The Evolving Financial System and Public Policy: Conference Highlights and Lessons

Pierre St-Amant and Carolyn Wilkins, Department of Monetary and Financial Analysis

The Bank of Canada hosted its 12th annual economic conference in Ottawa on 4 and 5 December 2003. The subject of this conference was "The Evolving Financial System and Public Policy." Representatives from various public and private organizations joined Bank of Canada staff to discuss three key issues affecting the financial system: financial contagion, implications of bank diversification, and financial sector regulation. In this article, we report the highlights of the papers presented at the conference and the discussions around the presentations. The views of the conference panelists, who closed the conference with their perspective on the papers and the discussions, are also summarized. We conclude with key lessons for policy and directions for future research.[1]

Financial Contagion

The Bank of Canada works to promote a sound and stable financial system, one in which problems in one part do not trigger instability elsewhere. Financial markets and financial infrastructure arrangements are becoming increasingly interrelated and globalized. It is therefore important to understand the channels through which financial crises spread across institutions, sectors, and countries so that policy-makers can understand how to safeguard systems against contagion.

Three conference papers attempted to gain insight into the nature of contagion. **Santor** (2004) studies the extent to which Canadian banks have become globalized and how Canadian foreign-asset exposures have adjusted to crisis events. Using firm-level panel data from 1984 to 2003, the author finds that Canadian banks are very active globally, and that the composition of exposures has changed over the past two decades. In particular, Canadian banks now have lower foreign exposures in terms of deposits and loans but higher exposures in terms of foreign securities. The author finds that banks do not adjust their portfolios of foreign securities immediately in the presence of a crisis. Nor does a banking crisis in one country appear to influence whether banks continue to do business with countries that have similar characteristics.

Gobert, González, Lai, and Poitevin (2004) study the lending market under centralized and decentralized systems. The authors develop a general-equilibrium model of a competitive interfirm lending market in which firms can borrow or lend. They identify a source of inefficiency in this market that may lead to financial fragility. For instance, a liquidity shock can have a persistent component and can lead to firm failures that are inefficient. In this model, the authorities can help to eliminate this inefficient equilibrium by ensuring that there is sufficient liquidity in the system.

The discussant, Douglas Gale (New York University), was of the view that this paper represents a good step towards the goal of building models that can be used to analyze the welfare implications of financial system policies. More real-world institutional features must be included in such models, however, before that goal is achieved.

Gropp and Vesala (2004) take this field of study a step further by using market-based indicators to determine the probability that a European bank faces financial difficulty, given that other European banks are also

1. Conference papers and discussions are available on the Bank of Canada Web site at: <www.bankofcanada.ca/en/economic_conference2003/index.htm>. Proceedings of this conference will be published in 2004.

facing difficulty. They find significant evidence of contagion both domestically and across borders. This contagion appears to be typically generated by particularly concentrated interbank exposures. They also find that larger banks are the main sources and the main victims of cross-border contagion. The discussant of this paper, Maral Kichian (Bank of Canada), underscored various caveats to these conclusions, including the possibility that regressors in the estimated models might be endogenous. Nonetheless, their study provides a useful starting point for future research on this topic.

Bank Diversification

Central banks rely on the financial system to transmit the effects of monetary policy actions to the real economy. For this reason, it is very important to understand the implications of new business lines and changing strategies for pricing and diversifying risk. Two conference papers contributed to our understanding of the links between the changing behaviour of financial institutions and risk-return trade-offs. These papers suggest that diversification, encouraged to some extent by regulatory changes, has not always had beneficial implications for the risk-return trade-off.

Stiroh (2004) studies the implications for risk-adjusted profits of the shift in the activities of U.S. bank holding companies (BHCs) towards a wider range of financial services. This shift was encouraged by many factors, including regulatory changes, such as the Gramm-Leach-Bliley Act of 1999. This Act explicitly allowed bank holding companies and their subsidiaries to engage in a host of new activities, such as brokerage, portfolio advice, and underwriting. The author finds evidence of diversification benefits in terms of higher measures of risk-adjusted profitability for BHCs that earn most of their revenue from net interest income. However, these gains are usually offset by the increased exposure to volatile non-interest activities. These results are based on a sample of over 1,800 BHCs over the 1997Q1–2002Q2 period.

In a related paper, **D'Souza and Lai** (2004) study the effects of regional and industrial diversification in portfolios, and of diversification in business lines and financing sources, on the efficiency of Canadian banks. They construct a measure of efficiency using a portfolio-allocation approach. The authors find that bank efficiency is increased by diversification of business lines and financing sources; reduced by regional diversification; and unaffected by industrial diversification. These results are based on a sample of five major Canadian banks over the 1997Q1–2003Q3 period. The discussant, Varouj Aivazian (University of Toronto), found this approach an improvement over the existing literature because it explicitly takes into account the risk-return trade-off facing banks and, hence, the overall welfare of banks and depositors. The discussant also noted that, in future work, it may be useful to look at some of the model's assumptions that appear to be overly simplistic. For example, the model does not explicitly account for informational frictions or for non-pecuniary elements in bank returns that are not captured in price and market return data (e.g., credit rationing and the use of collateral).

These papers highlight the importance of studying diversification using measures that explicitly account for the risk-return trade-off. Discussant Christian Calmès (Bank of Canada) made the point that, if it is true that diversification does not always raise the risk-adjusted returns to banks, future work should concentrate on determining the reasons why banks are not making more profitable portfolio choices. At the same time, discussion by conference participants revealed many deficiencies in the data used (e.g., short sample periods, combining book and market value data, omitting some practices such as off-balance-sheet activities), pointing to a major challenge for this type of analysis.

Financial Sector Regulation

The Bank of Canada is very interested in how the regulatory environment, including the regulations themselves, supervision, or regulatory governance (the governance arrangements of the regulatory agencies themselves), can best promote macrofinancial stability. The regulatory environment is defined by the rules and incentives that influence the decisions of regulators, financial institutions, and non-financial actors. Getting the incentives right is important for sound economic performance, and these incentives must adapt to a changing financial landscape. Several aspects of this issue were addressed at the conference, including the relationship between governance and financial sector soundness, the theoretical basis of bank regulations for capital requirements, and the implications of bank capital requirements for the transmission of monetary policy.

Das, Quintyn, and Chenard (2004) study the relationship between regulatory governance and the soundness of the banking sector. They construct indexes of banking sector soundness, regulatory governance, and public sector governance for approximately 50 countries. They then test whether these indexes are related to the capacity of the banking sector to withstand shocks. Their regression results indicate that good regulatory governance has a statistically significant, positive influence on banking sector soundness. The results further indicate that macroeconomic conditions, as well as the quality of political institutions and public sector governance, also contribute to the soundness of the banking system. The main lesson from this paper for policy-makers is that good regulatory governance will pay off in the soundness of the domestic financial system. The authors suggest that future work could extend these tests beyond the banking sector to the entire financial system.

Although he agreed with the main conclusions of the paper, the discussant, Claudio Borio (Bank for International Settlements), mentioned various limitations in the study's empirical exercise, most of which were related to a lack of adequate data. Developing better multi-country data will be key for making further progress with this type of analysis.

Dionne's (2004) analysis of the optimal design of regulation for the banking sector is based on an extensive review of the literature. He argues that bank regulation can be justified in principle by the possibility that bank runs could prevent banks from playing their crucial role as the main provider of liquidity to the economy. The author views deposit insurance as one type of regulation capable of mitigating that risk. That said, Dionne thinks that national authorities should continue to improve deposit insurance by better aligning its pricing with the risks faced by individual banks. Authorities should also explore the possibility of using other regulatory tools, such as subordinated debt, and should work to improve bank governance. With respect to minimum capital-adequacy requirements, Dionne argues that there is little evidence that this approach reduces bank risk and some evidence that it may be the source of costly distortions.

The discussant, Paul Beaudry (University of British Columbia), argued that Dionne's paper, and the literature in general, put too much emphasis on bank runs as the primary source of problems in the banking industry. He considers the main difficulty with the banking system to be one of delegated monitoring (e.g., investors delegating to banks the authority to monitor business loans).

Gale (2004) voices concerns similar to Dionne'sregarding capital-adequacy requirements. The author built a simple model of an economy with a financial sector in which banks play a pivotal role owing to incomplete markets. The chief conclusion to be drawn from this model is that imposing constraints on capital adequacy does not improve overall welfare because market forces ensure that banks choose the right capital structure in equilibrium. Extensions of the basic model generate cases where the allocation of resources determined by the market is not necessarily optimal, but minimum capital requirements still do not seem to improve welfare (and, in fact, may actually reduce it). While this work raises important questions, the applicability of its findings for policy may be limited by the simplicity of the model. In particular, the discussant, Vincenzo Quadrini (New York University), noted that this model may not capture all the relevant externalities associated with the functioning of financial markets.

Changes in capital requirements can, in principle, affect how banks price risk and change the cyclical properties of bank capital. **Van den Heuvel** (2004) examines how capital-adequacy requirements alter the role of bank lending in the transmission of monetary policy. He constructs a dynamic partial-equilibrium model of bank asset and liability management that incorporates risk-based capital requirements. This model shows that the effects of monetary policy on bank lending depend on the capital adequacy of the banking sector and that shocks to bank profits can have a persistent effect on lending. Bank capital affects bank lending even when the regulatory constraints on bank capital are not binding. Given new capital requirements under Basel II and their potential to change the dynamics of bank capital, more research in the area of the interaction between bank capital standards and monetary policy is very important. The discussant, Césaire Meh (Bank of Canada), argued for the importance of future research using general-equilibrium models.

Chant (2004) focuses on the governance of Canadian banks, investigating whether linkages between bank boards and the boards of non-financial corporations influence the pattern and performance of bank lending. Based on a preliminary exploration of Canadian data on bank loans, board linkages, and credit ratings over the 1996 to 1998 period, he reaches four main conclusions: i) Canadian banks are more likely to lend to corporations with which they share board linkages than to corporations linked with other banks; ii) the tendency to lend to linked corporations is stronger where the link involves a corporate officer than where it consists of shared directors; iii) there is weak evidence that corporations that receive loans from banks linked by officers have a higher probability of experiencing a downgraded credit rating than corporate borrowers in general; and iv) there is no evidence that the credit-rating experience of borrowers who are linked to the lending bank through directors differs from that of other borrowers. The author points out that more work is needed to test the robustness of these results, particularly given the short sample period used in the analysis. Future research could also focus on the factors that may be driving these results, including the possibility that there may be informational advantages to banks from corporate links.

Panel Discussion

The panel discussion, featuring Angela Redish (University of British Columbia), Charles Freedman (Carleton University), and Claudio Borio (Bank for International Settlements), provided an excellent forum for a general discussion of the conference papers. Aside from the specific comments on papers noted above, the discussion included such issues as the notion of systemic risk implicit in the conference papers, the state of the models used to address this notion, and the role of the central bank in pursuing this line of research.

Freedman linked the conference papers to the two main reasons why the Bank of Canada has, since its inception in 1935, been interested in research on issues affecting the financial system, even though it does not have regulatory or supervisory responsibilities for individual financial institutions. Such research helps the Bank, first, to gain a better understanding of how monetary policy is transmitted through the financial system to the real economy; and, second, to fulfill its role as an adviser to the government on the periodic revisions of legislation governing financial institutions. Freedman and Borio agreed that central banks have tended to emphasize the asset side of balance sheets in their recent research on the transmission mechanism, as in the Van den Heuvel paper, but should also remain concerned with the liability side in work on issues of financial stability.

Borio commented on the notion of systemic risk implicit in the conference papers. Systemic risk results when the failure of an individual institution leads to broader financial instability. The failure occurs because of an exogenous shock to liquidity or asset values within a fragile financial structure. Borio points out that this notion of risk is problematic, in part because it is static in nature and because it treats risk as exogenous. In his view, this notion does not correspond well with the reality that financial instability tends to build up over time and is endogenous to the state of the economy, with its origin not so much in contagion, but in the shared exposures of financial firms to common risk factors. These common risk factors are intimately linked to the business cycle, leading to a financial system that is excessively procyclical. The implication of this alternative view of risk is that policy-makers should promote the prudential operation of the entire regulatory and supervisory framework, rather than focusing on the risk profiles of individual institutions.

Redish noted that the answers to the questions addressed in some of the conference papers were rather inconclusive, which was perhaps a reflection of the early stages of development found among theoretical and empirical models. She pointed, for example, to the lack of support in theoretical models for key elements in the financial sector, such as bank capital requirements and deposit insurance. She urged the development of a framework to organize future research in this area, suggesting as a possible starting point an understanding of why the financial system differs from other sectors in the economy.

The panelists underscored how important it is for both central banks and academics to research issues relevant to the financial system. The topic of bank diversification and consolidation, for instance, was viewed as raising important issues that merited future research. Borio concluded from the work on diversification that benefits may exist, but that they are not as great as business people would have us believe. Freedman drew the same conclusion, adding that the banking sector might be experiencing “pendulum swings” between consolidation and divestiture similar to those seen in the non-financial corporate sector. The outstanding question is, why have the recent trends towards conglomeration continued in recent years if there are no benefits to such a strategy?

Generally, the panelists saw a role for central banks in assessing and commenting on developments in the financial system, even though the issues are not their direct responsibility. Borio and Freedman advocated a role for central banks in commenting on such developments because of their ability to take the long-run view. That said, Freedman added the caveat that such comments are often misinterpreted or ignored by the markets.

Conclusions

The conference papers highlight the important interaction between financial governance and financial and economic activity. For example, there is compelling evidence that good regulatory governance is key to the sound functioning of the financial system. Also, there is evidence that the regulation of bank capital can have important implications for the portfolio choices of banks and for the monetary policy transmission mechanism.

As the conference panelists noted, however, the conference yielded more questions for future research than clear policy recommendations. For instance, the papers presented by Dionne and Gale underscore the need for further research on the appropriate design and effects of bank-capital requirements. More work in the area of contagion is also needed to understand how shocks are propagated through the financial system.

In pursuing this work, it will be important to emphasize the development of theoretical and empirical models that include key real-world characteristics and that could be used to guide policy-makers.

List of Conference Papers

The papers cited in this article will be published in 2004 in the conference volume, titled, *The Evolving Financial System and Public Policy.* Proceedings of a conference held by the Bank of Canada, December 2003. Ottawa: Bank of Canada.

Chant, J. "Corporate Linkages and Bank Lending in Canada: Some First Results."

Das, U., M. Quintyn, and K. Chenard. "Does Regulatory Governance Matter for Financial System Stability? An Empirical Analysis."

Dionne, G. "The Foundations of Risk Regulation for Banks: A Review of the Literature."

D'Souza, C. and A. Lai. "Does Diversification Improve Bank Efficiency?"

Gale, D. "Notes on Optimal Capital Regulation."

Gobert, K., P. González, A. Lai, and M. Poitevin. "Endogenous Value and Financial Fragility."

Gropp, R. and J. Vesala. "Measuring Bank Contagion Using Market Data."

Santor, E. "Banking Crises, Contagion, and Foreign-Asset Exposures of Canadian Banks."

Stiroh, K. "Revenue Shifts and Performance of U.S. Bank Holding Companies."

Van den Heuvel, S. "Does Bank Capital Matter for the Transmission of Monetary Policy?"