Summary of Session 4 Panel Discussion

The presenters were Leslie Rahl, President of Capital Market Risk Advisors; William Rutledge, Executive Vice President and Head of Bank Supervision at the Federal Reserve Bank of New York; and Petros Sabatacakis, Senior Risk Officer at Citigroup. The session was moderated by Beverly Hirtle, Vice President at the Federal Reserve Bank of New York.

How should financial conglomerates manage their risks now that the Gramm-Leach-Bliley Act permits financial holding companies (FHCs) to engage in commercial banking, securities, and insurance underwriting? Two industry representatives and a bank supervisor provided their perspectives on this policy question in the last session of the conference.

Although Sabatacakis, Rahl, and Rutledge each had a unique opinion of how FHCs should develop their risk management systems in the coming years, all agreed that effective risk management requires more than just accurate modeling. The "culture" of risk management, they noted, is also important. Executives from the highest levels on down must communicate the firm's goals and provide incentives that create an environment in which staff seek to meet those goals. The discussants also observed that the combination of financial firms from different businesses—for example, a securities firm with a trading culture joined with a commercial bank with a lending culture—will pose the greatest risk management challenge over the next few years. Supervisors will face a parallel set of challenges as the functional regulators—the Securities and Exchange Commission (SEC), the state insurance departments, and the banking agencies—along with the Federal Reserve as umbrella supervisor, must learn to work together effectively. The consensus of the session, however, was one of optimism, as each speaker agreed that the blending of cultures across business lines and regulators will improve everyone's ability to understand and control risk.

Petros Sabatacakis

Petros Sabatacakis began the session by noting that FHCs face three key risk management challenges: governance of risk management, communication between senior managers of different business lines, and transition management.

Sabatacakis then asked a pointed question: How can five or six companies spanning insurance, asset management, investment banking, and commercial banking combine their risk management command and control systems? Effective governance in a complex financial conglomerate, according to Sabatacakis, can occur only with total clarity of responsibility in job definitions. From the board of directors down to the trader or loan officer, everyone must understand his or her role in risk management and know the limitations. Ideally, risk management should push down as far as possible. Having said

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that, Sabatacakis emphasized the importance of oversight by business heads and the corporate risk management staff. At Citigroup, for example, risk management governance begins at the risk committee of the board of directors. In addition, the management committee, comprising the top fifteen or so members of the company, meets once a month, spending two to three hours on risk issues. At this level, companywide issues such as capital allocation across business lines are a primary concern.

One can communicate risk exposures across businesses conveniently with a summary statistic such as economic capital at risk, observed Sabatacakis. Economic capital is useful as an instrument that summarizes relevant information with a single number. Moreover, risk managers can use capital at risk to translate the complexities of risk into a language that is clear to the board of directors and other senior managers.

Sabatacakis argued that the use of capital as a common yardstick is a good way to establish meaningful comparisons, but it does not go far enough. "Unexpected" events—first-time occurrences—tend to generate the biggest losses. Thus, Sabatacakis contended that stress testing and scenarios must be taken seriously. Although these scenarios are unlikely to resemble the "unexpected" events that actually occur, they can (and should) be used to generate productive debate among risk managers. For instance, Sabatacakis mentioned discussion of a scenario in which a large earthquake strikes Tokyo. Such discussions force risk managers to consider spillovers, such as how the event might affect interest rates or market liquidity. Scenarios can also uncover hidden correlations—that is, common movements in market prices that have not occurred historically, but might occur under certain conditions.

The transition from two or three risk management cultures to a single one in a newly formed financial conglomerate poses perhaps the greatest challenge. Sabatacakis noted that a firm like Citigroup—recently created from the merger of Citicorp and The Travelers Group—faces the difficulty of blending risk management cultures based on asset-side risks (trading and commercial lending) with a culture that must also consider liability-side risk (insurance, especially property and casualty). Although it is easy in principle to combine physical risk management systems such as computer software, computer hardware, and data, the task still requires effort, expense, and—most of all—commitment. More problematic, but potentially more valuable, is the act of merging the risk management cultures of the three kinds of businesses.

Sabatacakis concluded by pointing out that a trader and a commercial loan officer look at the world in very different ways. To a trader, assets are commodities that should be bought cheap and sold dear. To a banker, assets represent relationships that, when nurtured, generate benefits to both the bank and the borrower over time. Ideally, each culture can benefit from the strengths of the other. For instance, it may be possible to generate trading revenue by leveraging off lending relationships to generate customer flow.

Leslie Rahl

Leslie Rahl emphasized the increasing complexity of risk management over the past ten to fifteen years, and remarked that the likely combination of business lines in the future suggests even greater challenges. Rahl began by presenting a long list of the risks facing financial companies, one that has been growing over time (see exhibit). She used the analogy of an iceberg to illustrate the key issue faced by risk managers contemplating such a list of risks: everyone understands the existence of the iceberg, but no one knows what it looks like under the water.

Rahl pointed out that the analytical components of risk management—value at risk, stress testing, backtesting, model review, and limits—are all important. Nevertheless, echoing a theme of Sabatacakis, she emphasized that risk management culture matters most. In some firms, for example, violations of exposure limits lead to termination of staff, while in others it is viewed as only a minor infraction.

Galaxy of Risks

▶ Accounting risk	▶ Hedging risk	▶ Political risk
▶ Bankruptcy risk	▶ Horizon risk	▶ Prepayment risk
▶ Basis risk	▶ Iceberg risk	▶ Publicity risk
▶ Call risk	▶ Interest rate risk	▶ Raw data risk
▶ Capital risk	▶ Interpolation risk	▶ Regulatory risk
▶ Collateral risk	▶ Knowledge risk	▶ Reinvestment risk
▶ Commodity risk	▶ Legal risk	▶ Rollover risk
▶ Concentration risk	▶ Limit risk	▶ Spread risk
▶ Contract risk	▶ Liquidity risk	▶ Suitability risk
▶ Credit risk	▶ Market risk	▶ Systemic risk
▶ Currency risk	▶ Maverick risk	▶ Systems risk
▶ Curve construction risk	▶ Modeling risk	▶ Tax risk
▶ Daylight risk	▶ Netting risk	▶ Technology risk
▶ Equity risk	▶ Optional risk	▶ Time lag risk
▶ Extrapolation risk	▶ Personnel risk	▶ Volatility risk
▶ Fiduciary risk	▶ Phantom risk	▶ Yield curve risk

Source: Leslie Rahl, Capital Market Risk Advisors.
Note: Partial listing.

More generally, Rahl argued that models will never capture the full "galaxy of risks." Things tend to go wrong, she warned, when people begin to believe the numbers. Clever forms of fraud, new market moves, acts of God, and regulatory surprises—to name a few—always threaten to overwhelm a model's assumptions. A simple value-at-risk model that assumes that financial time series are normally distributed would consider market moves beyond two standard deviations to be relatively unlikely and moves beyond three standard deviations to be almost unheard of. She noted that in each of the past ten years, for example, at least one market moved by more than ten standard deviations—a statistical impossibility under a normal distribution.

Rahl also cautioned against viewing value at risk as providing a worst-case scenario. Value at risk measures the worst loss with a specified degree of confidence, say 99 percent. The problem is that the loss experienced on that one day out of every hundred could be very large, and value at risk provides *no guidance* as to how large those losses might be. She also cautioned that value-at-risk models work very poorly for arbitrage-related businesses, for real estate, and for private equity. Moreover, value at risk does not capture cumulative losses; large losses may pile up, especially if price movements are not independent across time.

Given the inherent limitations of value-at-risk models, Rahl agreed with Sabatacakis that stress testing and scenario analysis are key to rounding out the picture of a portfolio's risk. Some of the more progressive financial institutions have begun to realize the importance of supplementing value at risk, but Rahl worried that too many other institutions still have not.

With these limitations in mind, Rahl highlighted three key issues for risk managers. First, the managers need to identify the markets that can potentially create big losses for the firm, even if those markets exhibit relatively small moves. These are the risk factors most likely to affect the firm. Second, they should understand which risks are offsetting and understand *why* the model treats them as such by examining its assumptions. The need for risk managers to understand the drivers of models such as value at risk cannot be overemphasized, according to Rahl. Third, risk managers should understand the variance of a model's output and know whether competitors look at risk in similar ways.

Rahl also echoed themes discussed by Sabatacakis when she emphasized the difficulty of blending disparate risk management cultures. When combining two (or more) organizations, for example, the greatest challenge is to get the board of directors, senior managers, and other members of both organizations to agree on basic questions, such as, is exceeding limits a fireable offense, or is it acceptable? Rahl then outlined a continuum of risk management philosophies. The rule-based approach lies at one end of the continuum. This approach, while conservative, tends to slow innovation and, at times, to take away from good business opportunities. At the other end of the continuum lies the view that responsibility for risk management ought to be delegated to people. This approach allows more flexibility and trusts that individuals will do the right thing. Problems emerge, Rahl argued, when senior managers have different views about which of these approaches ought to be the dominant one within the firm.

In contemplating the problems of risk management integration, Rahl focused on several real-world problems that can severely curtail a firm's ability to function efficiently. For example, a newly merged firm will find that transactions that were once external have become internal, leading to necessary accounting changes. She also cited cases in which people were unable to find documents from the old institution or were unable to back up computer tapes. Such issues, while seemingly mundane, can end up costing a firm dearly.

William Rutledge

William Rutledge concluded the session by offering the bank supervisor's perspective on risk management at financial conglomerates. He emphasized that as risks become more complex and easier to change over time, supervisors must focus more heavily on banks' internal risk management processes and systems. Specifically, supervisors now review business strategies and risk management and then conduct targeted transaction testing to assess the integrity of managerial systems. Rutledge argued that this management-based approach is both more flexible and a better predictor of success than the old point-in-time assessment of bank balance sheets and income statements.

Rutledge predicted that over the coming years, supervisors will have to grapple with how to look at business lines that cut across the entire financial organization. The umbrella supervisor, responsible for oversight of financial conglomerates, will have a responsibility for dealing with these issues. Like risk managers at financial conglomerates, however, supervisors from different cultures must learn to combine their different approaches. In fact, when asked about this problem, Rutledge stressed the need for continued dialogue, and he was optimistic that these conversations would generate benefits to all of the agencies.

Rutledge noted that several challenges for the umbrella supervisor are obvious. For example, the previously mentioned expectation that businesses will increasingly cut across corporate entities—including ones for which functional regulators may have primary responsibility. Furthermore, he asked, how can a unified approach to examining a complex organization be achieved when the supervisory approach and methodologies of the Federal Reserve, the SEC, and the state insurance departments differ—as they clearly do?

Some creative thinking and close cooperation among supervisory authorities will be necessary to meet these challenges, according to Rutledge. In that vein, he mentioned seven elements that are very likely to be part of the overall process:

- Regular interaction between supervisors and a firm's senior management will be necessary. For one to understand the risks faced by the firm and how they are managed, a structure for regular, ongoing communication with senior business line people will have to exist. These meetings should involve the heads of risk management areas, the senior information technology officer, and key control people such as the general auditor. The latter will be particularly important, given the extent to which the supervisor will be leveraging off the work of the internal audit function to stay on top of control issues.
- The review of regular reports, including internal risk management reports, will provide supervisors with insight not only into the risks faced by the firm but also into the sophistication of the risk management process. The reports will be of greatest value if they effectively pull together information from across the firm in a way that allows meaningful assessments across business lines and across corporate entities.
- On-site review of a firm's consolidated risk management and control processes—including reviews of the technological infrastructure that supports them—will help supervisors assess how robust, consistent, and integrated risk management systems are for aggregating information across the firm.
- The Federal Reserve and other regulators will continue to strengthen their ties and endeavor to improve the flow of information across the agencies. For many large FHCs, such interactions may be primarily with the Federal Reserve and the Comptroller of the Currency or state banking departments. For diversified institutions, such interactions may also include various nonbank regulators as well as foreign authorities. These interactions should not only involve the formal sharing of examination results, but also coordination when planning and executing a supervisory strategy.
- The planning of the supervisory strategy should build on the assessment of both the firmwide risks and the risk management processes to determine what follow-up reviews are appropriate and what approach should be followed when carrying out those reviews, including the extent and nature of necessary transaction testing.
- For high-risk areas, the Federal Reserve may well determine that it is necessary to conduct a full review of a business line that cuts across corporate entities. Depending on the institution and the circumstances at hand, the Federal Reserve and the functional regulators may conduct joint reviews to carry out parts of the examination plan.
- Peer comparisons are likely to be very useful, but will in some ways be more difficult to provide in a meaningful manner. For example, assessments of more specialized firms may require the selection of a carefully defined, relatively narrow peer group (say, a handful of securities processing banks). Moreover, since the comparisons that will be made are much more complex than the traditional comparison of financial ratios across peer groups, the supervisors will be looking to compare business processes, rather than simple ratios.

Rutledge also spoke briefly about how the Federal Reserve will assess the capital adequacy of FHCs. He emphasized that the approach will build on the reform of the Basel Capital Accord and should assure capital adequacy on a consolidated level. The Basel Accord addresses risks arising from the asset side of an institution's balance sheet—appropriate for banking and even, to a significant degree, securities activities—while insurance companies face risk primarily on the liability side. Rutledge suggested that a unified approach to overall capitalization, which incorporates the range of subsidiaries, could be one that deconsolidates and deducts the regulated insurance underwriting operations of an FHC.