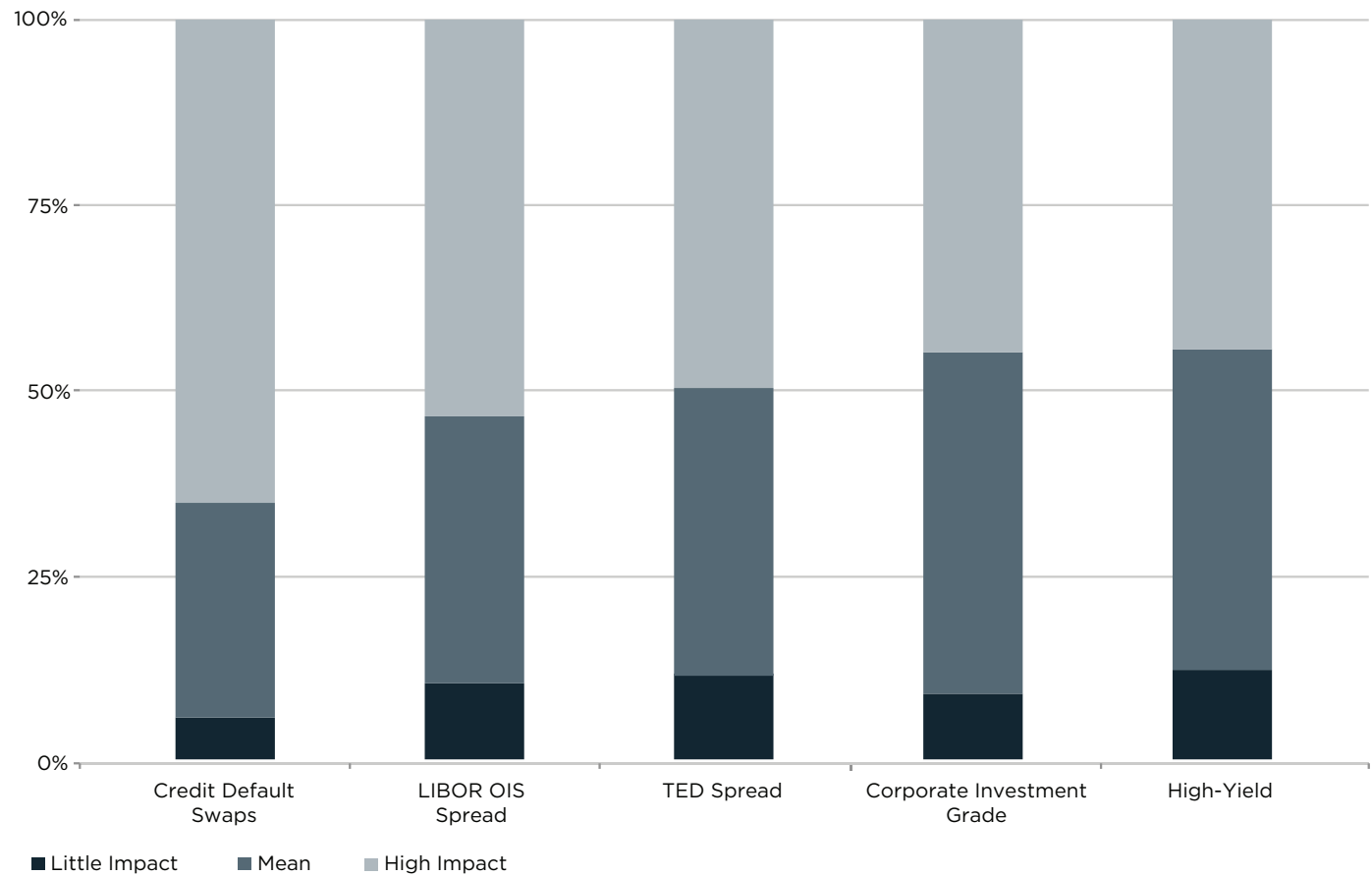


Credit spreads are important predictors, with credit default swaps having the most predictive value

Credit spreads were an important predictor of the recent financial crisis and received the fifth highest composite score among the eight market factors surveyed. In the Q2 survey we also asked risk managers to rate the predictive value of 5 key spreads to better gauge their importance as systemic risk indicators. Chart 10 illustrates the views of risk managers who responded.

Current results indicate credit default swap (CDS) spreads hold the highest predictive value with more than 65% of risk managers ranking CDS spreads as having a high or very high value in predicting a potential systemic risk event. This likely comes as little surprise given the amount of publicity – both good and bad – that the credit default swap market received during the recent financial crisis. The LIBOR OIS Spread and TED Spreads were ranked second and third respectively, with 54% and 50% of respondents indicating a high to very high predictive value for each.

Chart 10 | Current Importance of Various US Credit and Interbank Spreads in Predicting US Systemic Risk (2nd Quarter 2010)



Financial reform regulation and its potential impact

As a final resolution on financial reform legislation appeared headed for closure in Q2, we thought it would be interesting to gauge the impact of several key financial regulatory proposals through the eyes of the global risk management community. Chart 11 illustrates the response distribution of all global FRM holders when queried about the potential for derivatives regulation, the Volcker Rule, “Too Big to Fail” legislation and the appointment of a systemic risk regulator to help stabilize the US banking system and mitigate systemic risk in the US.

On an aggregate global basis it seems clear that derivatives regulation is thought to be significant, with approximately 65% of risk managers indicating it would have a high to very high impact. In contrast, 52%, 48% and 40% of FRM holders rated the idea of a systemic risk regulator, “Too Big to Fail” legislation and the Volcker Rule respectively as having a similar impact. When considered regionally the global perception about the impact of financial regulation varies significantly by geography as illustrated in Chart 12.

It is interesting to note the response of risk managers in North America where there appears to be a rather skeptical view that additional regulation, in particular derivatives regulation, will have a meaningful impact on the US financial system or be a significant mitigant for systemic risk. This is in sharp contrast to perceptions of risk colleagues throughout much of Asia and Europe.

Chart 11 | Impact of Financial Reform Regulations on Stabilizing the US Banking System and Mitigating US Systemic Risk (2nd Quarter 2010)

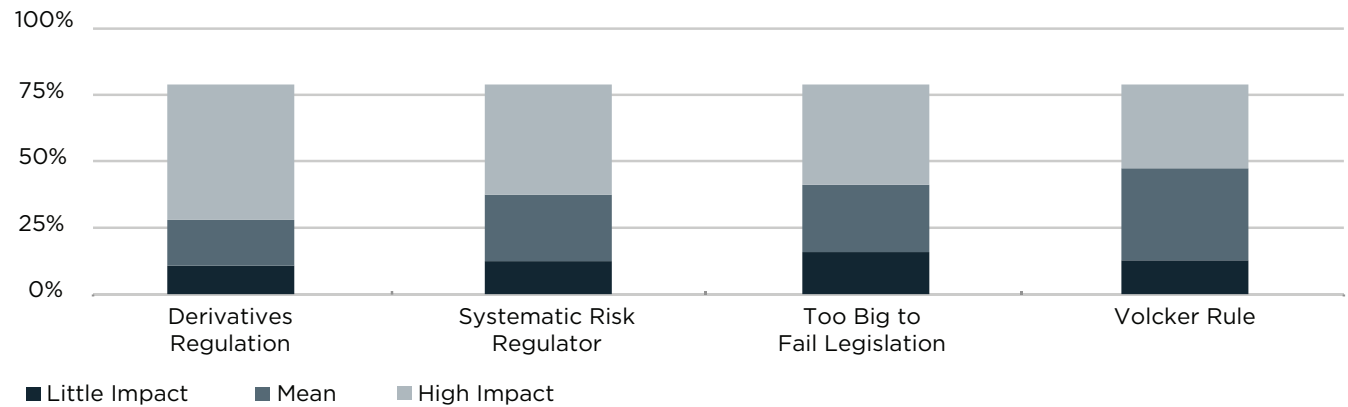
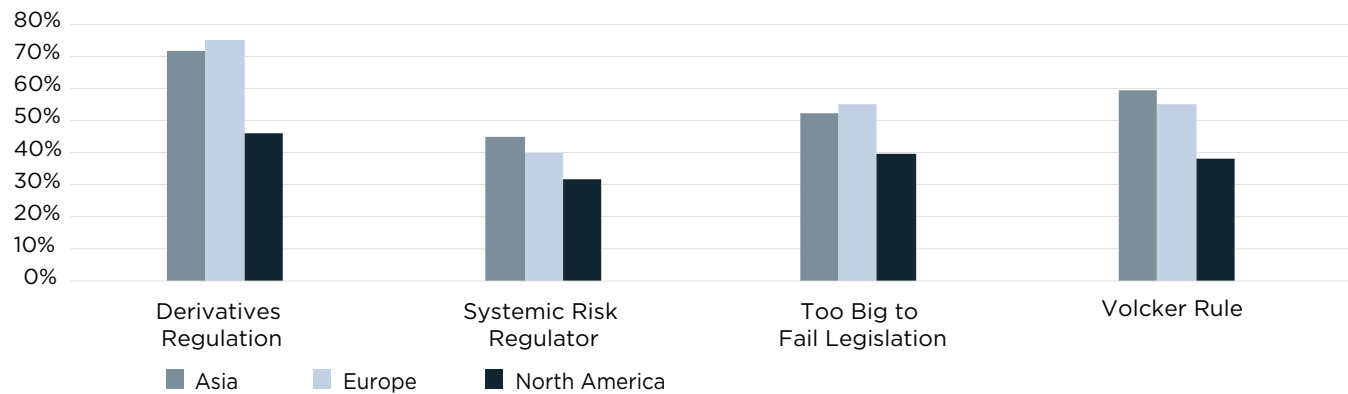


Chart 12 | Financial Regulatory Reform and Global Perceptions (2nd Quarter 2010)



Risk professionals in China are least concerned; Canadians more pessimistic

Data from the 10 countries with the highest proportion of total responses (approximately 80%) was analyzed to better understand risk perceptions across geographies. The table below summarizes the average risk weighted response for each market factor. The highest and lowest risk assessment for each factor has been highlighted in white and green respectively.

US based FRM holders were most concerned about the economy. In particular unemployment was perceived by 89% of US based FRM holders to have a strong or very strong influence on risk in the US. This was a consistent theme around the world as US unemployment was generally thought to be the macro indicator with the greatest potential to impact systemic risk. FRM holders in Canada and Germany appear to be significantly more optimistic about systemic risk relative to their US counterparts, while concern among FRM holders in Taiwan has escalated. Interestingly, risk professionals in China continue to demonstrate little concern about systemic risk. Moreover, each individual composite risk score from China (i.e., weighted average risk rating for the eight market factors surveyed) was ranked in the bottom quartile relative to the other 9 countries. This seems to provide further proof that optimism runs deep among risk managers in China.

Table 1 | Aggregate US Risk Assessment vs. Current US Systemic Risk Assessment (2nd Quarter 2010)

Market Factor	Canada	China	Germany	Hong Kong	India	S. Korea	Switzerland	Taiwan	UK	US
Macro Indicators	3.61	3.17	3.29	3.26	3.54	3.38	3.50	3.13	3.14	3.91
Leverage	3.78	3.37	4.00	3.26	3.75	3.88	3.67	3.50	3.71	3.84
Credit Spreads	3.27	3.19	3.71	3.30	3.30	3.13	3.33	3.75	3.00	3.18
Banking Health	3.22	3.18	3.43	3.13	3.32	3.38	3.67	3.25	3.42	3.60
Equity Values	3.17	2.95	2.57	3.04	3.41	3.25	3.00	3.50	2.86	3.13
Market Volatility	3.56	3.35	3.57	3.43	3.57	3.75	3.50	3.75	3.00	3.44
Commodity Prices	3.00	3.15	3.00	3.48	3.32	3.63	3.00	3.25	2.86	3.07
Operational Risk	3.00	2.73	2.57	3.13	2.59	3.25	2.83	2.88	3.86	3.09
Aggregate Risk Assessment	3.33	3.14	3.26	3.25	3.35	3.45	3.31	3.38	3.23	3.41
Systemic Risk Assessment	3.50	3.23	3.14	3.17	3.38	3.50	3.50	3.75	3.57	3.64

Note: Representation of average survey responses based on a scale of 1 to 5 (1 Very Little Risk and 5 Very Risky)

Appendix A

Survey of Eight Individual Market Factors

The following eight market factors were assessed by FRM holders from 48 countries to construct the GARP Risk Index:

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.
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.

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 affordability | •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. 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 little impact and 5 = very high impact) the impact each of the following current financial regulatory initiatives would have in stabilizing the health of the US banking/financial system and mitigating systemic risk.

- | | | | | | |
|--------------------------------|----|----|----|----|----|
| a. Derivatives regulation | •1 | •2 | •3 | •4 | •5 |
| b. Volcker Rule | •1 | •2 | •3 | •4 | •5 |
| c. Too big to fail legislation | •1 | •2 | •3 | •4 | •5 |
| d. Systemic risk regulator | •1 | •2 | •3 | •4 | •5 |

VI. 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 |

Creating a culture of
risk awareness.™

Global Association of
Risk Professionals

111 Town Square Place
Suite 1215
Jersey City, New Jersey 07310
USA
+ 1 201.719.7210

Minster House, 1st Floor
42 Mincing Lane
London EC3R 7AE
UK
+ 44 (0) 20 7397 9631

www.garp.org

About GARP | *The Global Association of Risk Professionals (GARP), a membership organization of over 150,000 individuals, is the only worldwide organization offering comprehensive risk management certification, training and educational programs from board-level to entry-level, allowing a firm to create a culture of risk awareness throughout an organization. All of GARP's programs are developed and maintained by industry-leading risk practitioners and academics, ensuring the courses and materials are consistent and reflect the latest global standards in risk management. To learn more about GARP, visit www.garp.org.*